Dynegy Morro Bay, LLC
Final Prevention of Significant Deterioration Permit

Fact Sheet

FINAL ACTION

- On September 25, 2008, the U. S. Environmental Protection Agency (EPA) issued the final Prevention of Significant Deterioration of Air Quality (PSD) permit to Dynegy Morro Bay, LLC.
- An electronic copy of the final PSD permit, the response to comments, the transcript of the October 24, 2006 public hearing, and an index of the Administrative Record, may be downloaded from www.regulations.gov (Docket ID: EPA-R09-OAR-2007-0964), and is linked from the Region IX Air Permits website: http://www.epa.gov/region09/air/permit/r9-permits-issued.html.
- Copies of the aforementioned documents are also available for inspection at the San Luis Obispo Air Pollution Control District office, 3433 Roberto Court, San Luis Obispo, CA 93401; and the City of Morro Bay, City Attorney's Office, 595 Harbor Street, Morro Bay, CA 93442.

BACKGROUND

- The Morro Bay Power Plant produces electricity and has been in operation since 1955.
- The San Luis Obispo Air Pollution Control District issued an initial Title V permit in 1998 to MBPP, and a renewal Title V permit in 2004. EPA is the PSD permitting authority for SLOAPCD since the District's PSD delegation was withdrawn in 2003.
- Duke Energy Morro Bay, LLC submitted an application in 2000 to EPA for a PSD permit. In 2006, ownership of the Morro Bay Power Plant (MBPP) changed from Duke Energy Morro Bay, LLC, to LSP Morro Bay, LLC. In 2007, ownership changed to Dynegy Morro Bay, LLC.
- The proposed MBPP Modernization Project includes plans to
  - replace four existing 1950-60's era fossil fuel-fired electric utility steam generators with two combined cycle gas turbine block units (each block unit will consist of two natural gas-fired turbines, two heat recovery steam generators with duct burners, and one steam turbine;
  - replace three existing 450-foot exhaust stacks with two 145-foot exhaust stacks
  - Remove existing fuel oil tanks
- The MBPP modernization project will increase output from 1002 to 1200 MW of electrical power, while reducing emissions of NO_x, CO, and VOC. Emissions of PM_{10} and SO_2 will increase. The project is subject to PSD review for PM_{10} because the increase in PM_{10} emissions exceeds the significance threshold.
- The PSD permit will
  - Require exclusive use of low-sulfur content natural gas,
  - Require performance tests

- Limit emissions of PM_{10}
- Limit hours of operation of the heat recovery steam generator duct burners

AIR QUALITY IMPACTS

- Modeling results from EPA-approved dispersion models were reviewed by EPA
- Modeled ground level concentrations of PM_{10} did not exceed the National Ambient Air Quality Standards (NAAQS)
- Modeled impacts of PM_{10} emissions are in compliance with allowable PSD Class I and II increments

PUBLIC NOTICE PROCESS

- On May 17, 2006, EPA published notice and a request for comments of the proposed permit in two Morro Bay area newspapers. We received 46 comments by fax, email and U.S. mail, 39 of which requested a public hearing.
- The public hearing was held on October 24, 2006. Notice of the public hearing was published in 3 Morro Bay area newspapers on September 20, 2006.
- The public hearing was well attended by approximately 50 people, and EPA accepted oral and written comments from nearly thirty individuals.
- EPA reviewed, considered, and responded to all substantive comments received during the public notice period.

APPEALS PROCESS

- Within 30 days of the final decision, any person who filed comments on the proposed permit or made comments on record at the public hearing may petition the Environmental Appeals Board (EAB) to review any condition of the permit decision. Any person who failed to file comments or failed to make comments on record at the public hearing may only petition the EAB for review of sections of the final permit that were changed from the draft permit.
- Any petition to the EAB must include a statement of the reasons supporting review, including a demonstration that any issues raised were raised during the public comment period. The petition must also demonstrate that a specific decision made on the permit is based on:

    i. A finding of fact or conclusion of law which is clearly erroneous, or

    ii. An exercise of discretion or an important policy consideration which the EAB should, in its discretion, review.

Morro Bay Power Plant Modernization Project
US EPA Response to Comments
Proposed Prevention of Significant Deterioration Air Permit

Introduction

On May 17, 2006, the Region 9 office of the United States Environmental Protection Agency (EPA) requested public comment on a proposed permit for the Prevention of Significant Deterioration (PSD) of air quality, issued in accordance with 40 CFR § 52.21 and Part 124, to LSP Morro Bay, LLC, for the construction and operation of the Morro Bay Power Plant Modernization Project (Modernization Project).

The proposed Modernization Project will consist of two combined cycle gas turbine block units. Each block unit will be capable of producing 600 MW of electrical power, and will consist of two 180 MW natural gas-fired turbines, two heat recovery steam generators with duct burners, one 240 MW steam turbine, and associated air pollution control equipment. The Modernization Project is subject to federal PSD regulations for particulate matter (PM) and particulate matter less than 10 microns in aerodynamic diameter (PM_{10}). Other air emissions from the proposed project, including PM_{10}, are regulated by the San Luis Obispo Air Pollution Control District (District), and are subject to District air permits. A timeline of the Morro Bay PSD Permit Issuance process is shown in Table 1.

During the 30-day public comment period, we received forty-six (46) comments by fax, electronic and U.S. postal mail, thirty-nine (39) of which requested a public hearing for the proposed permit. A public hearing was scheduled for October 24, 2006 in Morro Bay, California. Notice for the hearing was provided to all individuals who submitted comments on the proposed permit, the District, and representatives of the applicant. Additionally, a notice was published in three local newspapers on September 20, 2006: The Tribune (San Luis Obispo, California), the Central Coast Sun Bulletin (Morro Bay, California), and The Bay News (Morro Bay, California). The public hearing was held at the Veterans Memorial Hall at 209 Surf Street in Morro Bay, California, from 6:00 – 8:15 PM on Tuesday, October 24, 2006. A transcript and audio tape recording of the hearing was prepared by Merit Reporting and Video (San Luis Obispo, California), and a video tape is available through AGP Video (Morro Bay, California)[1].

The public comment period closed on October 30, 2006. Any documents upon which EPA relied in reaching a final permit decision, and as referenced in this response to comments, such as the Ambient Air Quality Impact Report (AAQIR) and PSD application, are contained in the Administrative Record. An index of the Administrative Record, many documents in it, and the public hearing transcript, will be made available at www.regulations.gov, linked from the EPA Region 9 website[2].

This document represents the official U.S. EPA response to comments received during the public comment period. Each comment is referenced in this response by number (Table 2). Table 2 includes only substantive comments related to the PSD permit, and does not include

[1] http://www.slo-span.org/cgi-bin/media.pl?folder=SM
[2] http://www.epa.gov/region9/air/permit/r9-permits-issued.html

correspondence that we received which only requested a public hearing. Two comments were generally in favor of the Modernization Project (*# 17, 37*), and the remaining comments raised various concerns regarding the PSD permit and the health impacts of PM_{10}. Because many of these comments contain common themes, they are paraphrased and grouped by issue in this response.

Table 1: Timeline of Significant Events in the Morro Bay Modernization Project Application

Event	Date
Duke Energy Submits Application for Certification (AFC) to the California Energy Commission (CEC)	October 23, 2000
EPA Receives New PSD Permit Application	November 1, 2000
San Luis Obispo Air Pollution Control District Issues Final Determination of Compliance for District Application #3083	August 30, 2001
CEC Issues Part 1 of Final Staff Assessment	November 15, 2001
EPA Requests Concurrence from U.S. Fish and Wildlife Service (FWS) that Modernization Project Not Likely to Adversely Affect Any Federally Listed Species	November 27, 2001
EPA Requests Concurrence from National Marine Fisheries Service (NMFS) that Modernization Project Not Likely to Adversely Affect Any Federally Listed Species	November 30, 2001
CEC Issues Part 2 of Final Staff Assessment	December 19, 2001
CEC Issues Part 3 of Final Staff Assessment	April 25, 2002
NMFS Concludes Informal Consultation with EPA	May 17, 2002
EPA Requests ESA Consultation with FWS	April 10, 2003
CEC Approves Morro Bay Modernization Project	August 2, 2004
FWS Issues Biological Opinion to EPA	May 23, 2005
Duke Energy Submits Addendum to EPA to Implement Conditions of FWS Biological Opinion	June 23, 2005
Ownership of Morro Bay Power Plant changed from Duke Energy Morro Bay, LLC to LSP Morro Bay, LLC	May 4, 2006
EPA Proposes PSD Permit for Modernization Project and Opens Public Comment Period	May 17, 2006
EPA holds Public Hearing in Morro Bay, California	October 24, 2006
Public Comment Period for Proposed PSD Permit Closes	October 30, 2006

Table 2: Reference Numbers for Comments on the Morro Bay Power Plant (MBPP)			
No.	Commenter	Format[3]	Date
1	Tacker, Julie	A	June 14, 2006
2	Dorfman, Barry	A; B	June 14; October 24, 2006
3	McCurdy, Jack	A	June 14, 2006
4	Beebe, Curt	A	June 15, 2006
5	Massa-Gooch, Shelley	A	June 15, 2006
6	Perlstein, Abe	A	June 15, 2006
7	Wiley, Susan	A	June 15, 2006
8	Watson, Elaine	A	June 17, 2006
9	Smith, Marie	A	June 20; Sept. 23; Oct. 19, 2006
10	Fram, Joe	A	July 11, 2006
11	Heinemann, Susan	A; C	July 23; October 24, 2006
12	Coastal Alliance on Plant Expansion (CAPE)	D; A	September 28; October 30, 2006
13	Savage, Arline	A	October 24, 2006
14	Ewing, Roger	B	October 24, 2006
15	Johnson, Colleen	B	October 24, 2006
16	Sullivan, Nelson	B	October 24, 2006
17	Johnson, Garry	B	October 24, 2006
18	Carter, Joan	B	October 24, 2006
19	Hill, Phil	B	October 24, 2006
20	LaPlante, Pauline	B	October 24, 2006
21	Crotzer, Shoosh	B	October 24, 2006
22	Crotzer, Colby	B	October 24, 2006
23	Churney, Bonita	B	October 24, 2006
24	Lucas, Michael	B	October 24, 2006
25	Cole, Robin	B	October 24, 2006
26	Risley, Peter	B	October 24, 2006
27	Davis, Mandy	B	October 24, 2006
28	Sadowski, Richard	B	October 24, 2006
29	Nelson, David	B	October 24, 2006
30	Groot, Henriette	B	October 24, 2006
31	Nelson, Monique	B	October 24, 2006
32	Racano, Joey	B	October 24, 2006
33	Beetham, Margaret	B	October 24, 2006
34	Bruton, Marla Jo	B	October 24, 2006
35	Martony, Bill	B	October 24, 2006
36	Dorfman, Barry	B	October 24, 2006
37	Cinowalt, Roy	B; C	October 24, 2006
38	DeMeritt, Melody	B; C; A	Oct. 24; Oct. 24; Oct. 29, 2006
39	Merrill, Lynda	C	October 24, 2006
40	Nelson, David	C	October 24, 2006
41	Taylor, Keith	C	October 24, 2006
42	Winter, H. Leabah	C	October 24, 2006
43	Purcell-McWilliams, Catherine	A	October 30, 2006
44	San Luis Bay Chapter of the Surfrider Foundation	A	October 30, 2006
45	Santa Lucia Chapter of the Sierra Club	A	October 30, 2006
46	CAPE	A	October 30, 2006

[3] A = electronic mail, B = Oral Comments at Hearing, C = Written Comments at Hearing, D = U.S. Mail

Section A: Pre- and post-project emission rate estimates

1. *PM_{10} emission rates of 11 and 13.3 lb/hr estimated by Sierra Research are too low because they were determined using inappropriate EPA test methods. Emission rates of condensable particulate were underestimated by Sierra Research because they were based on EPA Method 8, which is not approved for the measurement of condensable fraction of PM_{10}. (# 12, 23, 29, 31, 43-46)*

Response to A-1:

Because EPA Method 8 is an approved test method for sulfuric acid mist, but not for the measurement of condensable particulates, commenters were concerned that emission limits, and thus air quality impacts, are underestimated by the applicant. However, it is noted on page14 of the February 6, 2002 transcript from the CEC Evidentiary Hearing[4] that PM_{10} emission limits proposed by Sierra Research were not based on actual source tests using EPA Method 8. Rather, the PM_{10} emission rates estimated by Sierra Research were based on engineering experience and judgment.

The proposed PSD permit requires performance tests pursuant to 40 CFR §60.8 (60 days after achieving maximum load but no later than 180 days after initial startup, and annually thereafter) for PM_{10} from the turbine exhaust stacks. The PSD permit does not allow the use of EPA Method 8 for condensable particulates; rather, the permit requires EPA Method 5 for filterable particulate matter (front-half) and EPA Method 202 for condensable particulates (back-half). Specifically, Method 202 test methodology must include a) one hour nitrogen purge b) the alternative procedure described in paragraph 8.1 to neutralize the sulfuric acid c) evaporation of the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 °C oven as described in the first sentence of section 5.3.2.3 of Method 202. The conditional test methods CTM-039 or 040, listed on the EPA Emission Measurement Center website: http://www.epa.gov/ttn/emc/ctm.html may be used in lieu of Method 202. The proposed PSD permit has been modified to include these test method specifications in the final permit. Additionally, EPA is currently assessing and improving available test methods for condensable particulate matter.

The proposed emission rates of 11 and 13.3 lb/hr are consistent with emission limits for similar facilities listed in the EPA RACT/BACT/LAER Clearinghouse (See Response to B-1 and Table 3). Additionally, the proposed PM_{10} emission rates for each turbine block unit, converted into PM_{10} emission factors, i.e., PM_{10} production per unit energy (0.0054 and 0.0065 lb/MMBtu), are comparable to emission factors for

[4] http://www.energy.ca.gov/sitingcases/morrobay/documents/index.html

total PM (sum of filterable and condensable PM) from natural gas fired turbines (0.0066 lb/MMBtu), reported in Chapter 3-1 of AP 42, the EPA compilation of emission factors.

PM_{10} emission limits on the basis of lb/hr and ton per year (tpy) are separately enforceable conditions in the PSD permit (Permit Condition IX.B). Therefore, if the facility exceeds the PSD permit limits of 11 and 13.3 lb/hr without and with duct burner firing, or 203.2 tpy PM_{10}, the facility would be out of compliance and subject to enforcement action.

2. *The calculation of the change in emissions resulting from the project uses a baseline period (1998 – 2000) that is not representative of normal operating conditions. The baseline period includes a period of high energy production, fueled by the California Energy Crisis, and thus improperly inflates the actual emissions used to calculate the net emissions increase for the purpose of PSD applicability. The MBPP has most recently operated at reduced capacity. This recent period is the appropriate baseline period to use for the PSD analysis. (# 12, 29, 31, 34, 43-46)*

Response to A-2:

The PSD permit application submitted by Sierra Research, Inc. in November 2000 uses a 24-month baseline period from August 1998 – July 2000. Sierra Research additionally provided emissions data from January 1997 – July 2000. These data (Appendix 6.2-1.1) show a general pattern of higher criteria pollutant emissions during the late summer to early fall months. The competitive electric market in the State of California began on March 31, 1998, and was operated by the California Independent Systems Operator (ISO) and the Power Exchange (now bankrupt). According to the ISO, the competitive market began smoothly with electricity prices seemingly just and reasonable, until May 2000, when the first signs of a market crisis emerged[5]. The ISO reports that the California energy crisis continued until about May 2001. The baseline period used for the PSD applicability emissions calculations was August 1998 – July 2000, thus, the end of the 24-month baseline coincides with roughly 3 months at the beginning of the energy crisis in California.

Reform rules to the New Source Review (NSR) program, which includes the PSD regulations, promulgated on December 31, 2002 (67 Federal Register 80,186), and implemented March 3, 2003, codified existing policy for calculating "baseline actual emissions" (40 CFR §52.21(b)(48)(i)):

"For any electric utility steam generating unit, baseline actual emission means the average rate, in tons per year, at which the unit actually emitted

[5] http://www.caiso.com/docs/09003a6080/14/c5/09003a608014c508.pdf

the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The Administrator shall allow the use of a different time period upon a determination that it is more representative of normal source operation."

Based on the NSR Reform regulations, in determining the appropriate baseline period for an electric utility steam generating unit, the source must consider a consecutive 24-month period within the 5-year period immediately preceding actual construction. The source may select and EPA may allow the use of a different time period if such period is determined to be more representative of normal source operation.

The MBPP submitted their Application for Certification (AFC) to the California Energy Commission (CEC), and their PSD permit application to EPA, in November 2000 (see Table 1), using a consecutive 24-month baseline period of August 1988 – July 2000, which was within the 5-year period preceding the scheduled construction date. Although the baseline period chosen by MBPP was appropriate at the time the application was submitted in 2000, because the PSD permitting process has, to date, spanned 7 years, the baseline period must be re-examined, taking into account the 2002 NSR Reform regulations. Assuming actual construction on the project begins in 2007, the five year period, within which to choose the 24-month baseline, incorporates 2002 – 2006.

Beginning in September 2002 – December 2006, MBPP operated at significantly reduced capacity, with a corresponding significant reduction in emissions. During this time, MBPP typically operated only two of the four boilers. Because the boilers are old (circa 1950's -1960's), and MBPP had applied in 2000 to replace them with new combined cycle gas turbines, the reduced operation of the old boilers from 2002 - 2006 is not representative of "normal source operation", as normal operation would not occur at such significantly reduced capacity (in anticipation of boiler replacement), for such an extended period of time. By September 2002, when reduced operation of the boilers first began, the CEC had already issued their final approval of the Modernization Project in their three part Final Staff Assessments (April 2002, see Table 1). At that time MBPP did not expect that the EPA PSD permitting process, and the associated Section 7 ESA Consultation with the U.S. Fish and Wildlife Service, would require an additional 4 – 5 years. Therefore, MBPP determined that reduced operation of the boilers, in anticipation of their pending replacement, from September 2002 – December 2006, is not representative of normal source operation and hence indicated their desire to select a baseline period outside of the 2002 – 2006 period.

Because EPA shall allow use of a different time period upon a determination that it is more representative of normal source operation, we examined emissions of CO and NO_x from the MBPP over January 1997 – December 2006, a 10-year period preceding the revised construction date of 2007. Although we did not have VOC and PM_{10} data for August 2000 – December 2006, NO_x is an appropriate indicator for VOC and PM_{10} trends because emissions of VOC and PM_{10} correlated well with NO_x ($R^2 = 0.93$) over the period that we had data for all pollutants (January 1997 – July 2000). To determine a representative 24-month baseline within the 10-year look-back period, we calculated the average annual emissions based on a 24-month rolling average over the entire 10-year period from January 1997 – December 2006. We then selected the 24-month baseline period where actual annual emissions data most closely match the 10-year average. It is important to note that the average determined from this methodology still accounts for the "highs and lows" of operation during the 10-year period, encompassing both the energy crisis from mid-2000 to mid-2001, and the recent extended period of reduced operation from mid-2002 to late-2006. From this analysis, we determined that the period from June 1998 – May 2000 is the most representative period of normal operation over the 10-year period. This represents a two month shift backwards in time compared to the baseline period used by the facility in their original application (August 1988 – July 2000).

Using this most representative baseline period, while the proposed emissions increase from the project (baseline actual emissions to potential to emit) is higher, it has the same result, relative to PSD applicability, as the baseline period selected by MBPP. In other words, using the 24-month baseline period EPA has determined to be most representative of the previous 10-years, the Modernization Project still triggers PSD only for PM_{10} emissions, and does not trigger PSD for SO_2, CO, NO_x, and VOC. Therefore, although a different baseline period is more appropriate than the one used by MBPP (since the 5-year pre-construction window has shifted), it does not impact the PSD applicability determination. Additionally, if ambient air quality models used the lower baseline emission rate from the more representative 24-month baseline period (June 1998 – May 2000), the results would show that the Modernization Project has a lower impact on air quality than projected in the original Ambient Air Quality Impact Analysis (See Response to Comment C-4).

3. *The PSD analysis fails to consider Emission Reduction Credits, or "offsets" that were used to show compliance with state and local air quality standards, despite the fact that emissions would still increase. These offsets hide the real amount of emissions that the public would be exposed to. (# 44, 46)*

Response to A-3:

The Prevention of Significant Deterioration (PSD) program is the arm of the New Source Review (NSR) Program that regulates emissions of air pollutants for which the area is designated attainment or unclassifiable, from new major stationary sources or major modifications at existing major sources. The PSD regulations require the application of Best Available Control Technology (BACT), analyses of the impacts of the project on 1) PSD increments, 2) ambient air quality, 3) visibility and air quality in Class I areas, and 4) soils and vegetation. See 42 U.S.C. 7475. Offsets are not required by PSD; rather they are a component of the Nonattainment New Source Review (NNSR) Program, the arm of the NSR program that regulates emissions of air pollutants for which the area is designated nonattainment. See 42 U.S.C. 7503(a)(1)(A).

San Luis Obispo Air Pollution Control District Rule 204(B) is a local regulation that requires MBPP to mitigate emissions of any pollutant emitted above certain thresholds. Based on that regulation, the SLOAPCD will require offsets for the Modernization Project for emissions of NO_x, PM_{10}, SO_2, VOC, and CO.

In summary, for PSD purposes, offsets are not required for the Modernization Project because the project will be located in a Federal Attainment area for PM_{10}. The emission increase considered in the PSD analysis is based on the difference between the pre- and post-project emission rates. It would be improper for the PSD analysis to account for PM_{10} offsets because the purpose of offsets is yield a null net emission increase from the project. In this case, if the PSD analysis considered full offsets for PM_{10}, the net emissions increase would be zero. EPA also notes that the purpose of offsets is not to hide the real amount of emissions, as stated in the above comment, but to mitigate the effects of emissions increases in nonattainment areas to allow for new construction without affecting plans for nonattainment areas to achieve attainment. Offsets are not used to circumvent PSD or nonattainment NSR review; rather, offsets are required *as a result* of nonattainment NSR review or district review of project applications.

Section B: Best Available Control Technology (BACT)

1. *The BACT determination from 2000 is too old, and should be updated. (# 10, 12, 21, 24, 29-31, 44, 46)*

Response to B-1:

EPA agrees that the BACT determination made in 2000 should be reviewed to ensure that it is consistent with a 2007 BACT Determination.

The BACT determination was reviewed in 2006 prior to the proposal of the PSD permit, and has been reviewed again in 2007. According to 40 CFR §52.21(j)(4), BACT determinations must be reviewed and modified as appropriate at the latest reasonable time which occurs no more than 18 months prior to commencement of construction. Although §52.21(j)(4) applies to phased construction projects, the 18 month time period provides a guideline for how often BACT determinations must be revisited, given the possibility for improvements in technology, and when construction must be commenced after PSD permit issuance. Because PM_{10} is the only criteria pollutant subject to federal PSD requirements, PM_{10} is the only pollutant requiring a BACT determination.

BACT determinations may be an emission limitation, a design, equipment, work practice, operational standard, or combination thereof (40 CFR §52.21(b)(12)). From gas turbines, PM_{10} is emitted in part from sulfur in the natural gas, inert trace contaminants, and incomplete combustion of hydrocarbons. The final PSD permit for MBPP only allows the use of pipeline quality natural gas with a sulfur content of no more than 0.25 grains per 100 scf, and requires monthly analysis of the sulfur content of the natural gas combusted.

The EPA RACT/BACT/LAER Clearinghouse (RBLC)[6] provides a central online database of air pollution control technology determinations made to satisfy requirements for Reasonably Achievable Control Technology (RACT), Best Available Control Technology (BACT), and Lowest Achievable Emission Rate (LAER). We conducted recent searches (March 20, 2007) of the RBLC database for BACT determinations for natural gas-fired combined cycle turbines prior to the PSD permit proposal in May 2006 and recently as a result of public comments. The top BACT option for controlling PM_{10} from gas turbines is considered to be a combination of low or zero ash fuel (i.e., natural gas) and good combustion practices (See Table 3).

Recent BACT determinations for PM_{10} emissions from natural gas-fired turbines, reported by the EPA RBLC (Table 3) show that the proposed emissions limits of 11 and 13.3 lb/hr are comparable to facilities using similar natural gas turbines. A January 22, 2007 search of the California Air Resources Board (ARB) Statewide BACT Clearinghouse[7] reports three determinations for PM_{10} from $\geq$50 MW combined cycle natural gas-fired turbines. These emission limits range from 9 lb/hr (Sacramento Metropolitan Air Quality Management District (AQMD)), to 11.5 lb/hr (Feather River AQMD), to 17.2 lb/hr (San Joaquin Valley Air Pollution Control District), where the gas turbines from the power plant in

[6] http://www.epa.gov/ttn/catc/rblc/htm/welcome_eg.html
[7] http://www.arb.ca.gov/bact/bact.htm

the Feather River AQMD were most similar to the turbines proposed for use in the Modernization Project.

Table 3: Recent BACT Determinations from RBLC Database

Facility	State	Date RBLC Determination last updated	PM_{10} without duct firing (lb/hr)	PM_{10} with duct firing (lb/hr)	Control Method Description
Rocky Mountain Energy Center, LLC	CO	5/8/06	7.6		Natural Gas Quality Fuel only and Good Combustion Practices
Crescent City Power [8]	LA	8/30/06	14.7	20.7	Clean Burning Fuel and Good Combustion Practices
Tracy Substation	CA	8/31/06		11.5	Best Combustion Practices
Forsythe Energy Plant [9]	NV	8/30/06	11.7	12.9	Clean Burning Low Sulfur Fuel and Good Combustion Practices
Berrien Energy, LLC	MI	1/4/06		19	Natural Gas and State of the Art Combustion Techniques
Duke Energy Hanging Rock Facility	OH	7/5/05	15	23.3	Low Sulfur Natural Gas

The BAAQMD BACT workbook shows that the achieved in practice BACT for PM_{10} from large ($\geq$ 40MW) combined cycle gas turbines is natural gas fuel with a sulfur content not to exceed 1.0 grain/100 scf, achieved through the exclusive use of PUC-regulated grade natural gas. The proposed PSD permit for the Modernization Project restricts the facility to the use of pipeline-quality natural gas with a sulfur content of no more than 0.25 grain/100 scf. Thus, the BACT determination made in 2000, which EPA updated for the proposed PSD permit in 2006, is still consistent with the most recent determinations.

2. *Duct burner firing increases emissions of PM_{10}, and should not be considered BACT. (# 12, 44, 46)*

[8] Emission limits from the RBLC report were inferred to be the total for 2 turbines. The 14.7 and 20.7 lb/hr emission limits represent limits per individual turbine.

[9] The RBLC database reports the emission limit as the total for 3 turbines. The 11.7 and 12.9 lb/hr emission limits represent limits per individual turbine.

Response to B-2:

The purpose of duct burner firing in the heat recovery steam generator (HRSG) is to elevate the turbine exhaust temperature, allowing production of additional power and higher steam cycle efficiency. As such, duct burners are components of the HRSG used to increase power generation from the steam turbines, and by definition, are not control technology to reduce air pollutant emissions. As a component of the combined cycle system, the gas turbines block units, associated with the Modernization Project, are subject to BACT emission limits with and without supplemental firing of the duct burners (11 lb/hr and 13.3 lb/hr, respectively). A survey of the EPA RBLC shows that two different emission limits are typically imposed on turbines based on the whether or not the duct burners are fired.

3. *The BACT analysis should require updated information by the owner/operator (given the extended delay since submission of the application) to address current BACT generally for CO, NOx, VOC, PM_{10}, and specifically as to the duct burning component of the project. In recent statements by Mr. Gary Willey of the APCD, Mr. Willey suggested that current BACT for greenhouse gases* would prevent duct burning because other turbines would not produce these greenhouse gases, as well as the excess PM_{10} emissions from duct burning, are commercially available, albeit at an increase up-front capital cost to the owner/operator.*

* *Mr. Willey has indicated that the APCD will consider any then applicable APCD required emissions limitations on greenhouse gases in connection with the APCD's final BACT review, as well as BACT for excessive PM_{10} emissions resulting from duct burning. (# 12)*

Response to B-3:

For a discussion of the BACT determination for PM_{10}, the only criteria pollutant subject to PSD review, please see our response to comment B-1. For a general discussion on duct burning, PM_{10}, and BACT, please see our response to comment B-2.

To the extent the comment raises issues relating to EPA's general permitting authority for CO_2 and other greenhouse gases ("GHGs"), EPA recognizes the importance of addressing the global challenge of climate change, and in light of the Supreme Court's decision in *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007), the Agency is working diligently to develop an overall strategy for addressing the emissions of CO_2 and other GHGs under the Clean Air Act. See 73 Fed. Reg. 44354, "Regulating Greenhouse Gas Emissions Under the Clean Air Act" (Advance Notice of Proposed Rulemaking) (July 30, 2008). However, EPA does not currently have the authority to address the challenge of global climate change by imposing limitations on emissions of CO_2 and other greenhouse gases in PSD permits.

While EPA has been implementing voluntary programs aimed at reducing greenhouse gases for several years, since the Supreme Court decision, EPA has been exploring the additional tools provided by the Clean Air Act to help us expand on the solid foundation we have built to achieve the global goal of reduced greenhouse gas emissions. In fact, EPA has recently issued an advanced notice of proposed rulemaking (ANPR) seeking public input regarding issues relating to "the specific effects of climate change and potential regulation of greenhouse gas emissions from stationary and mobile sources under the Clean Air Act." 73 Fed. Reg. 44354. While the ANPR is the first step in developing a regulatory strategy for addressing CO_2 and other GHG emissions under the CAA, the Agency has not yet proposed rules to regulate these emissions under the Act.

It is well established that "EPA lacks the authority to impose [PSD permit] limitations or other restrictions directly on the emission of unregulated pollutants." *North County Resource Recovery Assoc.*, 2 E.A.D. 229, 230 (Adm'r 1986). The Clean Air Act and EPA's regulations require PSD permits to contain emissions limitations for "each pollutant subject to regulation" under the Act. CAA § 165(a) (4); 40 CFR § 52.21(b) (12). In defining those PSD permit requirements, EPA has historically interpreted the term "subject to regulation under the Act" to describe pollutants that are presently subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant. *See* 43 Fed. Reg. 26388, 26397 (June 19, 1978) (describing pollutants subject to BACT requirements); 61 Fed. Reg. 38250, 38309-10 (July 23, 1996) (listing pollutants subject to PSD review); *In Re Kawaihae Cogeneration Project*, 7 E.A.D. 107, 132 (EAB 1997); *Inter-power of New York*, 5 E.A.D. 130, 151 (EAB 1994); Memorandum from Jonathan Z. Cannon, General Counsel to Carol M. Browner, Administrator, entitled *EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources* (April 10, 1998); Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, entitled *Definition of Regulated Air Pollutant for Purposes of Title V,* at 5 (April 26, 1993). In 2002, EPA codified this approach for implementing PSD by defining the term "regulated NSR pollutant" and clarifying that Best Available Control Technology is required "for each regulated NSR pollutant that [a major source] would have the potential to emit in significant amounts." 40 CFR § 52.21(j) (2); 40 CFR 52.21(b) (50).

In defining a "regulated NSR pollutant," EPA identified such pollutants by referencing pollutants regulated in three principal program areas -- NAAQS pollutants, pollutants subject to a section 111 NSPS, and class I or II substance under title VI of the Act-- as well as any pollutant "that otherwise is subject to regulation under the Act." 40 CFR 52.21(b)(50)(i)-(iv). As used in this provision, EPA continues to interpret the phrase "subject to regulation under the Act" to refer to pollutants that are presently subject to a statutory or regulatory provision that requires actual control of emissions of that pollutant. Because EPA has not established a NAAQS or NSPS for CO_2, classified CO_2

as a title VI substance, or otherwise regulated CO_2 under any other provision of the Act, CO_2 is not currently a "regulated NSR pollutant" as defined by EPA regulations.

Although the Supreme Court decided the case cited by the commenter and held that CO_2 and other GHGs are air pollutants under the CAA, *see Massachusetts v. EPA*, 127 S. Ct. 1438 (2007), that decision does not require the Agency to set emission limits for CO_2 and other GHGs in the Colusa Generating Station PSD permit. Notably, the Court did not hold that EPA was required to regulate CO_2 and other GHG emissions under Section 202, or any other section, of the Clean Air Act. Rather, the Court concluded that these emissions were "air pollutants" under the Act, and, therefore, EPA could regulate them under Section 202 (the provision at issue in the *Massachusetts* case), subject to certain Agency determinations pertaining to mobile sources.

EPA is currently exploring options for addressing GHG emissions in response to the Supreme Court decision. 73 Fed. Reg. 44354 (July 30, 2008). However, EPA has not yet issued regulations requiring control of CO_2 and other GHG emissions under the Act generally or the PSD program specifically. Accordingly, because CO_2 is not currently a pollutant regulated under the CAA, EPA cannot include emissions limitations for CO_2 (or other GHGs that are not otherwise regulated NSR pollutants) in the PSD permit for CGS. At this time, we believe that any action EPA might consider taking with respect to regulation of CO_2 or other GHGs in PSD permits or other contexts should be addressed through notice and comment rulemaking, as we have recently initiated by publishing the ANPR, allowing for a process which is public and transparent and based on the best available science. 73 Fed. Reg. 44354 (July 30, 2008).

4. *The BACT analysis should consider PM_{10} emissions from the potential use of cooling towers as an alternative to once-through sea water cooling. (# 12, 32, 34)*

Response to B-4:

Since the PSD permit application specifies the use of once-through seawater cooling with no resultant emissions of PM_{10}, a BACT determination for cooling tower options is not triggered. It is our understanding that the Central Coast Regional Water Quality Control Board ("Water Board") has postponed the issuance of a renewal permit under the National Pollutant Discharge Elimination System ("NPDES"). Although the public comment period for the proposed renewal NPDES permit for MBPP ended on January 26, 2007, the Water Board has placed the NPDES permit on an administrative extension, pending Water Board review of the recent EPA action on July 9, 2007 (72 FR 37107) to suspend the Phase II rule under section 316(b) of the Clean Water Act, regulating cooling water

intake structures for existing large power plants. The suspension of the rule by EPA implements the decision from the 2nd Circuit U.S. Court of Appeals in Riverkeeper, Inc. v. EPA, issued January 25, 2007, remanding several provisions in the rule, including Best Technology Available determinations, restoration provisions, and performance standard ranges.

The EPA action retains a provision (40 CFR 125.90(b)) of the Phase II rule that requires permitting authorities to develop "Best Professional Judgment" controls for existing facility cooling water intake structures that reflect the best technology available for minimizing adverse environmental impact. If the Water Board determines that once-through cooling by MBPP will not be allowed, and a different cooling method, such as dry cooling or cooling towers, is required, MBPP must apply for a revised PSD permit to include analyses of PM_{10} emissions from the cooling system, ensure that the new cooling system complies with all PSD requirements, including BACT, and specify revised PM_{10} emission limits in the new PSD permit.

Section C: Modeling and Ambient Air Quality Impact Analysis (AAQIR)

1. *The use of upper air data from Vandenberg Air Force Base is not appropriate. (# 12, 29-30, 44, 46)*

Response to C-1:

The upper air meteorological data from Vandenberg Air Force Base (VAFB) was used in the modeling analyses to determine atmospheric mixing heights, which impact the dispersion of pollutants (page 6.2-11). Vandenberg Air Force Base (VAFB) was the closest upper air meteorological station to Morro Bay (45 miles southeast). Given that marine climates influence mixing depths, the proximity of VAFB to the Pacific Ocean and to the project site makes the upper air data from Vandenberg appropriate for estimating mixing heights in Morro Bay.

The surface meteorological measurements were collected at the Morro Bay Power plant, and therefore are representative of the meteorological conditions at the proposed modification.

2. *Modeling scenarios examining a six-mile radius from the MBPP does not represent actual regional impacts of PM_{10} emissions. (# 12, 15, 44, 46)*

Response to C-2:

We agree that the PM_{10} emissions may have regional as well as local-scale impacts. Local-scale impacts typically result from primary

emissions of PM_{10}, or PM_{10} emitted directly into the atmosphere. Regional impacts typically result from secondary PM_{10}, or PM_{10} formed in the atmosphere from chemical reactions. The MBBP's analyses considered both types of impacts. As required, the MBBP's source impact analysis predicted, through modeling, the local-scale ambient air quality impacts of the direct emissions of PM_{10} from the MBPP within the source's area of significant impact, as a result of the proposed modification. The analyses demonstrate that the proposed emissions increase from the modification will not cause or contribute to a violation of the NAAQS or PSD Class II increments for PM_{10}.

The MBBP's analysis of impacts beyond the local-scale impacts involved modeling the impacts of the source's emissions on the San Rafael Wilderness Class I area. The visibility analysis evaluates the visibility degradation that is caused by secondary particulate matter formed from NO_x and SO_x, as well as primary PM_{10}. The maximum impact on visibility in the San Rafael Wilderness Class I area meets the Federal Land Manager's criteria for the level of acceptable change. The air quality analysis demonstrates that the proposed modification will not cause or contribute to a violation of the NAAQS or PSD Class I increments for PM_{10} in the San Rafael Wilderness Class I.

3. *Meteorological conditions from 1994 – 1996 do not adequately address meteorological variability, including fog events, winter time inversions, and El Niño / La Niña phenomena. (# 9, 11-13, 27, 29, 35, 43-44, 46)*

Response to C-3:

The applicant reported in the Air Quality Analysis (page 6.2-49) that the meteorological conditions used in the modeling were obtained from data collected by PG&E at the MBPP site from 1994 – 1996. From the 1994 dataset, MBPP reported that the meteorological conditions expected to produce fog (relative humidity greater than 91.7%) were identified in 29% of all hours, representing roughly 51% of all days in 1994 experiencing at least one hour of fog, which is consistent with the long-term fog statistics from the National Weather Service Point Mugu station (page 6.2-58). The three years of real meteorological data were collected during actual conditions from 1994 – 1996, including foggy and non-foggy conditions and winter time inversions.

The three year data period from 1994 – 1996 was selected by the District to provide a variety of meteorological conditions (page 6.2-49). The District recommended use of data from 1994 – 1996 because they judged 1997 and 1998 to be highly unusual El Niño and La Niña years, and thus inappropriate to assure normal seasonal and short-term variations in

meteorology (November 28, 2000 letter from Paul H. Allen III, SLOAPCD Supervising Air Quality Specialist to Kae Lewis, CEC Project Manager). Additionally, the Pacific Marine Laboratory (PMEL) of the National Oceanic and Atmospheric Administration (NOAA), part of the U.S. Department of Commerce, reported that weaker El Niño and La Niña years occurred in 1994 and 1995 – 1996, respectively[10]. Thus, data from 1994 – 1996 incorporated an El Niño year as well as two La Niña years. Therefore, because the meteorological data collected from 1994 – 1996 did incorporate fog events, and winter inversions, and El Niño Southern Oscillation (ENSO) events that were not as unusual as those experienced in 1997 – 1998, we determined that the data was representative of natural variability for Morro Bay.

4. *Assuming that the baseline emissions are estimated to be too high (Section A.2), the changes in emissions resulting from the project are larger than estimated and thus, do not adequately represent the impact of the project on the PSD increment and visibility. (# 12, 29, 31, 44, 46)*

Response to C-4:

This comment is confusing. The commenter seems to be implying that by overestimating the baseline emissions, the emissions increase and hence the projected impacts have been underestimated. The change in emissions resulting from the Modernization Project was **only** used to determine applicability of the Modernization Project to the PSD permitting program. The modeling analyses for this project submitted by the applicant (page 6.2-8) accounted for emissions from the proposed new turbines as well as from the existing boilers. Because the existing boilers will be shutdown as a result of the Modernization Project, by including the emissions from the existing boilers in the model, the impacts of the facility are modeled conservatively. Therefore, even if the baseline emissions were estimated to be too high, the impact of the project would not be underestimated, because the baseline emissions were not subtracted in the analysis. Thus, the applicant's analysis adequately estimates potential impacts from the facility.

5. *The additional impacts analysis states that MBPP operated without incident in proximity to agricultural uses. This does not adequately reflect the history of complaints by neighbors (# 1, 12, 29, 44, 46). The existence of historical complaints regarding fallout from the MBPP was highlighted in an article from the Fall 1967 issue of* Cry California: The Journal of California Tomorrow *(See Comment #29). The article describes an incident that occurred on May 20, 1966, where an increase in energy demand and natural gas consumption resulted in the combustion of fuel oil, rather than natural gas, by MBPP. The May 26, 1966 issue of the Morro Bay Sun newspaper reported resident complaints of damage to cars, house paint,*

[10] http://www.pmel.noaa.gov/tao/elnino/el-nino-story.html

clothes out to dry, flowers, and vegetables. The Cry California article cites the combustion of fuel oil as the cause of the fallout experienced in 1966. The article further stated that fuel oil combustion at the MBPP should be discontinued to avoid future fallout incidents (# 40).

Response to C-5:

The current Modernization Project proposes to remove the existing fuel oil tanks and replace the old fossil fuel oil-fired steam generators with combined cycle natural gas-fired turbines. Implementation of the proposed project will result in reduced emissions of NO_x, CO, and VOC, and an emissions increase of SO_2 that does not exceed the PSD significance threshold. Emissions of PM_{10} exceed the PSD significance threshold and are subject to the PSD regulations, requiring application of BACT, and impact analyses on ambient air (including national ambient air quality standards (NAAQS), PSD increments, visibility, soil, and vegetation). The modeling analyses have shown that PM_{10} emissions from the MBPP will comply with the NAAQS, the allowable PSD increment, and the allowable PSD Class I increment. Additionally, modeling has shown that visibility will not be adversely impacted by the Modernization Project, and the discontinued use of fuel oil by the MBPP will eliminate potential adverse impacts on soils and vegetation.

6. *The central and uncontested fact is that ground-level concentrations of particulate matter would rise 60% in Morro Bay, partly because of increased operating capacity and the reduction in stack height. (# 44, 46)*

Response to C-6:

EPA disagrees with the statement that it is a central and uncontested fact that ground level concentrations of particulate matter will increase by 60%. The change in *emissions* of PM_{10} resulting from the Modernization Project, calculated as the difference between the potential to emit (PTE) of the new turbines (203.2 tpy PM_{10}) and the baseline actual emissions of the existing boilers (127.2, tpy PM_{10}), is 76 tpy of PM_{10}. This increase of 76 tpy represents a 60% increase in potential PM_{10} *emissions*. Although potential emissions of PM_{10} from the facility will increase by 60%, the maximum modeled impact of the facility, estimated as the worst-case ground level concentration over a 24-hour averaging period (the averaging time for the National Ambient Air Quality Standard, or NAAQS), will increase by 24.2 micrograms of PM_{10} per cubic meter of air ($\mu g/m^3$). This represents a 42% increase over the background PM_{10} concentration (57 $\mu g/m^3$). It is important to note that 1) this modeled impact represents the maximum worst-case ground level concentration under fumigation conditions, and 2) the impact of the Modernization Project combined with the background PM_{10} concentration results in a total impact (81.2 $\mu g/m^3$)

that is 46% lower than the PM_{10} NAAQS of 150 $\mu g/m^3$. Therefore, the 60% increase in potential *emissions* results in a modeled maximum worst-case scenario increase in *ground level concentration* of 42%, which does not result in any violations of the PM_{10} NAAQS.

7. *The current applicable National Ambient Air Quality Standard (NAAQS) for PM_{10} cited in the AAQIR is out of date compared to a new NAAQS for PM_{10} adopted September 16, 1997. The new NAAQS should be implemented immediately. (#44, 46)*

Response to C-7:

The 24-hour and annual National Ambient Air Quality Standards for PM_{10} cited in the AAQIR (150 $\mu g/m^3$) were, and are up-to-date with the PM NAAQS promulgated on July 18, 1997 (68 FR 38652) and effective September 16, 1997. The 1997 standard for PM_{10} was revised from the previous standard to be based on the 3-year average of the 99th percentile of 24-hour PM_{10} concentrations at each monitor within an area. The numerical level of the standard 150 $\mu g/m^3$ was not changed in the 1997 rule. The annual PM_{10} standard was retained in the 1997 rule to be based on the 3-year average of the annual arithmetic mean PM_{10} concentration at each monitor in an area.

The 1997 PM Rule also created NAAQS for $PM_{2.5}$. However, due to the technical limitations associated with the monitoring, emissions estimation, and modeling of $PM_{2.5}$, EPA issued a guidance memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, to Regional Air Directors (October 13, 1997), regarding interim implementation of the New Source Review Requirements for $PM_{2.5}$. This guidance applies to the PSD program and recommends interim use of PM_{10} emissions as a surrogate for $PM_{2.5}$ until the PM2.5 final NSR implementation rule is promulgated. Thus, if emissions of PM_{10} are determined to be in compliance with BACT and the air quality impacts analyses, then the source can be considered to be in compliance for $PM_{2.5}$ emissions. This guidance was reaffirmed in an additional guidance memorandum from Stephen D. Page, Director, Office of Air Quality Planning and Standards to Regional Air Directors (April 5, 2005).

The modeled impacts of the Modernization Project on the 24-hour and annual average NAAQS are in compliance with the appropriate air quality standards for PM_{10}, promulgated July 18, 1997 and effective September 16, 1997. Therefore, the Modernization Project is in compliance with respect to both PM_{10} and $PM_{2.5}$ NAAQS.

Section D: PSD Permit Conditions

1. *Limits placed on PM_{10} emission rates are ineffective and unenforceable due to the lack of continuous in-stack monitoring of PM_{10}. (# 12, 23, 44, 46)*

Response to D-1:

Performance tests for PM_{10} emissions from the turbine exhaust stacks are required within 60 days after achieving maximum load, but no later than 180 days after initial startup, and annually thereafter. The PSD permit specifies that these tests must use the EPA-approved methods, Methods 5 and 202, for measuring PM_{10} emissions. Monthly samples of the natural gas combusted will monitor the sulfur content of the fuel, which is limited by the PSD permit to 0.25 gr/100 scf. Noncombustible trace constituents of fuel and the sulfur content of the fuel contribute to PM_{10} emissions from the natural gas-fired turbines. The use of low sulfur, pipeline quality natural gas fuel limits PM_{10} emissions to negligible amounts, as reported in AP 42, Chapter 3-1 (Stationary Gas Turbines) .

The reporting and record-keeping requirements regarding date, time, and total duration of startups and shutdowns of each turbine, and firing hours and fuel flow rates from each turbine and duct burner, will provide the necessary information to determine compliance with the annual PM_{10} emission limit based on the measured PM_{10} emission rate from the performance tests. PM_{10} continuous emission monitoring systems (CEMS) are typically used at coal-fired power plants to monitor primary PM_{10}. Emissions of PM_{10} from natural gas-fired power plants are dominated by condensable particulates (secondary PM_{10}), and the concentration of primary PM_{10} emissions from natural gas fired power plants are too low to be reliably measured with CEMS. Thus, annual performance testing using EPA Methods 5 and 202, and monthly testing of the fuel sulfur content, are the most reliable methods for ensuring compliance with PM_{10} emission limits.

Section E: Human and Ecosystem Health

1. *The Modernization Project, particularly the proposal to shorten the stack height, will pose a health threat to the local community as well as to bird populations that use the Morro Bay Estuary. (# 2-8, 14-16, 18-20, 22, 24-28, 32, 33, 35-36, 38-39, 42, 44-46)*

Response to E-1:

New stack heights of 145 feet (reduced from previous heights of 450 feet) were proposed by the applicant as a balance between engineering, public health, and aesthetic considerations. The new stack heights are in

compliance with Good Engineering Practice (GEP) stack height, as defined in 40 CFR § 51.100 (ii), and the GEP provisions of 40 CFR § 51.118.

The change in air quality resulting from the increase in emissions at the facility was modeled with the shorter stack height of 145 feet. The maximum modeled impact of the facility, estimated as the worst-case ground level concentration over a 24-hour averaging period (the averaging time for the National Ambient Air Quality Standard, or NAAQS), will increase by 24.2 micrograms of PM_{10} per cubic meter of air ($\mu g/m^3$), which is lower than the PM_{10} increment of $30\mu g/m^3$. The impact of the Modernization Project combined with the background PM_{10} concentration results in a total impact of 81.2 $\mu g/m^3$, which is lower than the PM_{10} NAAQS of 150 $\mu g/m^3$.

Because the ambient air quality analyses, based on worst-case ground level conditions using the new (lower) stack heights of 145 feet, showed that the Modernization Project would not result in concentrations that exceed the NAAQS or PSD increments, EPA finds the proposed stack height acceptable because public health and welfare remain protected.

2. *What will the impact of PM_{10} be on endangered species? (# 31)*

Response to E-2:

Pursuant to Section 7 of the Endangered Species Act ("ESA"), 16 USC §1536 and 50 CFR Part 402, EPA consulted with the National Marine Fisheries Service ("NMFS") and the Fish and Wildlife Service ("FWS"). In a letter dated May 17, 2002 from Rodney R. McInnis, Acting Regional Administrator for the NMFW Southwest Region, to Gerardo C. Rios, Chief of the EPA Region IX Air Permits Office, NMFS concluded that the Modernization Project is not likely to adversely affect federally threatened steelhead (*Oncorhynchus mykiss*).

The FWS issued a Biological Opinion ("BO") on the proposed project on May 23, 2003. The BO concluded that the Modernization Project is not likely to jeopardize the continued existence of the federally threatened California red-legged frog (*Rana aurora draytonii*), the endangered Morro shoulderband snail (*Helminthoglypta walkeriana*), or the tidewater goby (*Eucyclogobius newberryi*). The BO included reasonable and prudent measures ("RPMs") that are necessary to minimize impacts of the Modernization Project on these listed species. In a letter dated June 23, 2005, and submitted as an addendum to the PSD permit application, Duke Energy Morro Bay, LLC, from Randall J. Hickok, Vice President of California Assets, to Gerardo C. Rios, stated that the Modernization Project will implement the RPMs, terms, conditions, and

reporting requirements contained in the BO into the project description. The Morro Bay Power Plant changed names in 2006 to LSP Morro Bay, LLC, and in 2007 to Dynegy Morro Bay, LLC. In letters submitted to Gerardo C. Rios on May 8, 2006 and May 30, 2007, LSP and Dynegy notified EPA of the name change, and reaffirmed the facility's previous commitments related to compliance with the PSD permit, including the requirements of the Biological Opinion.

Section F: Changes to the proposed PSD permit unrelated to comments received

1. The proposed PSD permit did not include an averaging time associated with the PM_{10} emission limit of 11 and 13.3 lb/hr. The final PSD permit states that each turbine is subject to the pound per hour PM_{10} emission limits on a six-hour rolling average basis.

2. The proposed PSD permit was modified to specify a required test method for the monthly fuel sulfur analyses. The permit will require use of ASTM D5504, one of the fuel sulfur test methods acceptable under NSPS Subpart KKKK. EPA or District approved alternative test methods for fuel sulfur content may be used in lieu of ASTM D5504 upon EPA approval.

3. Emissions of particulate matter (PM) are subject to PSD review when emitted at rates exceeding the significance level of 25 tons per year (tpy). Emissions of particulate matter less than 10 microns in aerodynamic diameter (PM_{10}) are regulated by PSD when emitted at rates exceeding the significance threshold of 15 tpy. Because a natural gas-fired power plant is not expected to emit course particulate matter (PM greater than 10 microns in aerodynamic diameter), emissions of PM are expected to be equivalent to emissions of PM_{10}. The PSD permit proposed in May 2006 addressed only PM_{10}, and did not address PM; however, PM is subject to PSD review because emissions will exceed 25 tpy. Since no distinct air quality standard exists for PM, and since emissions of PM and PM_{10} will be equivalent, PSD review for PM_{10} satisfies requirements for PSD review for PM. The final PSD permit was modified to replace references to "PM_{10}" with "PM/PM_{10}".

ENVIRONMENTAL PROTECTION AGENCY (EPA)

PROPOSED PERMITTING ACTION

FOR THE MORRO BAY POWER PLANT MODERNIZATION PROJECT

MORRO BAY, CALIFORNIA

Tuesday, October 24, 2006

6:09 p.m. - 8:15 p.m.

PUBLIC COMMENTS

Held at the Veteran's Memorial Hall

209 Surf Street

Morro Bay, CA 93442

Reported by: Allyson Whitendale, CSR No. 12996

File No. 207346

Public comments were taken at the Veteran's Memorial Hall, Morro Bay, California, before Allyson Whitendale, CSR No. 12996, on Tuesday, October 24, 2006, commencing at the hour of 6:09 p.m.

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Public Hearing Officer for EPA:
Stephen Jawgiel
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

PUBLIC HEARING

Morro Bay, California

Tuesday, October 24, 2006

-oOo-

MR. JAWGIEL: Welcome and good evening. This public hearing is now in session. My name is Stephen Jawgiel, and I'm the acting public hearing officer for the United States Environmental Protection Agency, Region 9, in San Francisco, California, and I'll be the presiding officer for today's hearing.

The purpose of today's hearing is to accept public comment on the Environmental Protection Agency's proposed Clean Air Act prevention of significant deterioration, and I'll be referring to that phrase as PSD permit for the Morro Bay power plant modernization project.

Under the proposed PSD permit, LSP Morro Bay's LLC will, Number 1, replace four existing 1950 to 1960's era fossil fuel fired electric utility stream generators with two combined cycle natural gas fired turbine block units; Number 2, replace three existing 450-foot exhaust stacks with two 145-foot stacks complied with good engineering practices; and Number 3, will remove the existing fossil fuel tanks.

With me tonight are Gerardo Rios, Anita

Lee, and Leslie Ramirez, who is our timekeeper up here, of the EPA Region 9 air division; Carole Vondencamp from EPA's air technical services office; and Wendy Chavez from EPA's office of public affairs.

Before we begin accepting comments, I would like to describe the procedures for tonight's proceeding. Thereafter, we will receive public comments in the order of the speaker sign-up cards, in the order that they were received. I would like to go over the ground rules for today's public hearing. This hearing is a formal legal proceeding. Public notice of this hearing was made by publication in the Morro Bay Sun Bulletin, the San Luis Obispo Tribune, and the Bay News. Public notice was also posted on EPA's website.

The audio from this hearing will be tape-recorded, and a court reporter, whom you see to your right, will be transcribing a verbatim recording during this hearing. If you present oral comments at today's hearing, please speak clearly and slowly so that the court reporter can understand you and record your comments accurately.

I also ask that you refrain from interrupting other speakers or asking any questions during their presentations, and the purpose for that is the simple courtesy helps the court reporter to listen

to one person individually for accuracy's sake so that she doesn't have to try to record voices that are being spoken over each other.

Please note that you will have the opportunity to make comments shortly. Once we begin the public comment portion of this hearing, we realize that this is a complex issue, so informational materials are available at the sign-up tables in the lobby.

I don't see any here right now, but in case there are any people who show up with banners and posters, they will be allowed to be placed in the rear of the room; however, banners and posters that are attached to a stick will not be allowed in the hearing room. If you wish to carry a banner or poster to your seat, you'll be asked to sit in the rear of the hearing room so that others behind you can have a clear view of the stage here. Any sign or banner may be excluded from this hearing if it is determined to be disruptive to the conduct of the hearing.

I'd also like to mention that there's -- as you walk in, you noticed that there was a registration table located in the lobby. You don't need to register to be present here at the hearing; however, if you would like to make oral comments at

today's hearing, please fill out a green speaker card, which you can see here. I will be calling individual speakers based upon the order that they submitted their speaker cards.

If you would like to receive direct notification of EPA's final decision on the proposed permit, please sign in one of the sign-in sheets located in the registration table. And I know Carole and Anita are back there, and they can assist you with any of those forms that you may need.

If you don't wish to speak tonight you can also submit written comments for the official record. Written comments and oral comments will receive equal consideration by the EPA in making a final permit decision. There is a box at the registration table for submitting written comments. If you would like to write comments while you are here today, a form for that purpose is available also at the registration table in the lobby. If you have submitted written comments, it is not necessary for you to give oral comments as well.

If you submit by -- comments by US mail, written comments must be postmarked on or before October 30th, 2006. Comments submitted by e-mail may be sent to the attention of Mark Sims, and I'd like to

provide you with Mr. Sims' mailing address, his fax number, and his e-mail address. For the purposes of mailing and comments, you would address them to Mark Sims, Air Division, open paren, capital AIR-5, close paren, US EPA Region 9, 75 Hawthorn Street, San Francisco, California 94105-3901. Comments that you would like to fax in to the EPA can be faxed at area code 415-947-3579, and if you would like to submit your comments via e-mail, they should be sent to R as in the letter R, 9, the numeral 9, air permits, all one word, R9Airpermits@EPA.gov and, again, those need to be submitted by October 30th, 2006. The oral comments received at this hearing and all written comments received by the end of this comment period will be considered by the EPA in making the final permit decision.

EPA decisions on Clean Air Act permits are typically made with the participation of a number of people within the organization. EPA staff cannot comment to any specific decision related to the proposed permit today. The purpose of this hearing is to listen to comments, so we will not be providing responses during this hearing; rather, EPA will prepare a written summary of the comments and EPA's responses. The response to comments will accompany the final

permit decision. EPA will not make a decision on the proposed permit until all comments have been considered. EPA's notice of the final decision on the permit, along with a response to comments, will be sent to each person who has submitted written comments or who has signed up at the registration table to receive notice and provide an e-mail or postal address. This information will also be available on EPA's website.

A copy of today's transcript -- of today's hearing will also be available for inspection at EPA's office in San Francisco. If you wish to purchase an official copy of the transcript, please make arrangements directly with the court reporter following the hearing. We also intend to make this available on EPA's website.

When EPA issues a permit, it becomes effective 30 days after the notice of the decision; however, EPA's final decisions are reviewable by the environmental appeals board, the regulations of which are found at 40 CFR part 124. Permits to review must be filed within 30 days of the decision.

In a few minutes I will begin calling speakers. Speakers will be called in groups of five in the order that they presented their cards. When I call your name, please come forward, and then you can see

there are five chairs to your left over here. As I call your name, the chair closest to the podium is chair Number 1, so if people can fill in the chairs from 1 to 5, I would appreciate that. And I will be calling individuals to come up to the podium and provide comments.

In order to give everyone who wishes to speak during this hearing a chance to do so, I ask that everyone who speaks please make your oral comments brief, as this hearing is only scheduled for three hours. To assist in this effort, I am asking the speakers to limit their comments to three minutes. If you have lengthier comments, you may submit them in writing. Each speaker will be given a one-minute warning and then notified when their time is up.

And I will apologize beforehand if it seems at some point I'm kind of pushing you off the microphone just for the purposes of we want to make sure that everyone who wants to provide comments tonight has the opportunity to do so. If we perchance have additional time at the end of the hearing and people would like to make additional comments, we may allow people to come back up to the microphone if time permits. But we would like to strictly enforce the three-minute rule just so that everyone who is here has

a fair and equal opportunity to provide comments at this hearing.

I also wish to mention that we have a group here, the Coastal Alliance Against Plant Expansion, also known as CAPE. CAPE has had some of their members donate their time slots to -- so that they can make one presentation. Currently, it appears as though they have four individuals that wanted to donate their time to the organization, so the organization of CAPE will likely have a 12-minute slot. So in case it seems you're wondering why they are allowed to speak longer than the allotted three minutes, that is the reason why, because instead of having their individual members come up, we decided it would be more expedient and probably more efficient to basically have one person, representative from that group speak.

I would also like to mention that I'm aware that some of you may have comments relating to water permit issues regarding this project in addition to air permit issues; however, I ask you to please refrain from making any comments related to the water issues because they are not relative to this specific air permit hearing and will not be considered as part of this process. I understand the comment period for

the Morro Bay water permit is closed; however, if you still wish to submit written comments on the water permit, you may do so by sending written comments to Michael Thomas at the California Regional Quality Control Board. You can also, if you feel that it is necessary to do so or if you would like to do so, you can also submit written comments to Nancy Yoshikawa at the United States Environmental Protection Agency, also at 75 Hawthorne Street, San Francisco, California 94105. Because the official comment period is closed for the water permits, I cannot guarantee that your comments will be considered in that permit process.

I would like to now begin the comment period, and I would like to read off the first five names of individuals who have submitted requests to make comments and, again, I'm going to preapologize here if I mispronounce anyone's name. What I would like to do is if I call you up to the podium, if you would please state your name for the record and also spell your name for the court reporter. That would be greatly appreciated.

So I would like to call off the first five names. The first name is Roger Ewing, if you could please come up and take the first seat. Thank you, Mr. Ewing. If you could please sit in that front

seat right there, I would appreciate it. The next person is Colleen Johnson. The third person is Nelson Sullivan. The fourth person is Garry Johnson. And the fifth person is Joan Carter.

Mr. Ewing, if you would like to please take the podium and, again, Mr. Ewing, I please request that you limit your comments to three minutes. You will receive a one-minute warning, so to speak, when we're approaching the end of your comment period. So please feel free to begin.

MR. EWING: Is this on? Is the mic on?

MR. JAWGIEL: It does not sound like it is.

MR. EWING: Good evening. My name is Roger Ewing, E-W-I-N-G, and I'm a Morro Bay citizen. And first, I'd like to thank all of you very much for giving us the opportunity to voice our concerns.

I have been opposed to the power plant from the very beginning. The city government of Morro Bay chose to pursue the modernization because of the money interests. I've opposed it because of the health interests. It is my opinion that the long-term health of our citizens is far more important than the money gained in profit to one company. By lowering the smokestacks from 450 feet to 145 feet, PM-10 particulate matters will be coming right through our

windows, right through our doorways, and right into our lungs. I think that's wrong. I don't think that's fair to the elderly in our community, nor do I think it's fair to the very, very young, who's lungs are just beginning to form. So I would ask the EPA to think very seriously before granting a permit to continue the construction of this new power plant.

And, again, thank you for the opportunity to speak. There are many others that will come and speak on a more technical matter than I can, so listen carefully. Again, thank you. Have a good meeting.

MR. JAWGIEL: Thank you, Mr. Ewing.

I should also mentioned to people that as you come up and speak that you may be wondering my specific role in the approval of this process, and I can assure you I actually -- as a hearing officer, I'm here to make sure that this proceeding moves forward in an orderly fashion. I actually do not personally have a say in the -- in the approval of this permit. I just wanted to make that clear to everyone as we move along. People who are -- who will actually make the decisions will be grading these transcripts and the written comments that come in, so I wanted to make that crystal clear for you.

Thank you, Mr. Ewing. I appreciate your comments tonight. Next person, Ms. Colleen Johnson.

MS. JOHNSON: Good evening and welcome to Morro Bay. My name is Colleen Johnson, and I appreciate your traveling here to receive public comment and to collect all available information regarding this issue that is so important to our city.

As you know, over the past few years, many studies have shown the relationship between increased concentrations of particulate matter and respiratory problems, especially in children and the elderly. One study that particularly impressed me was one that compared the health of children living near a power plant to those living far from a power plant. Those who lived near a power plant had a significant reduction in their lung capacity and an increase in respiratory problems as compared to those not exposed to the emissions of a power plant. This was particularly true for children in their teenage years, when they are going through a period of rapid growth. The teenage years, the high school years.

Concerning the power plant here in Morro Bay, Energy Commission documents referred to a six-mile radius of increased pollution around the power plant. Our high school is not 6 miles from the power plant.

Our high school is not even 3 miles from the power plant. It is almost right next door to the power plant, and if a new power plant is built, it will be north of the old plant, even closer to the high school than the old plant. The smokestacks of a new plant will be lower and closer to ground level so that the particulate matter, carbon monoxide, sulfur dioxide, and many other hazardous chemicals will saturate the students' airways as they run laps during PE or practice football after school.

To add insult to injury, we not only have the Morro Bay students here at the high school, but because there is no high school in the neighboring town of Los Osos, the students there come to Morro Bay to also attend school under the smokestacks.

MR. JAWGIEL: One minute left, Ms. Johnson.

MS. JOHNSON: Obviously, we have a problem. A power plant next door to a school is not a good situation. The solution: Build a power plant at a less populated location or, at the very least, employ best available technology at a new plant here. Knowing that we -- what we know today and if a permit will be granted, I urge you to prohibit the applicant from employing duct burning, and I urge you to ensure that the most advanced least-polluting turbans available are

used. Thank you.

MR. JAWGIEL: Thank you, Ms. Johnson. Appreciate that.

Our next comment speaker will be Nelson Sullivan.

MR. SULLIVAN: She's a tall girl.

MR. JAWGIEL: Good evening, Mr. Sullivan. How are you?

MR. SULLIVAN: Good evening.

MR. JAWGIEL: Mr. Sullivan, if you could please state and spell your name for the record, I would greatly appreciate that.

MR. SULLIVAN: Nelson Sullivan, N-E-L-S-O-N S-U-L-L-I-V-A-N. And I will be very brief because I know I'm going to be followed by much more well-informed people than myself, but I have been deeply involved in this power plant venture with the organization CAPE, and I am personally convinced that this is a bad, bad thing. Not only is it in the middle of a town where the downwind is going to bring these particulates right into our houses, but it's a bad place to be generating electricity. Wiring throughout the state -- we're out in left field as far as where the deeds are. And the wires are not in existence, nor do they plan to be in existence to make the best use of

the energy that's being put in that effort. And the stacks, it's ludicrous to have these short stacks. The 450-foot stacks would let the pollutants go much farther afield than the population here. That's my main concern, and thank you very much.

MR. JAWGIEL: Thank you, Mr. Sullivan. I appreciate your comments tonight.

Our next speaker is Garry Johnson. Mr. Johnson, if you could please take the podium.

MR. JOHNSON: Garry Johnson, live in Morro Bay, live two blocks from the plant. G-A-R-R-Y J-O-H-N-S-O-N.

First, I'd like to say I'm an independent person. I am not affiliated with any group, not paid by the power plant people or be influenced by them. I am a retired engineer who worked in the space industry for most of my career. I pioneered the field of particle analysis for 40 years working for Lockheed Corporation. I am considered an expert in this field. My work included optical microscopy, scanning electron microscopy, ocean analysis, atomic absorption, electron disperse of x-ray analysis, known as EDX, to identify particles and determine the origin of these particles.

I discovered that PM-10 or just

particles themselves are everywhere in our lives. Every breath we take we are breathing in particles from cars' emissions, diesel emissions, smoke, inside our cars. Cars are one of the worst things right now because of the outgasing of the plastics. When you buy a new car, beware. Windy days, that's another big one. Pollen, pollen's everywhere. The list goes on and on. There are more particles going airborne from the list just mentioned that the plant would ever produce. If I were so paranoid as some people are about particles, I would become a Howard Hughes and bury myself in a hotel room.

In my professional career, we had a contract with customers that I would perform an in-plant inspection of the facilities and determine if they all met their requirements, including particle contamination. After I retired to Morro Bay, I checked the power plant for safety and found out that the use is natural gas and the plant is very safe. I even took a complete tour of the facility and found the plant was in A+ condition and attended many meetings to discuss issues that I had -- that I had. I feel the plant is safe, the plant meets all its requirements, and the EPA should go ahead and approve the facility.

MR. JAWGIEL: One minute, Mr. Johnson.

MR. JOHNSON: Okay. I still feel that way. The plant does produce particles. They're not toxic. I'm more concerned about the emissions, if I was concerned of anything at all, but the most important thing it really meets the EPA requirements. More than -- you look at the graph, and it proves that if they didn't meet the EPA requirements, that would be another issue, but it is not an issue. They do meet the EPA requirements. Particle contamination is a complex subject, and that's why we studied it in our space program, and that's why Intel, for example, spends a billion dollars to build a facility because of contamination. It's everywhere around us. The people, we are the worst contaminants of it all.

So I could go on and on on this subject since I wrote papers on it and I'm a pretty good expert on the subject, so I'll leave it at that. Thank you.

MR. JAWGIEL: Thank you, Mr. Johnson.

And our next speaker will be Joan Carter. I'm sorry?

MS. CARTER: Are you going to call those people up?

MR. JAWGIEL: I'll call them up after you're finished, Ms. Carter.

MS. CARTER: Okay. My name is Joan Carter,

J-O-A-N C-A-R-T-E-R. I'm a Morro Bay resident, and I would like for this hearing to make note of an article that was in our San Luis Obispo County newspaper last week on the 17th. I'm just going to read a little bit of it to you. It's titled, "County Asthma Rate Tops State's."

"The rates of asthma are increasing among California adults, and the percentage of San Luis Obispo County residents with the condition is higher than the state average, according to a new report.

"About 22,000 people in the county -- or 9 percent of the population -- have asthma, according to data from the 2003 California Health Interview Survey led by researchers at the UCLA Center for Health Policy Research. An additional 12 percent, or an additional 30,000 people in the county, have asthma-like symptoms that in some cases may be undiagnosed asthma.

"Statewide, 7 percent of residents reported having asthma symptoms.

"Researchers did not conclude why some counties have higher rates of asthma than others.

"Greg Thomas, the county's health officer, said the top two reasons San Luis Obispo County has higher rates of asthma are most likely the

high pollen count and Central Valley air pollution drifting into the North County.

"'Clearly, asthma and other breathing problems are significant issues for Californians and a growing challenge for our health care system,' said Susan Babey, lead author of the report.

"Asthma is most prevalent in young children and one of the leading causes of school absenteeism, the report said.

"Some schools have used a curriculum from the American Lung Association to teach children how to control their triggers and symptoms, she said. The public health department also notifies the schools on days when the air quality is particularly poor so teachers can limit outside physical activity.

"Almost 10 percent of people statewide" --

MR. JAWGIEL: One minute, Ms. Carter.

MS. CARTER: -- "have asthma breathing problems that may be undiagnosed asthma, the report found."

So this is what's going on here. And this is a red flag not to add other contributing causes of asthma in our county, like particulate matter that will rise 60 percent due to the proposed increased

operating time and the lower smokestacks with wind not blowing the contaminants away, so this permit should not be issued. Thank you very much.

MR. JAWGIEL: Thank you, Ms. Carter.

I'd like to call the names of the next five commenters. The first person will be Phil Hill. If you could please take the first seat up here, Mr. Hill. Next will be Pauline LaPlante and, again, I apologize for mispronouncing anyone's names as we move through this. Is Pauline in the audience? Next is -- I believe it's Shoosh Crotzer. I'm sure all of you will correct me when you get up here, when you get up to the podium. Next is Colby Crotzer. And last is Bonita Churney.

Mr. Hill, if you could please take the podium and, again, I ask that all of us please state your name, spell your name for the court reporter, and please be mindful of the three-minute rule. Thank you.

MR. HILL: My name is Phil Hill, P-H-I-L H-I-L-L. It's not my fault. I'm a Morro Bay citizen. I live on a boat in the estuary.

I am just adamantly opposed to this whole project, have been for quite a while. I used to work for the Chamber of Commerce. I had access to an incredible amount of data some of which I wasn't

supposed to have access to, and it's just a hideous thing. I'm not a smoker, I'm not an asthmatic, and I don't play one on television, but when I go in public or I'm at a coffee house or something, I do not sit downwind from tobacco. I didn't quit smoking to die from it, okay? You don't have to be a rocket scientist or anything else to look up at them damn stacks and see what's coming out the top. If that was blowing into your garage, it would kill you deader than a doornail. Birds don't circle around those stacks for a good reason. I don't want to see the old plant there, and I don't want to see it operating, and I sure as heck don't want to see a new one with really big, fat, shorter stacks.

The predominant winds around here blow inland. They're blowing over the high school or over the town, and that much lower we're going to be sucking that junk into our lungs that much more. I'm violently -- not violently, excuse me, vehemently opposed to it. And one-third of that wet stuff out there that we're not allowed to address is composed of oxygen, so there's an interchange there. It's an exchange system, and that's another part that I can't talk about is the fact that it kills half a million life forms every day when they cook it.

So we -- you know, there's two schools here -- there's one -- there's three. There's one that's concerned with environmental upkeep, which is your job and mine, and then there's one that's concerned with economic vitality, and then there's people that are concerned about both. And I have one minute left and I am almost done. And I'm concerned about both, and I know that we can live in good quality and make decent money and breath good air better if we don't have that damn plant there. And I'm sorry if I sugarcoat my words. Thank you.

MR. JAWGIEL: Thank you. Thank you, Mr. Hill.

Pauline, I'm going to let you help me with your last name here. Would you please -- if you want to -- yes. If you could please state and spell your name for the record.

MS. LAPLANTE: Hi. My name is Pauline, P-A-U-L-I-N-E, and my last name is LaPlante L-a-P-L-A-N-T-E. I'm a new resident of beautiful Morro Bay, and I'm not an expert, but I do feel very strongly on -- and I would like to vote against the permit because I feel 6 percent more of the particulate matter would be most harmful to the health of the wonderful residents, the people who live here.

When you're talking about a six-mile radius being affected, the children, the teenagers, and the adults, as well as senior citizens like myself, I feel we're dealing with a very serious, dangerous situation, so I would like to put in my feelings that, you know, I would appreciate the permit not being accepted. Thank you.

MR. JAWGIEL: Thank you, Ms. LaPlante.

MS. CROTZER: Hi. My name is Shoosh Crotzer, S-H-O-O-S-H C-R-O-T-Z-E-R. Another speaker came up and said he was an expert on air quality and has worked in power plants. He then preceded to say that there's a tremendous increase in the particulates that we're breathing everywhere, he talked about new cars. Statistics have shown a terrible rise in asthma among children. There are enormous changes in the past six years with an increase of really bad things happening in our environment.

The permit for this plant, the data that's used for this application is six years old. Before any permit should be considered, this data needs to be revised. The permit is outdated and it needs to be updated, the information. So I'm hoping that this is really considered. If everyone talks about how much has changed in the past six years, look at our country,

look what's happened in the environment, in politics, everything. Six years is a long time, and the information for that permit is outdated and it needs to be changed before this is even considered at all. Thanks.

MR. JAWGIEL: Thank you, Ms. Crotzer.

Our next speaker will be Colby Crotzer.

MR. CROTZER: Yes. Colby Crotzer, C-O-L-B-Y C-R-O-T-Z-E-R. Thank you for having the hearing in Morro Bay to accept our public comments.

I have been -- in my second term as elected city council person here in the City of Morro Bay, I had the obligation to study the application that was then put forth by Duke. I know that material quite well, spent many, many hours studying the data. My testimony tonight is more anecdotal and personal. I'm a school teacher here locally. I know most of the families as they come through, having taught here for 20 years, and I worry about their health and the health of my progeny. I'm a four-time grandparent at present, and our family home, being located in Morro Bay Heights, is, just from my personal experience, downwind from the present location of the plant and the location of where the modernized expanded plant might be sited. So I'm very concerned about the lowering of the height

of the stacks from 450 feet to 145 feet.

My elevation of my newly-built second story and my major investment financially has been in my home here in Morro Bay, and I intend to live my life out here. The new kitchen and living room is exactly the 145 feet. Coming right downwind, studying the maps of the analysis of the particulate matter that APC did here locally, the X marking the location of where the particulate matter would increase 10 times is directly over my neighborhood.

I understand also that LS Power has an application to double that from 10 times to 20 times. Your officers will know the details of that better than I do.

The concern for me and for our school children and my own progeny is personally compounded by the fact that I don't want to be on my death bed. I'm beginning to experience some symptoms of asthma, and I don't want to die of emphysema, cursing the EPA, who's supposed to be the watchdog that looks out for my livelihood and that of my children.

MR. JAWGIEL: One minute, Mr. Crotzer.

MR. CROTZER: Thank you. I understand that APC's jurisdiction of air quality when they do their analysis is countywide. I wish -- and I know that you

can't answer a direct question, but my question to anyone listening to the tape to analyze this would be do you really care about the life of people -- the lung health of the people that live here in this town of Morro Bay, or is it simply you're going to analyze the impact of the overall county, the whole region, because if it's only the latter, then I think I've wasted my breath here. Thank you.

MR. JAWGIEL: Thank you for your comments, Mr. Crotzer.

And our next speaker is Bonita Churney.

MS. CHURNEY: Good evening. My name is Bonita Churney, B-O-N-I-T-A C-H-U-R-N-E-Y. I have several issues with respect to the permit and object to the proposed permit on several basis, one of which is that the proposed PSD permit understates actual expected PM-10 emission rates by at least 100 percent. The PM-10 emission rates are not supported by the facts. The PM-10 rates are not based on the manufacturers' warranted rates, which are 18 to 20 pounds per hour without duct firing. They are based instead on Duke Energy's hired expert's guesstimate of emission rates based only on his, quote, "professional judgment."

This guesstimate was not based on

modeling utilizing approved EPA methodology. It was not based on methods 5 and 202, which are the approved methodology for PM-10 emission rates, and it's actually -- it is the methods that are set forth in the proposed permit itself, so I think that underscores the fact that those are the methodologies that should have been used, but were not when coming up with the actual estimates of PM-10 emissions.

Instead, Duke's expert based his guesstimate of PM-10 emission rates on unapproved methodology using methods 201A and 8, and all of this took place before the California Energy Commission and hearings and testimony before the California Energy Commission, and it's all on record, and it's all been provided to you, to the EPA, by CAPE.

Not coincidentally, the emission rates that Duke came up with are substantially lower by half of the vendor guaranteed rate. The PM-10 source test results that the same model turbans in operation elsewhere and emission rates using proper EPA-approved source test methodology, that is, methods 5 and 202. Thank you.

MR. JAWGIEL: One minute, Ms. Churney.

MS. CHURNEY: All of the emission data from the vendor and source testing using approved

methodology are consistent at 18 pounds per hour without duct firing, which is well in excess of the proposed permitted rate of 11 pounds per hour without duct firing and 13 pounds per hour with. And as the evidence provided to you demonstrates, the weight of the evidence actually suggests emission rates without duct firing of 22 pounds per hour, for a total of 406 tons of particulate emissions per year, not the 203 tons modeled by Duke.

So how does the EPA justify permitting a PM-10 emission rate that is unattainable and factually unsupported and unproven, setting a lower cap in the permit condition is useless and unenforceable, because given current technology, there will be no way to provide continuous in-stack monitoring.

So I would submit that the proposed permit is based on faulty assumptions, bad science, and incorrect facts, and should be denied. Thank you.

MR. JAWGIEL: Thank you, Ms. Churney.

What I'd like to do is I'm going to call up the next five individuals and after -- just so people know -- after these next five individuals, I think what I'd like to do is slot in the 12-minute slot for CAPE to make their presentation, just in case you're wondering what the orders are, then I will

proceed on with individual comments.

So let's take the next five individuals. The first person is Michael Lucas. Mr. Lucas, if you could please take the first chair over there, I'd appreciate it. Second person is Robin Cole. Next is Peter Risley. Is Peter Risley in the room? Thank you. Mr. Risley, if you could take the next chair, I'd appreciate that. The fourth person is Mandy Davis. And the fifth person is Richard Sadowski.

Mr. Lucas, if you'll please take the podium. Please state and spell your name for the record and, again, if you could please be mindful of the three-minute rule, we would greatly appreciate it.

MR. LUCAS: My name is Michael Lucas, M-I-C-H-A-E-L, Lucas, L-U-C-A-S. I'm a Morro Bay resident. I'm on the faculty of Cal Poly, and I teach in the architecture and ethnic studies departments.

I have two different purposes tonight, the first is as a member of the New Futures Task Force, which the Morro Bay City Council appointed to review the power plant ramifications of a permit being granted or a permit not being granted. Those relationships with LS Power have been outstanding. They've been very forthcoming with a productive relationship as we've searched what might happen with the existing power

plant property and grounds, and I think that still has yet to be played out. I think we'll have some other speakers from the committee to talk about that productive relationship later on.

I also want to comment tonight as a citizen. In my field of architecture seven years ago, the differences in technology, of representation, modeling, the way we can anticipate any natural processes, the way we can study those things has changed radically, I share one of the former speaker's concerns that the permit now is going on six or seven years in terms of some of the nature of the facts that are in there. I think that whatever the EPA can enforce in terms of upgrades, new studies to further substantiate the claims in the permit would be positive.

I also am a resident of the hillsides here as well. I believe my house is probably right around where the new stack is going to be. So I share a concern about particulate matter due to the nature of the height of the stack that's in there. I also know that during the permit process, there were concerns about screening the facility, which by its nature may change the height of the stack as well. So I just hope that as EPA looks at these issues that the concerns

about technology and the modeling of the particulate emissions on the community would be open for closer study. Thank you.

MR. JAWGIEL: Thank you, Mr. Lucas.

Before I call the next person up to the podium, I also want to mention as a quick housekeeping matter. In case anyone needs to use the restrooms through this proceeding, the restrooms are out in the lobby. The restroom's to the right, and there's a wheelchair-accessible restroom to the left as you walk out the door. I also don't want you to feel like you're being held captive here. If you need to use the restroom and should I call your name and you're not here, I will merely put your name to the back of the pile and call it at a later time this evening. So I just wanted to make sure everyone knows they don't have to sit here if you need to go use the restroom.

The next person I would like to call to the podium is Robin Cole. Good evening, Ms. Cole.

MS. COLE: Good evening. Thank you for a chance to voice my concern. I don't have any statistics. I'm just speaking from the heart. I am a quite new resident here. I moved from Kern County in my retirement to get away from the terrible pollution there. You can imagine my alarm when I saw the

information about the possible pollution here. I understand from a previous speaker that there are many sources for pollutants, but I can't understand why we wouldn't try to regulate whatever we can.

You know, in Kern County when you sell a home, the county has to disclose to the buyer the problem with the bad air. Projecting in the future, I just can't imagine that happening in Morro Bay. I just wonder if our city council -- if some of those people have lived here so long that they don't realize how precious and special this area is, the Elfin Forrest, the estuary, the bay itself, just on and on. And I'm very concerned about the impact on humans, animals, and plants, especially after reading about an occurrence in the 1960s at the plant that really did cause some damage to the very things that I've mentioned.

Now when I recommend to my friends in Kern County to come to Morro Bay to retire, I'm not sure. I want to see how this plays out. And I can't imagine -- if word got out about all this statewide, I can't imagine that it would be such a mecca for tourists, and I cannot imagine it would even do our real estate value much good.

MR. JAWGIEL: One minute, Ms. Cole.

MS. COLE: So I'm just very concerned. I'm

not familiar with a lot of the technical aspects. I just wanted to voice this concern, and I thank you for the chance.

MR. JAWGIEL: Thank you. Thank you, Ms. Cole.

Next is Peter Risley.

MR. RISLEY: Yes. Did you want me to spell my name?

MR. JAWGIEL: Yes --

MR. RISLEY: R-I-S-L-E-Y. Thank you. I'm very concerned about this. When I heard that they were going to reduce the size of the stacks from 445 feet to 175 feet, I was very alarmed because I knew that the majority of the pollutants would thereby fall within the breathing range of Morro Bay citizens. And I have an article here from Cry California, fall of 1967, and I want -- I would like the people -- you might check it out. There's been a historical ignorance of the health of the people of Morro Bay.

And, yes, because you're lowering the stacks and because you're increasing the amount of exhaust of pollution to the people of Morro Bay, the real estate values are going to go down, and there's a good possibility that some people are going to die and, of course, they're going to be older people or younger

people.

And so I wonder if perhaps the EPA or the State or the power companies consider the people of Morro Bay less valuable, and I wonder if we can assign a value to the life of people in Morro Bay as compared to say, for instance, Austin, Texas, or Houston, Texas, where the owners of these plants who have made enormous amount of money are going to profit whereas we are going to have sickness. And that's a major concern of mine. I'm not against a power plant there. I am against the abuse and exploitation of the people of Morro Bay, and I'm against the real estate values being dropped.

MR. JAWGIEL: One minute, Mr. Risley.

MR. RISLEY: Yeah. And I wonder how really democratic this situation is as far as our concerns are. And so thank you very much.

MR. JAWGIEL: Thank you, Mr. Risley.

Our next speaker will be Mandy Davis.

MS. DAVIS: Hi. I'm Mandy Davis. I am currently a -- I live in Sarasota, Florida. I just moved from here. I lived here for over seven years.

MR. JAWGIEL: Ms. Davis, can you just take a moment to spell your name for the record?

MS. DAVIS: D-A-V-I-S. And I have been

really fortunate in the fact that I've been able to spend a good portion of my time outside on the estuary in observance of many of the patterns that we see here in nature, the wind patterns, our fog patterns. What happens -- and I happen to also be -- and this is a very important point -- a human canary in the fact that I am an asthmatic and I'm very chemical sensitive. So those combinations have a tendency to make me really pay attention to what's happening in the air and in the environment for me. Otherwise, I am in distress.

And one thing that I have noticed since I've been here, especially since the plant has been running as a peaker, I have lived on a boat, and I've lived around the corner from being able to see the plant and know whether or not it's running. And it's been a very interesting experiment for me, being a biologist, in that those days, especially when that we have a low ceiling and those days that the plant is running and the days it was running constantly when I first moved here, is I am in respiratory distress. I do notice it as soon as I wake up, and so I decided to kind of make an experiment out of it, and those days when I woke up and I could tell there was something in the air, I could feel the difference. I'd go around the corner and take a look, and it was invariably the

case.

This is not really what I wanted to tell you. I mean, you know all the studies on the PM-10. You know that if you have a lower ceiling, you know that if you have lower stacks that you are going to create more respiratory distress for the residents of this area, especially those of us -- with the prevailing winds, that are downwind, which is the majority, if not just about all, of Morro Bay.

What I would like to point out to you is being an animal rights activist --

MR. JAWGIEL: One minute, Ms. Davis.

MS. DAVIS: -- and being somebody that speaks for the animals in this area is that the avian population that we prize so much here that migrates to this area and migrates in and out over a large portion of the year is considerably more susceptible to PM-10s in any of these pollutants. This is a population that is important. As EPA, this is part of the national estuary program. This is a highly valued place, and we value our wildlife, so I ask that you not give this plant the permits. It will drastically influence in a very -- it will negatively impact the avian population, all the wildlife here, people like myself, the children, the older people. Please do not allow this

to happen. It's really important to our population. Thank you.

MR. JAWGIEL: Thank you, Ms. Davis.

And the next speaker will be Richard Sadowski. If you could please state and spell your name for the record.

MR. SADOWSKI: Richard Sadowski, S-A-D-O-W-S-K-I. Richard Sadowski, Ocean Outfall Group, also a member of the American Society of Mechanical Engineers.

This plant -- first of all, you mentioned about this being an air quality issue or a water quality issue or visual-impact issue, this issue is a pollution issue. I attended the American Society of Mechanical Engineers conference that was held in Las Vegas between the 18th and the 20th, and there were various academia and people of expertise, doctors in engineering, and also the chair of the EPA, Mr. John Lyons. And I got a chance to speak with him about this plant, and I told him that our mayor had just signed a 50-year lease with somebody we didn't know for an outfall, and we find out later on it's the guy that used to run Chernobyl and kind of brought on a little laughter there.

Now, the problem with this plant goes

beyond just those little issues. This was a piece of antiquity of engineering when it was built back then, and it's just worse, and it's just degrading more and more. The power plant symbolizes pollution, death, and destruction, and in my opinion and out of the respect for the unborn American generations yet to come, it should be immediately retired, period. It destroys 17 to 33 percent of the life coming into our beautiful estuary. The stacks pollute. We have already a nitrate problem. It contributes to our sewage problems. It's time for it to go. Thank you for this opportunity to address you.

MR. JAWGIEL: Thank you, Mr. Sadowski.

At this time, like I said before, we are going to allot a 12-minute slot for a representative from CAPE to speak. They will go ahead and have 12 minutes -- continuous 12 minutes.

MR. NELSON: Before the time starts, I wonder if I could make just a couple of corrections on what you earlier stated. First, we're Coastal Alliance on Plant Expansion, not "against."

MR. JAWGIEL: Again, I'm sorry.

MR. NELSON: A lot of people do, but I don't understand it.

MR. JAWGIEL: Thank you for the correction.

MR. NELSON: And the other thing was that you were asked about water board comments, and you said it was closed. I hope the EPA isn't under the illusion that they have their water permit, because that permit is not final or not even on the table so --

MR. JAWGIEL: All I said was that -- make for clarification is that the official comment period is closed.

MR. NELSON: See, that's not true because the hearing hasn't even been held.

MR. JAWGIEL: Okay. What I would recommend is I will have to go back and clarify what the comment period is. If you feel like you want to comment on the water issues I, again, would encourage you to still submit your comments to the sources that I identified earlier.

MR. NELSON: But that is open --

MR. JAWGIEL: You know what, I'll tell you what. I can't go on record right now to say that, but it's my understanding it was closed. If it is open, I certainly haven't closed it tonight. I don't have the authority to close it. If the comment period and the water permit is still open, if, in fact, is still open, it would be still open regardless of what I said here, so I would encourage anyone, again, who does have any

comments on that water permit to go ahead and submit, and we'll leave it at that. But why don't we go ahead and --

MR. NELSON: With those corrections made, I'm ready to --

MR. JAWGIEL: Okay. We'll begin with the 12 minutes.

MR. NELSON: Okay. I am David Nelson, and I am co-president of Costal Alliance on Plant Expansion. And speakers tonight will be Henriette Groot and myself and Monique Nelson. And I'm going to turn this over to Monique now, and if the timekeeper can five me the one minute warning at four minutes. Thank you.

MS. GROOT: Good evening. My name is Henriette Groot, that's spelled H-E-N-R-I-E-T-T-E G-R-O-O-T, and I want to tell you a little bit about CAPE. CAPE has been involved with this project since 1999. We became interveners in the process -- the application with the California Energy Commission. We never were opposed to the plant as to the new plant or, quote, "modernization" as such. We only took issue with the plans for air and for water, and that still is the case.

The -- scanning the application, it is indeed very outdated and incomplete. And having been

involved as well with the National Estuary Program. I'm surprised that the right hand and the left hand of the EPA don't seem to talk to each other. In other words, the National Estuary Program -- the Morro Bay National Estuary Program here is -- receives funding and is under the supervision of the EPA water division. And reading from the NEP website, EPA's "working" -- and I'm quoting -- "working to safeguard and improve the health of our nation's most important coastal waters." I wanted to remind you of that. That estuary's very important to us as well as the people who live around it, of course.

Again, as David says, the cooling method permit has not been issued, and the hearing has not even been scheduled. I thought -- it was my understanding that in order to have this present permit issued, all other permits had to be in line. Apparently that is not the case.

Then the other comment I need to make is on the meteorological analysis. I'm a sailor, and I know that wind patterns depend very much on the topology of the land mass nearby. The meteorological analysis was based on data from Vandenberg Air Force Base. They don't have a Morro Rock at Vandenberg. It's a totally different situation there, and people

who live here know the particular wind patterns around that rock are very typical of this particular area. So that's only one of the things that is wrong with the permit, and people have mentioned other parts of it.

I do want to thank you for coming here and letting us give you input, and now I'll turn it over to the next speaker.

MR. JAWGIEL: Thank you, Ms. Groot.

MR. NELSON: As I said, my name's David Nelson, N-E-L-S-O-N, and I'd like to start out by addressing here your conclusions on the ambient air quality impact report. It says on Number 10, "Based on the information provided by LS Power and the review of the analysis contained in the permit application." Now, LS Power's -- I'm quoting from a CEC study that has really different rules than what the EPA should be offering or does offer, as Ms. Churney said, about the methodology used to determine particulate matter. They didn't use manufacturers' specs or manufacturers' guarantees, so they varied from that. So that's just the beginning of this mess, and to base your conclusion on that is dangerous.

And the Coastal Alliance has put in a law, and I'm only going to brief over a few things. The wrong baseline is a really important thing to us.

The baseline of the emission levels for all pollutants of the existing Morro Bay power plant is four times lower than Duke claims. Duke inflated permissible levels of the emissions of all pollutants, including PM-10 for new turbans. We're really concerned that Duke based its baseline on 24-month emission period for all four units for the years of 1998 to 2000, and EPA is very clear that it should be 24 months of a five-year period closest to the destruction period of the plant. Obviously, we're in 2006, so this study that they based these numbers on are really out of whack, and we would then be asking you to use a more representative period because this period between 1998 and 2000 was during the so-called energy crisis, where they were running that plant way over what the normal is or was.

So that would be the first thing and, you know, baseline that they used in the period was just not representative, and we're asking that you make it within a period of five years immediately preceding construction. The best available technology, again, too, this is based on stuff from 1999, it's seven years old, we know that there's cleaner generators out there and available for best available technology.

The meteor -- the contention that Duke

has been here since 1950s and has done no harm, I have an article here from Cry California 1967, and I'll leave this as an add-on to what we've already put in, and this shows clearly that there's been lots of damage, so that takes care of our baseline concerns.

We have so many more, and in 12 minutes really isn't much to work with, but bear with me. The emission rates proposed by Duke just aren't acceptable under EPA's standards. They should -- excuse me while I get that. CAPE does challenge EPA's preliminary conclusion that the proposed project will not cause a violation of the applicant PSD increments as set forth in the record. As noted the -- we're really worried about the meteorological --

MR. JAWGIEL: Mr. Nelson, I just wanted to let you know this is the four minute mark.

MR. NELSON: Okay. So as Ms. Groot said, using Vandenberg as our meteorological is unacceptable because everybody knows from Point Sal to Point Conception is totally different than here. And I'll turn this over to Mrs. Nelson.

MR. JAWGIEL: Thank you, Mr. Nelson.

MRS. NELSON: My name's Monique Nelson, M-O-N-I-Q-U-E N-E-L-S-O-N. And CAPE has already submitted written comments to your office with

voluminous exhibits. Tonight we have touched on some of the important points made in our comments, but by no means have we covered them all. We trust that the EPA will take the time necessary to read and understand the material we've submitted and, if you have any follow-up questions, to please give us the opportunity to answer them at that time.

So what exactly is CAPE asking you, the EPA, to do?

To summarize, we are asking you to deny the issuance of a PSD permit to the applicant, whether that applicant is Duke Energy, LS Power, or Dynergy. In the alternative, we ask you to delay a decision on the PSD permit until the errors in the applicant's analysis are corrected and the data then reevaluated. More specifically, we're asking the EPA to reject the PM-10 emissions rate proposed by the applicant and to require that they refigure this rate for the proposed new power plant, using EPA-approved methodology and based on nothing less than the emission data supplied by the turbine manufacturer, and this data is further supported by source tests of such turbines in operation.

EPA regulations specify that the baseline period must be for any 24-month consecutive

period within the five-year period immediately proceeding construction of the project. We ask you to reject the inflated baseline proposed by Duke Energy and now supported by LS Power and Dynergy. This baseline is for the period between 1998 and 2000, which was distorted by the energy crisis, a crisis Duke Energy helped create.

We further request that you order the applicant to reevaluate the baseline based on the operation of the existing Morro Bay power plant for a 24-month consecutive period, starting no earlier than five years ago. This period would also be more representative of normal operating conditions. These recalculated results should then be reviewed and adjusted as necessary when construction actually begins.

Although other air pollutants are not being addressed at this hearing, CAPE believes the corrected baseline will show increased levels of CO2 --

MR. JAWGIEL: One minute, Mrs. Nelson.

MRS. NELSON: -- NOX, and VOC, in addition to higher levels of PM-10 emissions, and that all of these will need to be reevaluated. CAPE asks the EPA to require updated information be provided by the applicant in order to analyze best available control

technology, or BACT. We also ask the EPA to mandate measures to improve BACT, for instance, by having applicant install newer, more technologically advanced turbines and eliminate the duct-firing process, which contributes disproportionate amounts of PM-10 and other pollutants in relation to the energy it produces. We also ask the EPA to delay any final decision until the cooling issue is resolved since, in a case where closed-cycle cooling is required, for example, this will impact the outcome of the PSD analysis.

There is more to say, but I'll stop here. Again, CAPE asks you to deny the PSD permit as proposed or at least delay your decision until the issues raised have been addressed and the flaws in applicant's analysis corrected. Thank you.

MR. JAWGIEL: Thank you. And I would like to again thank Ms. Groot, David Nelson, and Monique Nelson for their comments on behalf of CAPE.

I would like to go ahead and proceed with calling individuals to the podium, so I'm going to call the next five individuals. The next person is Joey Racano. If you could please take the first chair there, Mr. Racano. Thank you. Next is Margaret Beetham. David Wiseman. Is Mr. Wiseman in the room? Is Mr. Wiseman here, or maybe he went to the restroom.

What I'll do is I'll put Mr. Wiseman's card back into the stack, and we'll call him at a later time. Next is Marla Bruton. Ms. Bruton, if you could please take the next seat. Next is Bill Martony. And the fifth commentary for this particular section is Melody DeMeritt. Is Melody in the room? She will also be back. What I'll do is, so we can keep moving along, also put her card back into the stack and call the next person, Barry Dorfman. Dr. Dorfman.

Mr. Racano, if you could please take the podium, state and spell your name for the record and, again, please be mindful of the three-minute rule, we'd greatly appreciate that.

MR. RACANO: Absolutely.

MR. JAWGIEL: Thank you.

MR. RACANO: My name is Joey Racano, that's R-A-C-A-N-O. I'm a director with the Orange County Ocean Outfall Group, a statewide 501C3 dedicated to ending all waivers of the Clean Water Act and the Clean Air Act.

The reason that I have come before you today is to question the necessity for a permit or even why are we calling it a permit. Let's call it what it is: It's a waiver. It's a waiver that does not bring a power plant into compliance with the Clean Air Act;

rather, it brings the power plant around compliance with the Clean Air Act. The Clean Air Act of 1973 is -- you're 33-and-a-half years behind at this point.

Also another important point to remember is that Thad Baxley and Janice Peters of our city are running for the Morro Bay City Council, and both voted for a 50-year extension to the outfall lease without yet knowing who had purchased the power plant, and I think that that is a very good reason not to elect either one of them.

Now, I'd like to talk for a minute about PM-10s. PM-10s are very different from 10 p.m. At 10 p.m. you go to sleep. With PM-10's you go to the hospital. Particulate matter less than 10 microns across is not only shown to be damaging, but new studies show that we don't even know how damaging, and it just seems to get worse all the time.

Now, let's say we could separate the water from the air issue. Well, we really couldn't because if you separated the water from the air issue, you'd have to tell that to, say, cormorants who dwell both in the estuary and in the air. Now, if you were to stick a cork in the single-pass cooling intake of this power plant, you'd find that power plant --

MR. JAWGIEL: One minute left, Mr. Racano.

MR. RACANO: Yeah. One minute left. Yeah. That's why I've been holding up the rude sign, because you've been breaking everybody's concentration with that, and it's a public relations ploy. We don't appreciate you coming here asking if you can pollute us, and we don't appreciate your public relations ploys. So every time you hold up a one-minute sign to me and be rude, I'm going to hold up a rude sign, so please don't do it again.

Now, if you stuck a cork in that intake, you'd find that power plant would overheat faster than a 440 in a motor home on the grapevine. They are inextricably connected, and you're killing the estuary and larvae. Now, to concluded, I would say that birds, eco-tourists, the environmentalists, hunters, fisherman, businesses, and children all depend on this power plant's speedy departure from Morro Bay, and the sooner the better. So do us a favor. Get rid of the waiver. No more single-pass cooling intake, no more nitrogen dioxide, no more power plant. Thank you for this opportunity to address you today.

MR. JAWGIEL: Thank you, Mr. Racano.

Our next speaker will be Margaret Beetham. Ms. Beetham, if you could please take the podium and state and spell your name for the record.

We'd greatly appreciate it.

MS. BEETHAM: Yes, I'm Margaret Beetham, B as in boy, E-E-T-H-A-M, San Simeon, California. Oh, do I give the a street address too?

MR. JAWGIEL: Oh, no. Just the name would be sufficient, thank you.

MS. BEETHAM: Oh, okay. Sorry. I'm hearing challenged, so I wasn't hearing everything.

I am definitely opposed to continuation of the plant in any form, such as it is, unless we can do alternate energy, and it seems like there should be no contest between what kind of power plant if we're going to have one. At this particular time in history when we can do alternate energy, we can do something that doesn't pollute, and we're talking about doing something that pollutes, it seems rather insane. And also it seems immoral to have a plant that does all the things that our previous speakers have spoken of. It's -- and even if you say, oh, take it with a grain of salt, you couldn't get that much salt, you know.

It's just -- well, I'm speechless. I didn't prepare something, but I -- I think we have one of the world class pieces of geography here in Morro Bay and not to -- not to use it as perhaps we could say nature intended, not something that kills animals

and eventually people, and eventually unborn people will suffer, consequences that we don't know whether we'll even be able to help. We don't know whether we'll be able to help genetic damage in any feasible and any satisfactory way, so --

MR. JAWGIEL: One minute, Ms. Beetham.

MS. BEETHAM: So I plead for a humanitarian solution here. Thank you.

MR. JAWGIEL: Thank you for your comments tonight.

Next will be Marla Bruton. Ms. Bruton if you could please state and spell your name for the record.

MS. BRUTON: Certainly. Marla Jo Bruton, B as in boy, R-U-T-O-N. I'm a court reporter, so I know how to spell slow.

I'm from north Morro Bay here. I'm also part of the Ocean Outfall Group on the central coast, and we are, as Mr. Racano mentioned, we are dedicated to stopping waivers of the Clean Water Act and the Clean Air Act. So I see this plant as being integral between the two. There's no separation. I attended the region -- I mean the State Water Quality Board scoping meeting earlier this year, and we were discussing the once-through cooling, and I see the

future of that not being viable no longer, and I believe that there are several experts and people in position in the EPA who would agree with that.

The companies coming in here that are private companies that are causing danger to the public health. Using public resources to do that is a thing that should be of the past. Also it was interesting, it was brought up this evening that the timeframe for the studies on the air emission was '98 to 2000. Well, that was the energy crisis, and Duke Energy was found to have been one of those eight corporations to have manipulated the energy crisis in this state and rip off the public. Now, sometime we just have to stand up here and say no more, no more.

I also was up at Ocean Protection council meeting, and we were having the energy crisis this summer and, you know --

MR. JAWGIEL: One minute left.

MS. BRUTON: -- people dying in the Central Valley because of heat. This plant wasn't running. There was barely a little energy field coming out the top, clear. It wasn't running. They are manipulating again. This is profit born. They are hoping to enshrine the once-through cooling, and it is not acceptable.

Also, I spoke with John Lyons, the chair at the EPA, last week and was telling him about everything that was going around here, and he was just shaking his head going there must be some kind of politics, some kind of something going on, and so the people here are asking you -- also, I raised my children here, 23 years I've lived here, having soot on the windows, on the car in the morning. Someday we thought it would stop, and that someday should be now. Thank you.

MS. BRUTON: Thank you, Ms. Bruton.

Next is Bill Martony. Mr. Martony if you could please state and spell your name for the record.

MR. MARTONY: Bill Martony, M-A-R-T-O-N-Y. And, you know, I think I'll bring up one plus factor of the power plant before I kind of chew into it. Came here in 1970, and it was really nice surfing out in front, warm water. That's when wet suits were just coming in. But at the same time I asked myself why did they build a power plant right in the center of town? And, of course, I thought, well, this was in the 50s, you know. Back then people didn't realize what was going on. I knew it was economics, but now we're here in 2006, and we're talking about duplicating what I

felt was probably -- not that we don't need a power plant, but built in the wrong location. I know originally it was -- I think Via Creek (phonetic) was one of the locations they were talking about up the coast a little further away from the population visually.

But I think with this new power plant, one of the points as far as the design, I know people talked about short stacks, tall stacks. We've been sold that tall stacks are visually ugly and short stacks would be much more compatible or acceptable. When -- we own a ranch behind Cayucos. When I come down the hill in the summertime and it's foggy in Morro Bay, the existing stacks go up above the fog line, and I don't think this has been addressed, or maybe it has and I haven't heard it, but the reason the stacks were 450 foot tall was it goes above the fog line to disburse the pollutants. You can actually see the yellow plumes going into San Luis, or you get offshore and you can see it going out or above Cayucos. And so it really disburses in a wide area, and you're going to end up with -- the short stacks, you're going to end up with like the black fog of London where when the fog sets in the summertime, the pollutant won't actually get through the fog and it will condense it and hold it

down --

MR. JAWGIEL: One minute, Mr. Martony.

MR. MARTONY: Sure. And secondly, the other thing is when you have a rock like Morro Rock, you'll actually get a downdraft on the back side of the rock. And so I think to actually have the power plant with short stacks on the back side of the rock when you actually have a downdraft that actually -- it's like your fireplace when you have the wind blowing and it blows the smoke back down and out the fireplace, I think you're going to have that effect with the short stacks. Thank you.

MR. JAWGIEL: Thank you, Mr. Martony.

Dr. Dorfman. If you could please take the podium and please state and spell your name for the record.

MR. DORFMAN: Berry Dorfman, B-A-R-R-Y D as in David, O-R-F as in Frank, M-A-N. Thank you for holding this hearing. I want to just endorse the many comments that have been made about the flaws in the database and methodologies for the air -- for the permit.

As a bit of background, I'm currently a psychiatrist, but prior to that I was in public health for 20 years. And back when I started training in

public health in the late 1960s, there were many studies beginning to emerge that it was bad for your health to breath polluted air. During that time the evidence has become incontrovertible. That's why we have agencies such as yours. And there has been progress, although it had to get a lot worse before it began to get better. We don't want that to happen again.

I think that not only do we have to understand the update -- the need to update the database, but in the time since the permit was -- since the initial database was laid down, there's been a great increase to the understanding in terms of biological mechanisms as to how the air pollution and especially PM-10s do their damage. And they do their damage not only physically, but they do their damage because of what they do to the immune system in the way they present either inorganic or organic particulate matter to the immune system cells that send the signals out. And I ask that any permitting process update itself with the current science.

I think everyone understands the idea that if you take a group of people and they smoke more than compared with a group that doesn't, more of them will die of cancer or have various other problems. If

you configure it out, it's called attributable risk -- I see the one minute -- it's called attributable risk. However, I can't say you're the person or you're the person that's going to have the problem from it, but I guarantee you that if this permit goes forward as is, with its certain increase in PM-10s, someone will do their Ph.D. on the increase death and morbidity in this area. There will be neonates, children, and adults who will die, and it needn't be, who will have untold misery, putting aside the economic impact. And it needn't be.

The thing we want to avoid, which is an old medical maxim, at least do no harm. It will be doing harm to have this permit with its -- as currently envisioned, because of the morbidity and mortality it is demonstrably certain to cause. Unfortunately, it would be after the fact and to late. Thank you.

MR. JAWGIEL: Thank you, Dr. Dorfman.

I would like to call our next five speakers. The next speaker -- I have to apologize. I'm having a little bit of difficulty reading the name. I believe it's Roy Eiyowat, it looks like R-O-Y E-I-Y-O-W-A-T.

MR. CINOWALT: Sorry about that.

MR. JAWGIEL: That's okay, apologize for not

pronouncing your name correctly.

Next person is Kathy Wells. Is Ms. Wells in the audience? I will go ahead and set aside Ms. Wells' card -- I'll go ahead and set aside Ms. Wells' card and call her at a later time. Next is, is it Sandra Brazil? Sandra Brazil? And I'll go ahead and set this card aside. Next is David Wiseman. I believe we called Mr. Wiseman previously. Melody DeMeritt. Well, since none of these people are present, why don't we go ahead -- oh, okay. I'm sorry. Are you Melody DeMeritt? Thank you, Ms. DeMeritt. We'll go ahead with you two and see if these people return after you're finished.

Sir, if you could please take the podium and state and spell your name for the record, we'd greatly appreciate it.

MR. CINOWALT: Good evening. Roy, R-O-Y, Cinowalt, C-I-N-O-W-A-L-T.

MR. JAWGIEL: Thank you.

MR. CINOWALT: I live on the east side of the Salinas Valley. I own some acreage out in an area that nobody wants to live in, relative to the desirability of this area. Rattle snakes, coyotes, mountain lions, bobcats, and the deer will eat anything you plant; however, I chose to move there. I live there with

these limitations and facts of life.

I notice the power plant's been here since 1955. I wonder how many people were there when they built the plant.

In this light, I would like to tell you a story of one of the places I lived in my life. I lived in about 10 different cities, some not even in this country. I worked 43 years in construction. I would like to see the plant under the right conditions built.

The little story in the scenario is I lived in the Los Angeles area near the Los Angeles airport. They call it LAX. I lived and played in L.A. down near the end of the runway. In the 50s they built some, what I considered, fantastic homes on the sand dunes above the beach, between the beach and the end of the runway. To me they were beautiful, beautiful homes, and I lived just north of there in an old 50s type home; however, when I lived there, a lot of people got together and formed a homeowners association and said the jets are too noisy, the airplanes are too noisy, and they made a lot of noise. That is the homeowners group did, and a study was conducted. Some homeowners were given some insulation for their homes to reduce the sound impact. The homeowners insisted

that it's still too noisy. To make a long story less long, the airport did a study and they said, you know what? You're right. It is too noisy, and they condemned all the homes. And while I lived there I watched every single one towed away, relocated to places like Watts, Gardena, whatever. There were hundreds of homes tore out, and today what was a beautiful place where people could have lived are now wind-blown sand dunes. Thank you for your time.

MR. JAWGIEL: Thank you, Mr. Cinowalt.

Ms. DeMeritt, if you could please state and spell your name for the record. I'd greatly appreciate it.

MS. DEMERITT: My name is Melody, that's spelled M-E-L-O-D-Y, DeMeritt, D-e-M-E-R-I-T-T. I'm a member of the city council, but I'm speaking in four capacities. First one is as a resident of Morro Bay who lives on a hillside. I'm disturbed that the power plant stacks are going to come down and emit 60 percent more PM-10s because since the age of about 10, I've been asthmatic, and the asthma doesn't get any better with age, and it doesn't get any better with PM-10s. And I know you've had this article referred to you tonight that was published on October 17th about the asthma rate in this county. I'm kind of waiting to go

home, actually, and get to my inhaler.

The second hat I wear is as a proud former member of CAPE. I didn't know any better about this power plant until CAPE was telling me things. I was all for it. But in 1998 when Duke first came here, that first power company, I didn't know any better, and I think some people don't. And as I got more information, I became more aware of the danger that this new plant would pose.

After being on CAPE for five years, I became a member of the city council, was elected in 2004. One of the sad parts of being on the city council is you don't always win. I fought vigorously against the lease that we signed with this power plant company for their outfall. I absolutely hate the deal. I'm opposed to it. You will hear some people say that Morro Bay wants a power plant. I'd give you about 40 percent of us by now because we're getting smarter.

On the city council, we were lucky enough to have enough people on our council to form a committee called New Futures Committee. It is a council-appointed body that is appointed to look at alternative uses of the power plant property. It's been very active. We meet twice a month. And we've had very good cooperation from LS Power, by the way,

very helpful in providing us with zoning maps, site maps, looking at the lot, giving us tours of the plant, helping us out with the recent community workshop that generated over a 100 people coming in and talking about the possibilities of different uses.

I think that the idea of what a future vision for a beautiful place like this that has already suffered 50 years of pollution and damage to the estuary is a PowerPoint show that I wanted to bring you tonight, but I will e-mail it to you. I see the one minute sign. This is a power plant in London that is planned to be on the Thames River. It has actually incorporated a power plant that will be in this green space. This is a power plant that is planned -- sorry. It is built in Baltimore. Notice these are all water dependent along the ocean and near urban places where people don't like PM-10s, so they build shopping malls instead, for big revenue.

This is one that is planned for Hampton, Virginia, a nice ritzy part they decided they're so ritz and we should too, that they're going to build nice big shopping malls and hotels instead of power plants. These don't emit PM-10s by the way. This power plant is planned for Austin Texas near their river, another water intake plant. They decided --

Seaholm Power, by the way, is cooperating with them in building this redevelopment property. So I would just hope that -- I'll send this all to you, and I'll referring you tonight to our great website that is newfutures.morro-bay.org, and it lists all of these possibilities. Thank you.

MR. JAWGIEL: Thank you, Ms. DeMeritt.

I'm going to go ahead and try these individuals again. Is David Wiseman in the room? Sandra Brazil or Kathy Wells?

Ladies and gentlemen, as you know this hearing is actually scheduled to last until 9:00. It's approximately 10 minutes to 8. What I would like to do is why don't we take a 10- to 15-minute break. Why don't we take 15 minutes, and we'll come back at five minutes after 8, and if any of you would like to make additional comments, why don't we go ahead and -- well, I don't think it's necessary to resubmit -- if you would like to make additional comments, why don't you talk to me, give me your name, I'll pull your cards out, and we'll make a new stack. And we'll go ahead and we'll do three-minute increments until the time expires. So, you know, we'll just go ahead if you would like to make another round of comments for as long as we can.

So why don't we go ahead and take a 15-minute break, and any of those of you who would like to make additional comments, why don't you talk to me and we'll go ahead and make a new stack of cards.

(A BREAK WAS TAKEN.)

MR. JAWGIEL: Before we call the commenters up, I also just want to make a little bit of an announcement here. The gentlemen who are recording this hearing wanted me to let you know that the DVD for this meeting will be available through AGP Video, and their website is called slospan, S-L-O-S-P-A-N, that's one word, slospan.org. And then when you get to that website, you click into "special meetings." So I just wanted to let you know that the videotape of this hearing will be available through that website.

We have two more speakers, David and Monique Nelson, both of who you previously heard from the organization CAPE. We'd like to give them a little extra time since they are the only two speakers who requested the extra time. So I'd like to give them four minutes apiece, and we'll let you know when you're at three-minute mark so you'll have indication when you have one minute left.

Mr. Nelson, since you requested additional time -- Mrs. Nelson would you like to come

up first? That is fine. However you'd like to do it. And, again, Mrs. Nelson you don't need to state your name for the record, and you'll have an additional four minutes.

MRS. NELSON: Thank you. I didn't hear whether I should or shouldn't, so my name is Monique Nelson, and I really don't need four minutes. I won't go into more of CAPE. I'll leave that to my husband David, but I do have more of a question for the EPA.

The Morro Bay power site is home to several endangered species of plants and animals, and from what I saw on the EPA record for the PSD permit, I didn't see anything one way or another specifically addressing the effects of PM-10 on these endangered species. So I'm wondering how the Fish and Game and the EPA could sign off and say there are no impacts when it looks like no studies have ever been made. So I guess my question to the EPA is have any studies been done specifically for the purpose of studying the effects of PM-10 on these endangered species and, if so, where are they in the record? Thanks. That's it.

MR. JAWGIEL: Thank you again, Mrs. Nelson. We appreciate you taking your time tonight.

Mr. David Nelson.

MR. NELSON: Thank you for the extra time.

I've been doing this for seven years, and it's just impossible to bring this much stuff and be able to focus well enough to hit the best points.

One of the big points I'd like to make is the absence of our city officials here as city officials. We've heard from Ms. DeMeritt, who is a city official, but she was speaking as herself. The reason for that is that early in this process, our city signed a document waiving any right to come to these meetings and fight for higher standards. Their job in writing by contract is to go along with the power company and the decisions that this board makes.

Now, one thing I figured out over seven years of doing this is when you do this to people, like you that are working on all kinds of projects, it leaves these big cracks, and the crack is, like I started pointing out earlier, data that's being supplied to you is less than what it should be for your purposes. It was approved by CEC, but it doesn't really apply if you take into consideration your mandate and what is expected from you. So that's what we're expecting from you, and we really are here to work with you and make your job as easy as we can, and that's why we've done all this background search for you, showing you where maybe what the power company's

told you might be a little bit tilted and maybe out of whack, and this is our view and our work over years in doing this.

The thing that I need to point out, again, with our council is that they sold a bill of goods to our city that this was going to be a cleaner power plant, and they had a vote on it saying that it was going to be a smaller, cleaner power plant. And here we are six years later, and I'm reading in your own -- the air impact reports here that your significant emission rate per year is significant at the rate of 15 tons.

Now, what we have here is a power plant that's being looked at in light of a 50-year record. I mean, when they figured out the existing power plant, they got to use oil licenses that would never, ever be able to be used today, but because it was grandfathered, they believed for the CEC purposes they could do that, and maybe the could. But for your purposes, this is a total redo of a power plant, and I would hope that you could come up with better numbers than that.

I understand that these credits are shifted around, both as a person who lives under these, we should know that, oh, by the way, before we make

this a cleaner plant, we get to take all the dirt that we have here, all the emissions that we've put out for 50 years, including oil, then buy credits from another area to bring them in here to make it fit. So what we're talking about here is significant emissions of 15 tons, and they're asking with their own numbers for a 76-ton increase.

People have to know that this is really dangerous. This is a serious thing. You know and I know how many studies are done on particulate matter and what a big thing it is at a statewide level for the air. So we're asking you to come back and go through these and calculate these numbers right, and when you do, the whole scale will tip because not only are particulates going to go up, but so will greenhouse gases like SOs, which they're already 13 tons over on SOs. So we're just asking you to work with us here and make this process work, because I've seen the process when it works. It really can work, but it takes a lot of effort by people, and there's a lot of people that you don't see in CAPE that do a lot of work here, and we have the facts here, and please give it the time that it needs to look at it, because there's no way I can even brief you on what we've put in here. But I hope that you give it validity and start just from the

premise that their calculations are off, their methods are off, according to the EPA standards, and make them hold up to EPA standards.

MR. JAWGIEL: Mr. Nelson, thank you for your comments tonight. And, again, I'm aware that CAPE has submitted a very extensive written comment, and we appreciate the time and effort that was put into that. And we'll obviously consider those very closely.

MR. NELSON: Good. Thank you. We look forward to your replies.

MR. JAWGIEL: Thank you. What I'd like to do is I just want to make one more attempt at calling some of the individuals who we called previously who were not in attendance. David Wiseman -- I don't know if David Wiseman has returned -- Sandra Brazil and Kathy Wells. Since no one is here, none of those individuals are here, I'm going to go ahead and conclude this hearing. Again, any information that you would need to submit written comments either through fax, e-mail, or through the regular mail can be found in the lobby.

I want to thank everyone for taking time out tonight to come here and provide us with comments. It was a pleasure working with you, and I understand that this is a very serious -- very serious issue that is very important to the residents of Morro Bay, and

that's why we're here. We really appreciate all of you taking the time out to inform us of your thoughts about this project. So I'm going to go ahead and formally concluded this hearing. Thank you and good night.

(Hearing concluded at 8:15 p.m.)

STATE OF CALIFORNIA)
) SS.
COUNTY OF SAN LUIS OBISPO)

I, Allyson C. Whitendale, Certified Shorthand Reporter, holding California CSR license No. 12996, do hereby certify:

The aforementioned public comments verbatim-reported by me by the use of computer shorthand at the time and place therein stated and thereafter transcribed into writing under my direction.

I certify that I am not of counsel nor attorney for nor related to any of the parties hereto, nor am I in any way interested in the outcome of this action.

In compliance with Section 8016 of the Business and Professions Code, I certify under penalty of perjury that I am a Certified Shorthand Reporter with License No. 12996 in full force and effect.

Witness my hand this _____ day of _____, 2006.

_____

ALLYSON C. WHITENDALE, CSR No. 12996

MORRO BAY POWER PLANT MODERNIZATION PROJECT
PSD PERMIT (SCC 2005-01)

Docket Read Me File

September 25, 2008

The Administrative Record is divided into eleven sections (See Administrative Record Index).

Sections I, II, III, VII, VIII: Due to the size and volume of these sections, these documents are available upon request. Hardcopies may be viewed at the EPA Region IX Office, 75 Hawthorne St, San Francisco, CA 94105. Please contact Anita Lee at 415-972-3958 or lee.anita@epa.gov to schedule an appointment to view the documents.

Sections IV, V, VI, IX, X, XI: Documents available for download on electronic docket.[1] Copies of the final PSD permit, the response to comments, the transcript of the October 24, 2006 public hearing, and an index of the Administrative Record are also available for inspection at the San Luis Obispo Air Pollution Control District office, 3433 Roberto Court, San Luis Obispo, CA 93401; and the City of Morro Bay, City Attorney's Office, 595 Harbor Street, Morro Bay, CA 93442.

[1] www.regulations.gov (Docket ID: EPA-R09-OAR-2007-0964), also linked from the Region IX Air Permits website: http://www.epa.gov/region09/air/permit/r9-permits-issued.html.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX

ADMINISTRATIVE RECORD

MORRO BAY POWER PLANT MODERNIZATION PROJECT
PSD PERMIT (SCC 2005-01)

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‡ Due to non-standard page sizes, document only available for viewing at the EPA Region IX Office.
† Removed from Administrative Record because water related, not related to PSD Permit.

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AUTHORITY TO CONSTRUCT
ISSUED PURSUANT TO
PREVENTION OF SIGNIFICANT DETERIORATION (PSD)
REQUIREMENTS AT 40 CFR 52.21

PSD PERMIT NUMBER: SCC 2005-01
U.S. EVIRONMENTAL PROTECTION AGENCY, REGION IX

PERMITTEE: Dynegy Morro Bay, LLC

FACILITY LOCATION: 1290 Embarcadero Road, Morro Bay, CA 93443-1737

This Permit is issued pursuant to the Prevention of Significant Deterioration (PSD) requirements of the Clean Air Act, as amended, 42 U.S.C. §§ 7401 - 7671, et seq. Dynegy Morro Bay, LLC is granted approval to construct the two natural gas-fired combined cycle turbine block units, as described herein, in accordance with the permit application (and plans submitted with the permit application), federal regulations governing the Prevention of Significant Deterioration of air quality (40 CFR § 52.21), and other terms and conditions set forth in this PSD Permit.

Failure to comply with any condition or term set forth in this PSD Permit is subject to enforcement action pursuant to Section 113 of the Clean Air Act.

This PSD Permit does not relieve the Permittee from the responsibility to comply with any other applicable provisions of the Clean Air Act (including 40 CFR Parts 51, 52, 60, 61, 63, and 72 through 75), other federal, or San Luis Obispo Air Pollution Control District (District) requirements.

This PSD Permit becomes effective 30 days after the date of issuance pursuant to 40 CFR § 124.15(b)(3).

Deborah Jordan
Director, Air Division

9.25.08
Date

MORRO BAY POWER PLANT MODERNIZATION PROJECT (SCC 2005-01)
PSD PERMIT CONDITIONS

PROJECT DESCRIPTION

The Morro Bay Power Plant Modernization Project consists, in part, of replacing four existing 1950/1960-era fossil-fuel-fired electric utility steam generators (1002 megawatt [MW] total) with two combined cycle gas turbine block units. Each new block unit will be capable of producing 600 MW. Each new block unit will consist of two General Electric Frame 7 Model PG7241, 180 MW gas-fired turbines, two heat recovery steam generators with duct burners, and one 240 MW steam turbine.

PERMIT CONDITIONS

I. Permit Expiration

As provided in 40 CFR § 52.21(r), this PSD Permit shall become invalid if construction:

A. is not commenced (as defined in 40 CFR § 52.21(b)(9)) within 18 months after the approval takes effect; or

B. is discontinued for a period of 18 months or more; or

C. is not completed within a reasonable time.

II. Notification of Commencement of Construction and Startup

The Permittee must notify EPA in writing of the anticipated date of initial startup of the Morro Bay Power Plant Modernization Project ("Facility") not more than sixty (60) days nor less than thirty (30) days prior to such date and must notify EPA in writing of the actual date of commencement of construction and startup within fifteen (15) days after each has occurred. For all purposes of this permit, "initial startup" shall mean the setting in operation of an affected facility for any purpose. "Affected facility" is further defined as any apparatus, equipment, or emission unit subject to a standard in this permit or in the applicable Performance for New Stationary Sources regulations found at 40 CFR Part 60, Subparts A, Da, and KKKK.

III. Facility Operation

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit must at all times be maintained in good working order and be operated as intended so as to minimize air pollutant emissions.

IV. Malfunction

The Permittee must notify EPA by facsimile or electronic mail transmission within two (2) working days following the discovery of any failure of process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in Section IX of this permit. In addition, the Permittee must notify EPA in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section IX, and the methods used to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or of any law or regulation that such malfunction may cause.

V. Right to Entry

The EPA Regional Administrator, and/or his authorized representative, upon the presentation of credentials, must be permitted:

A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this permit;

B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit;

C. to inspect any equipment, operation, or method required in this permit; and,

D. to sample emissions from the source.

VI. Transfer of Ownership

In the event of any changes in control or ownership of the facilities to be constructed, the permit is binding on all subsequent owners and operators. The Permittee must notify the succeeding owner and operator of the existence of this permit and its conditions by letter, a copy of which must be forwarded to EPA.

VII. Severability

The provisions of this permit are severable, and, if any provision of this permit is held invalid, the remainder of this permit shall be unaffected.

VIII. Other Applicable Regulations

The Permittee must construct and operate the proposed power plant modernization project in compliance with all other applicable provisions of 40 CFR Parts 51, 52, 60, 63, 72 through 75, and all other applicable federal, state, and local air quality regulations.

IX. Special Conditions

A. Performance Tests

1. Within 60 days after achieving maximum load, but no later than 180 days after initial startup, and annually thereafter (within 30 days of the anniversary of the initial performance test), the Permittee must conduct performance tests (as described in 40 CFR § 60.8) for PM/PM_{10} on the exhaust stack gases for the combustion turbine generators. The Permittee must furnish EPA a written report of the results of such tests within thirty (30) days of the completion of each test. After initial performance tests, upon written request from the Permittee, and with adequate justification, EPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity.

2. The performance tests required by Section IX.A.1. of this permit must be performed in accordance with the test methods set forth in 40 CFR § 60.8 and 40 CFR Part 60, Appendix A, as modified below. Performance tests for the emissions of PM/PM_{10} shall be conducted using EPA Methods 5 and 202.

   Method 202 test methodology must include:

   a. one hour nitrogen purge

   b. the alternative procedure described in section 8.1 to neutralize the sulfuric acid

   c. evaporation of the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 °C oven as described in the first sentence of section 5.3.2.3.

   In lieu of Method 202, the Permittee may use EPA Conditional Test Methods for particulate matter: CTM-039 or CTM-040.

   The Permittee must notify EPA in writing at least thirty (30) days prior to such tests to allow time for the development of an approvable performance test plan and to arrange for an observer to be present at the test.

3. For performance test purposes, sampling ports, platforms, and access must be provided by the Permittee on the emission unit exhaust system in accordance with 40 CFR § 60.8(e).

B. Emission Limits for PM/PM_{10}

1. The Permittee shall restrict fuel use for the operation of the combustion turbines and supplemental duct firing to pipeline-quality natural gas with a sulfur content of no more than 0.25 grains per 100 scf on a twelve-month rolling average basis.

2. On and after the date of initial startup, the Permittee shall not discharge or cause the discharge of PM/PM_{10} from each combustion turbine generator in excess of 11.0 lbs/hr (no duct burner firing) or 13.3 lbs/hr (with duct burner firing), on a six-hour rolling average basis.

3. On and after the date of initial startup, the Permittee shall not discharge or cause the discharge of PM/PM_{10} from all four combustion turbine generators combined in excess of 203.2 tons per year on a twelve-month rolling average basis.

C. Fuel Sampling

The Permittee shall take monthly samples of the natural gas combusted. The samples shall be analyzed for sulfur content using ASTM D5504. EPA or District approved alternative test methods for fuel sulfur content may be used in lieu of ASTM D5504 upon EPA approval. The sulfur content test results shall be retained on site pursuant to Special Condition IX.E.

D. Hours of Operation Restriction – Duct Burners

For each combustion turbine generator, the duct burner shall be fired no more than 4,000 hours per year (twelve-month rolling average basis).

E. Reporting and Record Keeping

1. The Permittee must maintain a file of all records, data, measurements, reports, and documents related to the operation of the Facility, including, but not limited to, the following: all records or reports pertaining to adjustments and/or maintenance performed on any system or device at the Facility; all records relating to performance tests; and all other information required by this permit recorded in a permanent form suitable for

inspection. The file must be retained for five years following the date of such measurements, maintenance, reports, and/or records.

2. For each combustion turbine generator, the Permittee shall maintain an onsite log containing the following information:

   a. All startups and shutdowns of the gas turbine including date, time, and total duration of each occurrence.

   b. Firing hours and fuel flow rates for the gas turbine and duct burner.

F. New Source Performance Standards

The proposed Facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR Part 60). The Permittee must meet all applicable requirements of 40 CFR Part 60, Subparts A, Da, and KKKK of this regulation.

G. Ambient PM_{10} Monitoring

Twenty-four (24) months prior to the first firing of the first combustion turbine generator or ninety (90) days following California Energy Commission approval of 00-AFC-12, whichever is later, the Permittee shall submit a plan for performing ambient air monitoring, and shall obtain EPA approval for that monitoring. The plan shall provide for air monitoring at two separate locations in the surrounding area, to be performed by an EPA-approved third party. Continuous parameters measured at each location shall include surface wind speed and direction. 24-hour particulate matter samples 10 microns or less in size (PM_{10}) shall be taken on the standard 1 day in 6 schedule at each site. The monitoring locations will be selected, subject to EPA approval, with the intent to be best indicators of potential project air quality impacts and/or to be locations of highest community concern. The monitoring shall meet all requirements contained in the San Luis Obispo Air Pollution Control District GUIDELINES FOR AMBIENT AIR QUALITY AND METEOROLOGICAL MONITORING, dated March 1993. Pre-Modernization Project monitoring shall occur at each of these sites for twelve months prior to turbine startup, with the length of the monitoring period and the startup date of monitoring subject to EPA approval.

At each of these sites, ambient air monitoring for the same parameters noted above shall be conducted continually until one year following the start of commercial operation of the Modernization Project.

The duration of this monitoring may be extended for one or both of the sites per EPA request, for up to three additional years. This extension may occur at each

site if requested by EPA and justified by the monitoring data according to a protocol to be developed and agreed upon by both EPA and the Permittee.

X. Agency Notifications

All correspondence as required by this permit must be forwarded to:

1. Director, Air Division (Attn: AIR-5)
   U.S. EPA Region 9
   75 Hawthorne Street
   San Francisco, CA 94105-3901

   Email: R9.AEO@epa.gov
   Fax: (415) 947-3579

2. Air Pollution Control Officer
   San Luis Obispo Air Pollution Control District
   3433 Roberto Court
   San Luis Obispo, CA 93401

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 25, 2008

IN REPLY: AIR-3
REFER TO: SCC 2005-01

Steven C. Goschke
Morro Bay Power Plant
1290 Embarcadero Road
Morro Bay, CA 93442

Re: Morro Bay Power Plant Modernization Project PSD Permit (SCC 2005-01)

Dear Mr. Goschke,

In accordance with the provisions of the Clean Air Act, as amended (42 U.S.C. 7401 et seq.), the U.S. Environmental Protection Agency (EPA) has reviewed your request of November 1, 2000 for a new Prevention of Significant Deterioration (PSD) permit to authorize the proposed Modernization Project at the Morro Bay Power Plant. The Modernization Project is subject to PSD review for emissions of PM/PM_{10}.

A request for public comment regarding this action was published in the *Central Coast Sun Bulletin* on May 17, 2006. EPA received forty-six comments by fax, electronic mail, and U.S. Postal mail, of which thirty-nine requested a public hearing. An announcement for a public hearing was published in the *Central Coast Sun Bulletin*, *The Tribune*, and *The Bay News* on September 20, 2006. The public hearing was held on October 24, 2006 at the Veteran's Memorial Hall in Morro Bay, California, and the public comment period closed on October 30, 2006. In total, EPA received substantive comments from forty-two individuals, two environmental groups, and one community group. EPA has prepared responses to all substantive comments received.

In our review of the public comments, EPA noted that an averaging period was erroneously excluded in the PM/PM_{10} emission limits. EPA's intent was to include an averaging period, and the final PSD permit will include a six-hour rolling average as the basis for PM/PM_{10} emission limits. EPA has also revised the final permit to specify test method ASTM D5504 for the required monthly fuel sulfur analyses. The PSD permit was further revised to specify several required steps in EPA Test Method 202 for the measurement of condensable particulates, and to allow the use of conditional test methods CTM-039 or 040, listed on the EPA Emission Measurement Center website (http://www.epa.gov/ttn/emc/ctm.html), in lieu of Method 202. EPA is finalizing the PSD permit as proposed, including the aforementioned revisions to the emission limit averaging period and test methods. Finally, references to "PM_{10}" in the proposed permit were changed to "PM/PM_{10}" in the final permit. Although emissions of PM are subject to

PSD review, because PM and PM_{10} emissions are expected to be equivalent, the PSD review and requirements for PM_{10} also satisfy PSD review and requirements for PM.

Although EPA has made the above-described changes to the proposed PSD permit, these actions do not constitute a significant change from the proposed action set forth and offered for public comment. The Consolidated Permit Regulations (40 CFR Part 124) require that the Agency notify the applicant and all interested parties of the permit issuance and advise them of the process for petitioning the Environmental Appeals Board of the Environmental Protection Agency to review the permit decision. Because the Agency received comments on the draft permit conditions, this permit shall become effective thirty (30) days after issuance of this notice, unless a petition to review the permit is filed pursuant to 40 CFR §124.19. For more information on the petition procedures, please refer to 40 CFR §124.19 and the website for EPA's Environmental Appeals Board (http://www.epa.gov/eab).

If you have any questions regarding this matter, please contact Anita Lee of our Permits Office at (415) 972-3958.

Sincerely,

Deborah Jordan
Director, Air Division

Enclosures (2)

cc: Gary Willey, SLOAPCD
Gary Rubenstein, Sierra Research
Joe Loyer, California Energy Commission

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 25, 2008

IN REPLY: AIR-3
REFER TO: SCC 2005-01

Morro Bay Power Plant Modernization Project
PSD Permit Stakeholder List

Re: Morro Bay Power Plant Modernization Project PSD Permit (SCC 2005-01)

Dear Stakeholder,

In accordance with the provisions of the Clean Air Act, as amended (42 U.S.C. 7401 et seq.), the U.S. Environmental Protection Agency (EPA) has issued a final decision on the new Prevention of Significant Deterioration (PSD) permit to authorize construction of the proposed Modernization Project at the Morro Bay Power Plant. The Modernization Project is subject to PSD review for emissions of PM/PM_{10}. The decision will become effective 30 days after the date of issuance unless the decision is appealed to the Environmental Appeals Board (EAB) pursuant to 40 CFR 124.19.

Any person who filed comments on the proposed permit or made comments on record at the public hearing may petition the EAB to review any condition of the permit decision. Any person who failed to file comments or failed to make comments on record at the public hearing may only petition the EAB for review of sections of the final permit that were changed from the draft permit.

Any petition to the EAB must include a statement of reasons supporting review, including a demonstration that any issues being raised were raised during the public comment period. The petition must also demonstrate that a specific decision made on the permit is based on:

1. A finding of fact or conclusion of law which is clearly erroneous, or

2. An exercise of discretion or an important policy consideration which the EAB should, in its discretion, review.

A request for public comment regarding the proposed PSD permit was published in the *Central Coast Sun Bulletin* on May 17, 2006. EPA received forty-six comments by fax, electronic mail, and U.S. Postal mail, of which, thirty-nine requested a public hearing. An announcement for a public hearing was published in the *Central Coast Sun Bulletin*, *The Tribune*, and *The Bay News* on September 20, 2006. The public hearing was held on October 24,

2006 at the Veteran's Memorial Hall in Morro Bay, California, and the public comment period closed on October 30, 2006. In total, EPA received substantive comments from forty-two individuals, two environmental groups, and one community group. EPA has prepared formal responses to all substantive comments received.

An electronic copy of the final PSD permit, the response to comments, the transcript of the October 24, 2006 public hearing, and an index of the Administrative Record, may be downloaded from www.regulations.gov (Docket ID: EPA-R09-OAR-2007-0964), and is linked from the Region IX Air Permits website: http://www.epa.gov/region09/air/permit/r9-permits-issued.html.

Copies of the aforementioned documents are also available for inspection at the San Luis Obispo Air Pollution Control District office, 3433 Roberto Court, San Luis Obispo, CA 93401; and the City of Morro Bay, City Attorney's Office, 595 Harbor Street, Morro Bay, CA 93442. Any person may request a printed copy of the documents by contacting the Region IX Air Permits Office, or may view the administrative record Monday through Friday from 9:00 AM to 4:00 PM at the EPA Region 9 address below. Due to building security procedures, please call to arrange a visit 24 hours in advance.

Anita Lee (AIR-3)
U.S. EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901
Phone: (415) 972-3958
E-mail: r9airpermits@epa.gov

Please bring the foregoing notice to the attention of all persons who you know would be interested in this permit. If you have any questions regarding this matter, please contact Gerardo Rios, Chief of the Air Permits Office at (415) 972-3974.

Sincerely,

Deborah Jordan
Director, Air Division

U.S. Department of Transportation
United States Coast Guard

Commander (oan-2)
Eleventh Coast Guard District

Bldg. 50-6, Coast Guard Island
Alameda, CA 94501-5100
Staff Symbol: (oan-2)
Phone: (510) 437-3514
FAX: (510) 437-5836

COPY

16591
Morro Creek (0.14)
Ser: 295-01
May 14, 2001

Terry Huffman, Ph. D.
The Huffman-Broadway Group, Inc.
700 Larkspur Landing Circle, Suite 100
Larkspur, California 94939

Dear Mr. Huffman:

We have completed our review of information provided, concerning the Duke Energy Morrow Bay, LLC, proposed construction of a bridge across Morro Creek, mile 0.14, in the City of Morro Bay, California.

Morro Creek, at the proposed bridge location, is subject to tidal influence and is presently considered navigable by Coast Guard standards. However, the waterway is not navigated by anything larger than small motorboats, and the U. S. Army Corps of Engineers has no plans to make navigational improvements at the project site.

The General Bridge Act of 1946 requires the approval of the location and plans of bridges prior to start of construction (33 U.S.C. 525). The Commandant has given advance approval to the location and plans of bridges to be constructed across reaches of waterways considered navigable, but not actually navigated by other than logs, log rafts, rowboats, canoes, and small motorboats. In such cases, the clearances provided for high water stages will be considered adequate to meet the reasonable needs of navigation (33 C.F.R. 115.70).

Provided there is no development of significant controversy concerning navigational or environmental issues, and there is no significant impact, no individual Coast Guard bridge permit will be required for this project (COMDTINST M16590.5C). This does not relieve the applicant from complying with all applicable federal, state and local laws, and associated permit requirements.

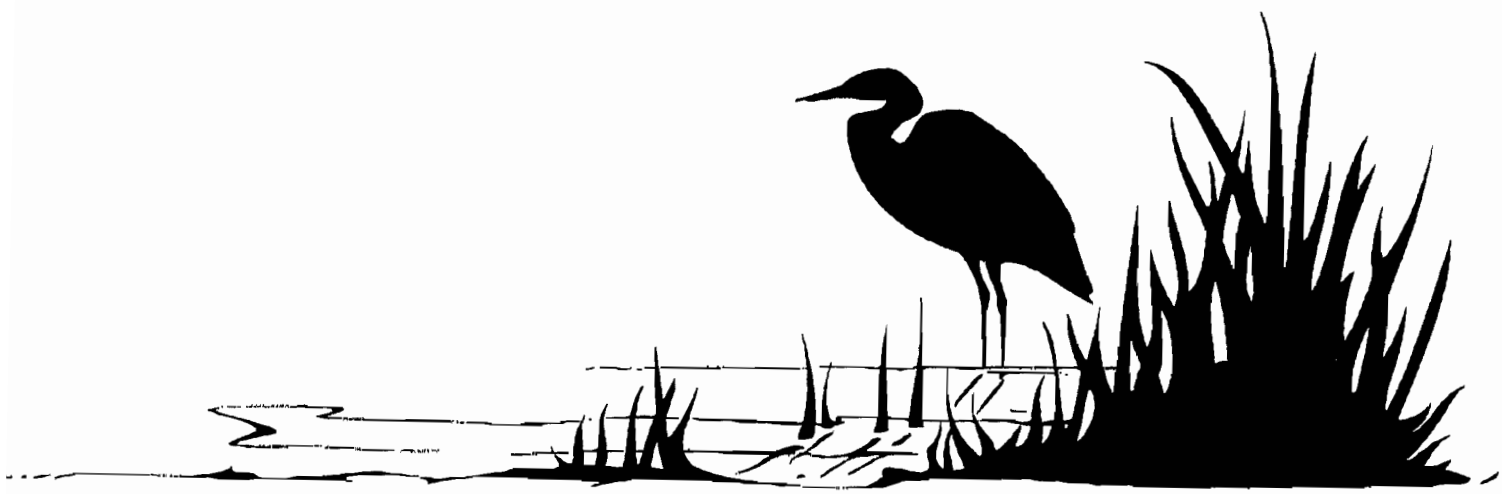
As-built drawings and a photograph of the completed bridge are requested.

If the character of navigation changes such that the waterway no longer meets advance approval criteria, the Coast Guard will promptly withdraw the advance approval designation for this waterway, and notify all interested parties.

IV-B

U.S. FISH AND WILDLIFE SERVICE

VENTURA FIELD OFFICE
2493 PORTOLA ROAD, SUITE B
VENTURA, CALIFORNIA 93003



PHONE: (805) 644-1766 **FAX: (805) 644-3958**

DATE: 1-8-02 **Please confirm receipt of fax**

TO: Mark Sims

FAX #: 415-947-3579

FROM: Carol Tyson

SUBJECT: Measures for Morro Bay PP Project

 # OF PAGES INCLUDING COVER SHEET 7.

COMMENTS:

parking-on-site and off-site; remediation; landscaping off-site; construction staging and laydown; storm water pollution prevention measures; timing, staffing, and traffic conditions; groundwater use; and seawater cooling water system. For additional information on the project components, please see the project description information given on pages 11 through 26 of the biological assessment dated November 6 2001.

Minimization Measures

Minimization Measures to Reduce Project Effects to All Listed Species-Including MSBS and CRLF:

1. Prior to the onset of activities that result in disturbance of habitat or individuals of any federally-listed species, all project workers shall be given information on the status of the listed species in the project area, a brief overview of the species' natural history, the protection afforded the species by the Endangered Species Act of 1973, as amended (Act), and the specific protective measures to be followed during project construction. Videos, brochures, books, and briefings may be used in the education program, provided that a qualified person is on hand to answer any questions. This information will be part of the Worker Environmental Awareness Program, which is further described in the CEC's Preliminary Staff Assessment (PSA) Condition of Certification BIO-4.

2. Duke Energy shall designate a person to monitor on-site compliance with the minimization measures for federally-listed species identified in this document. The monitor shall have authority to halt any action that might result in injury or mortality to these species. This person will be the CEC-required designated biologist. Qualifications of the designated biologist are described in PSA Condition of Certification BIO-1. Integration of the designated biologist are described in the Draft Biological Mitigation Implementation and Monitoring Plan (BRMIMP).

3. During project activities, all trash that may attract predators shall properly contained, removed from the work site regularly, and disposed of at an approved location. Following construction, all trash and construction debris shall be removed from work areas. Contractor waste removal controls also are described in the Draft Storm Water Pollution Prevention Plan (SWPPP).

4. Fueling and maintenance of vehicles and other equipment shall occur at least 20 meters from any wetland/riparian habitat on the Morro Bay power plant, off-site parking area, staging and laydown area, and O'Connor Way culvert improvement site. Duke Energy shall ensure that contamination of wetland/riparian habitat does not occur during such routine operations. Prior to the onset of work, Duke Energy shall ensure that a plan has been prepared to allow a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. Spill prevention, disposal methods, and reporting

requirements are contained in the SWPPPs, which will be implemented during project construction.

5. A BRMIMP will be implemented to minimize adverse impacts to sensitive resources at the MBPP site, off-site parking area, staging and laydown area, and O'Connor Way culvert improvement sites. The BRMIMP includes the following measures:

   - Construction area boundaries will be delineated clearly with stakes, flagging, and/or rope to minimize inadvertent degradation or loss of sensitive habitat during construction;
   - Orange construction fencing will be used to delineate environmentally sensitive habitat areas (ESHAs) and designated sensitive areas where feasible;
   - If orange construction fencing cannot be used, warning signs will be posted along roped-off sections a minimum of every 30 feet;
   - Exclusion fencing will be installed around designated areas to minimize movement of amphibians and other terrestrial organisms into Morro Bay Power Plant off-site parking, staging and laydown areas, and O'Connor Way culvert improvement sites; and
   - A qualified biologist will monitor designated sensitive areas for unauthorized activities.

6. SWPPPS will be implemented in each of the three major project areas (i.e., Morro Bay Power Plant, off-site parking area, and off-site construction staging and laydown area) to minimize erosion and sediment runoff to receiving waters.

Minimization Measures to Reduce Project Effects to MSBS:

1. Prior to initiation of construction activities, a qualified biologist will conduct a walk-over of the access routes to search for listed species. The biologist will monitor during construction activities to ensure that construction equipment remains on designated access routes resulting in the least amount of disturbance to native vegetation. Both sides of all access routes will be clearly marked with highly visible flagging, railing, netting, and/or fencing, as appropriate.

2. All project-related vehicle and foot traffic associated with construction activities will be confined within the selected and marked access route or within existing dirt roads.

3. To avoid direct loss of Morro shoulderband snails, a qualified biologist will survey the selected access route, areas extending 10 feet from the outside edges of the access route (buffer zone), and project area immediately prior to the movement of project-related vehicles. If living Morro shoulderband snails and/or empty shells are encountered within the access route, buffer zone, or other portions of the project area construction activities

will cease and the Service will be contacted immediately to determine whether or not additional consultation is required.

4. A qualified biologist will monitor project activities on a daily basis to ensure that all practicable measures are being employed to avoid incidental disturbance of native plant communities and habitats considered suitable for the Morro shoulderband snail.

5. A qualified biologist will monitor the movement of construction personnel and equipment on designated access route(s), both into and away from all of the construction sites, to ensure utilization of designated access route.

6. Construction vehicles will remain on site at the end of each work day to avoid unnecessary movement of vehicles and minimize disturbance of vegetation and Morro shoulderband snail habitat.

7. Following the completion of construction activities, where appropriate, the ground surface will be restored to pre-project conditions.

8. A qualified biologist will document all pertinent activities and submit a report to the Service within 90 days following completion of proposed activities at the site. The report shall contain a brief discussion of any problems encountered in implementing minimization measures, results of biological surveys and sighting records, and any other pertinent information such as the acreage affected and restored or undergoing restoration of each habitat type.

9. A qualified biologist will conduct a brief training session for all project-related personnel immediately prior to commencement of construction activities. The brief training session will emphasize the importance of following pre-selected and marked access routes. This will include foot traffic following vehicle routes. Worker education programs, clearly defined project boundaries, and well-defined operational procedures shall be implemented with the cooperation of the project biologist, to minimize adverse effects to Morro shoulderband snails during all project activities. This will be implemented as follows:

   a. Training will include a description of the Morro shoulderband snail and its habitat, the provisions of the Act, the importance of the Morro shoulderband snail and its habitat, the specific measures that are being implemented to conserve the Morro shoulderband snail as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions. Additionally, fencing/railing/netting, signing, brochures, and educational displays will be provided for any proposed bikeway and pedestrian path, if implemented.

b. The removal of or damage to native vegetation during project implementation shall be avoided to the maximum extent possible.

c. All construction equipment will remain on site at the end of each work day except when maintenance and fueling are necessary. All fueling and maintenance will occur offsite on public roads.

d. The EPA and the EPA's representative will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the EPA will ensure that a plan has been prepared to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. All accidental project-related spills of hazardous materials will be cleaned up immediately.

e. Vehicles and equipment will be inspected by the qualified biologist for the presence of the Morro shoulderband snail prior to the onset of each day's activities within project areas.

Minimization Measures to Reduce Project Effects CRLF:

1. A qualified biologist will survey the work site two weeks before the onset of activities following Service approved survey protocols. If California red-legged frogs, tadpoles, or eggs are found, the biologist will contact the Service immediately to determine if additional consultation is required.

2. Before any construction activities begin, a qualified biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the California red-legged frog and its habitat, the importance of the California red-legged frog and its habitat, the general measures that are being implemented to conserve the California red-legged frog as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

3. A qualified biologist will be present at the work site until such time as all surveys for California red-legged frogs, instruction of workers, and habitat disturbance have been completed. After this time, the contractor or permittee will designate a person to monitor on-site compliance with all minimization measures. The biologist will ensure that this individual receives training outlined above in measure 3 and in the identification of California red-legged frogs. The monitor and the biologist will have the authority to halt any action if California red-legged frogs or other listed species are encountered. If work

is stopped, the Service will be notified immediately by the biologist or on-site biological monitor.

4. During project activities, all trash that may attract predators will be properly contained, removed from the work site and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

5. All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 20 meters from any riparian habitat or water body. The will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, EPA will ensure that the permittee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to follow should a spill occur.

6. A qualified biologist will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas will be removed.

7. Project sites will be revegetated with an appropriate assemblage of native riparian wetland and upland vegetation suitable for the area. A species list and restoration and monitoring plan will be included with the project proposal for review and approval by the Service and EPA. Such a plan must include, but not be limited to, location of the restoration, species to be used, restoration techniques, time of year the work will be done, identifiable success criteria for completion, and remedial actions if the success criteria are not achieved.

8. If applicable, stream contours will be returned to their original condition at the end of project activities, unless consultation with the Service has determined that it is not beneficial to the species or feasible.

9. The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated, and these areas will be outside of riparian and wetland areas. Where impacts occur in these staging areas and access routes, restoration will occur as identified in measures 8 and 9 above.

10. Work activities will be completed between April 1 and November 1. Should the proponent or applicant demonstrate a need to conduct activities outside this period, EPA may authorize such activities after obtaining the Service's approval.

11. To control erosion during and after project implementation, the applicant will implement best management practices, as identified by the appropriate Regional Water Quality Control Board.

12. If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than five millimeters (mm) to prevent California red-legged frogs from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

13. A qualified biologist will permanently remove, from within the project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible. The permittee will have the responsibility to ensure that their activities are in compliance with the California Fish and Game Code.

CONCLUSION

After reviewing the status of listed species and their habitat in and/or near the project site, the proposed project including the proposed minimization measures, and the effects of the proposed action on listed species, we concur that the Morro Bay Power Plant modernization project, as proposed, is not likely to adversely affect listed species or their critical habitat. We have reached this conclusion for the following reasons:

1. Listed species are not known to occur in the project area, critical habitat does not occur in the project area, and habitat in the project area is low quality and/or degraded.

2. Measures will be implemented to avoid significant adverse effects to listed species and their habitats.

If you have any questions, please contact Carol Tyson of my staff at (805) 644-1766.

As you note in your letter, the proposed project is located within the range of the California red-legged frog. California red-legged frogs have been found in Salsipuedes Creek approximately two to three miles downstream of the proposed project. The proposed work area (bridge apron) does not contain suitable habitat for California red-legged frogs. The project area is described as having shallow, fast-moving water flowing over a concrete apron. There are no pools deep enough in the apron to support California red-legged frogs, although frogs may use the concrete apron as they move between more suitable habitat located upstream and downstream of the work site.

Furthermore, you also noted that no California red-legged frogs have been observed in the project area by COMB biologists during surveys for the southern California steelhead trout. Such surveys are not sufficient for determining whether California red-legged frogs are absent from a site. Surveys must be done by biologists familiar with the California red-legged frog biology. Survey protocol is available at our website ventura.fws.gov.

IV- 6

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

In reply please refer to:
151422SWR02PR6159:APS

JUL 23 2002

Gerardo Rios, Chief
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, California 94105

Re: Modernization of Morro Bay Power Plant and Steelhead Trout

Dear Mr. Rios:

The National Marine Fisheries Service (NMFS) reviewed the report entitled "Analysis of potential effects of Duke Energy Morro Bay, LLC ground water pumping on flows in Morro Creek, " and requires additional information to develop an understanding of the manner in which groundwater pumping may affect surface water in Morro Creek. Accordingly, NMFS requests that the following analyses be performed:

- A comparison showing the length of time that the affected reach is devoid of flowing water with and without groundwater pumping.

- A comparison showing the monthly average quantity (cfs) of surface water in the affected reach with and without groundwater pumping.

Each comparison should be performed separately for wet, normal and dry years (i.e., select a water year representing each of these water year types). Please submit the results of the analyses to NMFS along with a detailed description of the methods used to perform the analyses. The raw data used to perform the analyses should be provided as well. If estimated or simulated values are used, please include the confidence intervals or accuracy associated with these values in your submittal. NMFS appreciates your willingness to support review of the proposed action, and looks forward to receipt of the requested information. Anthony Spina is the principal contact for this specific request. Please contact him at (562) 980-4045 if you have a question concerning this letter or if you require additional information.

Sincerely,

Rodney R. McInnis
Acting Regional Administrator

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IV-D

January 18, 2002

Gerardo Rios, Chief
Permits Office, Air Division
United States Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105-3901

Subject: Request for Concurrence for the Morro Bay Power Plant Modernization Project, Morro Bay, San Luis Obispo County, California

Dear Mr. Rios:

We received your letter dated November 27, 2001, on December 6, 2001, requesting our concurrence that the modernization of the Morro Bay Power Plant in San Luis Obispo County, California would not adversely affect the federally threatened California red-legged frog (*Rana aurora draytonii*), endangered Morro shoulderband snail (*Helminthoglypta walkeriana*), endangered tidewater goby (*Eucyclobius newberryi*), threatened southern sea otter (*Enhydra lutris*), and endangered least Bell's vireo (*Vireo bellii pusillus*). You have requested our concurrence with your determination.

We have discussed measures that Duke Energy will incorporate into the project description in order to minimize adverse affects to federally listed species (attached). As you know, Jonathan Lilien, of Huffman-Broadway Group, has advised us that the majority of these measures will be incorporated into the project description. Furthermore, he has advised us that the determination of effects for several of the listed species found in or near the project area may be modified from a "not likely to adversely affect" to a "no effect" determination. We have also discussed our request for a more thorough evaluation of the effects of the project on habitat for listed species particularly given the recent sightings of Morro shoulderband snails near the project site on December 2, 2001. This analysis should also consider the bike trail proposed to be built on the northwestern portion of the project site, by the City of Morro Bay using Duke Energy funds, that may affect Morro shoulderband snail habitat.

In order to proceed with the consultation process, we request that you address the concerns identified above. Specifically, please indicate that you will be incorporating the attached minimization measures into the project description, clarify your effects determinations for all federally listed species affected by the project, and complete a thorough project effects evaluation on Morro shoulderband snails and their habitat, considering the recent sighting near the project area and the proposed bike trail.

Additionally, following our recent site visit on January 9, 2002, we identified some additional concerns that we request you address as follows: Clarify that directional boring will be used to install the walkway; request that Morro Creek bridge be installed as a temporary bridge to avoid contributing to long-term adverse effects to the threatened western snowy plover (*Charadrius alexandrinus nivosus*); address the effects of the use of the Camp San Luis Obispo installation on California red-legged frog dispersal habitat; ensure fencing/railing is installed along the northwestern portion of the project site to ensure heavy equipment/vehicles remain on designated road surfaces; and confirm the 30% reduction in seawater use for the cooling system. As we have discussed with your designated representatives Dr. Terry Huffman and Jonathan Lilien of Huffman-Broadway Group, Inc, the endangered brown pelican (*Pelecanus occidentalis*), southern sea otter, and tidewater goby may be adversely affected by increased seawater use during cooling operations as their prey base may be diminished due to entrapment and entrainment.

Please contact Carol Tyson of my staff at (805) 644-1766 if you have any questions.

Sincerely

for Diane Noda
Field Supervisor

Enclosure

cc: Jonathan Lilien, Huffman-Broadway Group
Wayne Hoffman, Duke Energy
Dick Anderson, California Energy Commission
Mark Sims, United States Environmental Protection Agency

Minimization Measures

Minimization Measures to Reduce Project Effects to All Listed Species-Including MSBS and CRLF:

1. Prior to the onset of activities that result in disturbance of habitat or individuals of any federally-listed species, all project workers shall be given information on the status of the listed species in the project area, a brief overview of the species' natural history, the protection afforded the species by the Endangered Species Act of 1973, as amended (Act), and the specific protective measures to be followed during project construction. Videos, brochures, books, and briefings may be used in the education program, provided that a qualified person is on hand to answer any questions. This information will be part of the Worker Environmental Awareness Program, which is further described in the CEC's Preliminary Staff Assessment (PSA) Condition of Certification BIO-4.

2. Duke Energy shall designate a person to monitor on-site compliance with the minimization measures for federally-listed species identified in this document. The monitor shall have authority to halt any action that might result in injury or mortality to these species. This person will be the CEC-required designated biologist. Qualifications of the designated biologist are described in PSA Condition of Certification BIO-1. Integration of the designated biologist are described in the Draft Biological Mitigation Implementation and Monitoring Plan (BRMIMP).

3. During project activities, all trash that may attract predators shall properly contained, removed from the work site regularly, and disposed of at an approved location. Following construction, all trash and construction debris shall be removed from work areas. Contractor waste removal controls also are described in the Draft Storm Water Pollution Prevention Plan (SWPPP).

4. Fueling and maintenance of vehicles and other equipment shall occur at least 20 meters from any wetland/riparian habitat on the Morro Bay power plant, off-site parking area, staging and laydown area, and O'Connor Way culvert improvement site. Duke Energy shall ensure that contamination of wetland/riparian habitat does not occur during such routine operations. Prior to the onset of work, Duke Energy shall ensure that a plan has been prepared to allow a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. Spill prevention, disposal methods, and reporting requirements are contained in the SWPPPs, which will be implemented during project construction.

5. A BRMIMP will be implemented to minimize adverse impacts to sensitive resources at the MBPP site, off-site parking area, staging and laydown area, and O'Connor Way culvert improvement sites. The BRMIMP includes the following measures:

- Construction area boundaries will be delineated clearly with stakes, flagging, and/or rope to minimize inadvertent degradation or loss of sensitive habitat during construction;
- Orange construction fencing will be used to delineate environmentally sensitive habitat areas (ESHAs) and designated sensitive areas where feasible;
- If orange construction fencing cannot be used, warning signs will be posted along roped-off sections a minimum of every 30 feet;
- Exclusion fencing will be installed around designated areas to minimize movement of amphibians and other terrestrial organisms into Morro Bay Power Plant off-site parking, staging and laydown areas, and O'Connor Way culvert improvement sites; and
- A qualified biologist will monitor designated sensitive areas for unauthorized activities.

6. SWPPPS will be implemented in each of the three major project areas (i.e., Morro Bay Power Plant, off-site parking area, and off-site construction staging and laydown area) to minimize erosion and sediment runoff to receiving waters.

Minimization Measures to Reduce Project Effects to MSBS:

1. Prior to initiation of construction activities, a qualified biologist will conduct a walk-over of the access routes to search for listed species. The biologist will monitor during construction activities to ensure that construction equipment remains on designated access routes resulting in the least amount of disturbance to native vegetation. Both sides of all access routes will be clearly marked with highly visible flagging, railing, netting, and/or fencing, as appropriate.

2. All project-related vehicle and foot traffic associated with construction activities will be confined within the selected and marked access route or within existing dirt roads.

3. To avoid direct loss of Morro shoulderband snails, a qualified biologist will survey the selected access route, areas extending 10 feet from the outside edges of the access route (buffer zone), and project area immediately prior to the movement of project-related vehicles. If living Morro shoulderband snails and/or empty shells are encountered within the access route, buffer zone, or other portions of the project area construction activities will cease and the Service will be contacted immediately to determine whether or not additional consultation is required.

4. A qualified biologist will monitor project activities on a daily basis to ensure that all practicable measures are being employed to avoid incidental disturbance of native plant communities and habitats considered suitable for the Morro shoulderband snail.

5. A qualified biologist will monitor the movement of construction personnel and equipment on designated access route(s), both into and away from all of the construction sites, to ensure utilization of designated access route.

6. Construction vehicles will remain on site at the end of each work day to avoid unnecessary movement of vehicles and minimize disturbance of vegetation and Morro shoulderband snail habitat.

7. Following the completion of construction activities, where appropriate, the ground surface will be restored to pre-project conditions.

8. A qualified biologist will document all pertinent activities and submit a report to the Service within 90 days following completion of proposed activities at the site. The report shall contain a brief discussion of any problems encountered in implementing minimization measures, results of biological surveys and sighting records, and any other pertinent information such as the acreage affected and restored or undergoing restoration of each habitat type.

9. A qualified biologist will conduct a brief training session for all project-related personnel immediately prior to commencement of construction activities. The brief training session will emphasize the importance of following pre-selected and marked access routes. This will include foot traffic following vehicle routes. Worker education programs, clearly defined project boundaries, and well-defined operational procedures shall be implemented with the cooperation of the project biologist, to minimize adverse effects to Morro shoulderband snails during all project activities. This will be implemented as follows:

   a. Training will include a description of the Morro shoulderband snail and its habitat, the provisions of the Act, the importance of the Morro shoulderband snail and its habitat, the specific measures that are being implemented to conserve the Morro shoulderband snail as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions. Additionally, fencing/railing/netting, signing, brochures, and educational displays will be provided for any proposed bikeway and pedestrian path, if implemented.

   b. The removal of or damage to native vegetation during project implementation shall be avoided to the maximum extent possible.

   c. All construction equipment will remain on site at the end of each work day except when maintenance and fueling are necessary. All fueling and maintenance will occur offsite on public roads.

   d. The EPA and the EPA's representative will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the EPA will ensure that a plan has been prepared to allow a prompt and effective response to any

accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. All accidental project-related spills of hazardous materials will be cleaned up immediately.

e. Vehicles and equipment will be inspected by the qualified biologist for the presence of the Morro shoulderband snail prior to the onset of each day's activities within project areas.

Minimization Measures to Reduce Project Effects CRLF:

1. A qualified biologist will survey the work site two weeks before the onset of activities following Service approved survey protocols. If California red-legged frogs, tadpoles, or eggs are found, the biologist will contact the Service immediately to determine if additional consultation is required.

2. Before any construction activities begin, a qualified biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the California red-legged frog and its habitat, the importance of the California red-legged frog and its habitat, the general measures that are being implemented to conserve the California red-legged frog as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

3. A qualified biologist will be present at the work site until such time as all surveys for California red-legged frogs, instruction of workers, and habitat disturbance have been completed. After this time, the contractor or permittee will designate a person to monitor on-site compliance with all minimization measures. The biologist will ensure that this individual receives training outlined above in measure 3 and in the identification of California red-legged frogs. The monitor and the biologist will have the authority to halt any action if California red-legged frogs or other listed species are encountered. If work is stopped, the Service will be notified immediately by the biologist or on-site biological monitor.

4. During project activities, all trash that may attract predators will be properly contained, removed from the work site and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

5. All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 20 meters from any riparian habitat or water body. The will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, EPA will ensure that the permittee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to follow should a spill occur.

6. A qualified biologist will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas will be removed.

7. Project sites will be revegetated with an appropriate assemblage of native riparian wetland and upland vegetation suitable for the area. A species list and restoration and monitoring plan will be included with the project proposal for review and approval by the Service and EPA. Such a plan must include, but not be limited to, location of the restoration, species to be used, restoration techniques, time of year the work will be done, identifiable success criteria for completion, and remedial actions if the success criteria are not achieved.

8. If applicable, stream contours will be returned to their original condition at the end of project activities, unless consultation with the Service has determined that it is not beneficial to the species or feasible.

9. The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated, and these areas will be outside of riparian and wetland areas. Where impacts occur in these staging areas and access routes, restoration will occur as identified in measures 8 and 9 above.

10. Work activities will be completed between April 1 and November 1. Should the proponent or applicant demonstrate a need to conduct activities outside this period, EPA may authorize such activities after obtaining the Service's approval.

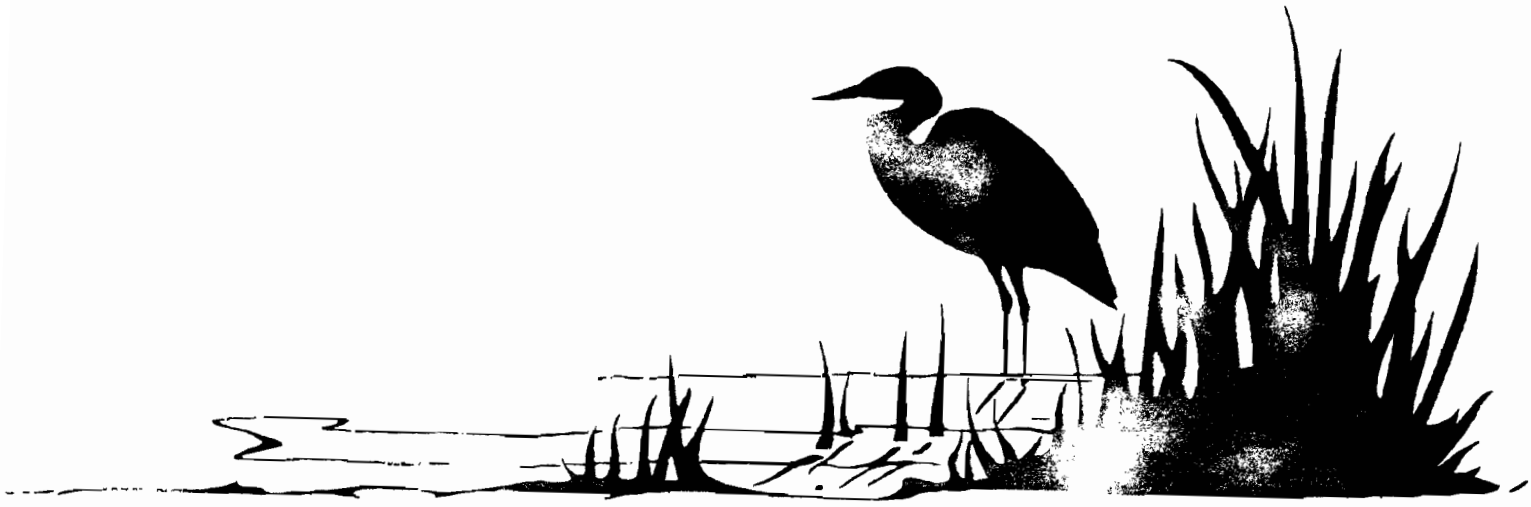
11. To control erosion during and after project implementation, the applicant will implement best management practices, as identified by the appropriate Regional Water Quality Control Board.

12. If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than five millimeters (mm) to prevent California red-legged frogs from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

13. A qualified biologist will permanently remove, from within the project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible. The permittee will have the responsibility to ensure that their activities are in compliance with the California Fish and Game Code.

IV-E

U.S. FISH AND WILDLIFE SERVICE
VENTURA FISH AND WILDLIFE OFFICE
2493 PORTOLA ROAD, SUITE B
VENTURA, CALIFORNIA 93003



PHONE: (805) 644-1766 FAX: (805) 644-3958

DATE: 2-18-02

TO: Jonathan Lilien & Terry Huffman, Ph.D.
Mark Sims

FAX: 415-925-2006, H/B ✓
415-~~744-1076~~, EPA
947-~~1419~~ 3579

From: Carol Tyson

Michael Pollack ✓
805-595-5592
Duke Energy

SUBJECT: Morro Bay Power Plant BA

PAGES INCLUDING COVER SHEET: 2

Please see attached...

Jonathan, Terry, and Mark: February 18, 2002

This message will follow-up to our conference call on Friday, February 15, 2002. I have the following questions and comments regarding your draft letter dated February 8, 2002:

1. Please provide me with the biological rationale as to why a less frequent survey effort for MSBS is adequate. Do you have a biological basis for the shift from a daily to a biweekly or weekly survey and why would this be an adequate survey effort? Do you know of other projects where this was implemented?

2. Please be aware that although we can perhaps reduce the survey effort and make it specific to areas where MSBS have potential habitat, if at any time during project implementation MSBS individuals or signs of their presence are encountered all project activities must cease pending review by FWS to determine if additional consultation is required.

3. Include a buffer of 100 feet from listed species habitat for vehicle fueling and maintenance activities.

4. Please provide a copy of the letter referenced in our conference call regarding Moss Landing and those project effects on listed species (e.g., southern sea otter, brown pelican, and tidewater goby).

5. Please address the effects of the permanency of the Morro Creek bridge and how increased public access over time may adversely effect listed species. Please indicate measures to minimize effects to the western snowy plover (e.g., fencing and signing, . . .) and clarify where and how those measures would be implemented.

6. Please use flow information given in the fax dated February 15, 2002, to evaluate effects of the cooling system on the prey base for listed species.

7. The City has agreed to implement measures to minimize adverse effects of the road improvements planned near the recently discovered MSBS site. I understand the project footprint will remain as it currently exists; however, road improvements can lead to increased access and use of the road and surrounding areas. Vehicles may park in or near MSBS habitat and pedestrians and bicyclists may trample MSBS habitat. How will the City ensure that this action does not result in "take"of MSBS? Can access be restricted and controlled so that MSBS individuals and their habitat are "not likely to be adversely affected" and that "take" will not occur due to increased access to and use of this area? If "take"will occur, we will need to complete a formal consultation.

I checked my schedule and am available to come up to discuss the City's proposal to minimize effects of the road improvement project on February 26, 2002. Let me know if this works for you and call if you have any questions.

Carol Tyson

Mark

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

In reply please refer to:
151422SWR02PR6159:APS

APR 2 2002

IV-F

Gerardo Rios, Chief
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, California 94105

Re: Modernization of Morro Bay Power Plant and Steelhead Trout

Dear Mr. Rios:

The National Marine Fisheries Service (NMFS) requires additional information to determine whether the proposed action is likely to adversely affect the South-Central California Coast Evolutionarily Significant Unit of federally threatened steelhead (*Oncorhynchus mykiss*) or designated critical habitat. Based on our review of the biological assessment for the proposed action, information concerning the potential effect of power-plant operations (i.e., intake of cooling water) on steelhead is lacking. Accordingly, NMFS requests the following information:

- An evaluation of whether juvenile steelhead are likely to be entrained or impinged by operation of the intake. This evaluation should include a comparison of the characteristics of the intake screen with NMFS' screening criteria.

- An evaluation of whether the known loss (i.e., entrainment or impingement) of vertebrate and invertebrate forage is likely to diminish the functional value of the bay as a feeding and growing area for steelhead. This evaluation should include comparing the species of organisms consumed by juvenile steelhead in the bay with the species of organisms that are entrained and impinged.

NMFS appreciates your patience and willingness to support review of the proposed action, and looks forward to receipt of the requested information. Please contact Anthony Spina at (562) 980-4045 if you have a question concerning this letter or if you require additional information.

Sincerely,

Rodney R. McInnis
Acting Regional Administrator

Mark S.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

IV-G

MAY 17 2002

In reply refer to:
151422SWR02PR6159:APS

Gerardo Rios, Chief
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

Re: Modernization of Morro Bay Power Plant

Dear Mr. Rios:

The National Marine Fisheries Service (NMFS) reviewed the Morro Bay Power Plant modernization proposal, and understands this action would affect the bay and some tributaries. This proposed action includes the following activities:

- Removing groundwater at existing pumping locations near the mouth of Morro Creek;
- Placing a bridge for construction traffic across Morro Creek;
- Installing a temporary footbridge across Willow Camp Creek;
- Constructing a high-pressure gas pipeline across Willow Camp Creek;
- Constructing a temporary parking lot within the area formed between Morro Creek, Willow Camp Creek, and Highway 1;
- Establishing a staging area on the west side of Willow Camp Creek;
- Constructing a new power block adjacent to Morro and Willow Camp creeks; and
- Operating the power plant.

These activities are of concern because they would occur in areas where the South-Central California Evolutionarily Significant Unit of federally threatened steelhead (*Oncorhynchus mykiss*) is present. After careful consideration of the proposed action and potential effects of this action on steelhead and their habitat, including the information provided by the project proponent's consultant, NMFS believes that modernization of the power plant is not likely to adversely affect steelhead. NMFS' rationale for this determination is described as follows.

Based on the results obtained from the ground-water analyses performed by the project proponent's consultant, the pumping is not expected to cause a detectable reduction in the quantity of surface water in Morro Creek, particularly during dry or normal wet seasons. Although the potential for pumping to affect the quantity of surface water is greater during wet years, the analyses suggest pumping effects would be small if detectable, primarily because discharge is expected to be higher in the creek during wet years. Furthermore, based on NMFS' experience on similar activities, the potential for ground-water pumping effects is generally higher during late summer and early fall. Because the area that could be affected by ground-water pumping functions primarily as a migration corridor for steelhead, and this species completes its migration between freshwater and the ocean by early summer, it is unlikely that ground-water pumping would affect steelhead.

The stream-protection plan appears to contain sufficient measures to decrease the likelihood that constructing the bridges, gas pipeline, parking lot, staging area and power block would diminish the functional value of instream and riparian habitat for steelhead. For example, the bridges will span both streams, and the abutments and access points will be setback from the creek. Steelhead presence in Willow Camp Creek is unlikely because site-specific surveys conducted by NMFS indicates the characteristics of the creek are not commensurate with the habitat requirements of the species (A. Spina, NMFS fisheries biologist, pers. obs.). For this reason, installing the gas pipeline through Willow Camp Creek is not expected to affect steelhead. Although wet and dry season runoff of sediment-water slurry and pollutants from work areas (including the parking lot and staging areas, and the new power block) is of concern, the proposed action includes implementation of Best Management Practices and a containment-control plan for the purpose of minimizing the likelihood that the quality of surface-water resources would be altered.

Continued operation of the power plant is not expected to adversely affect steelhead for three principal reasons. First, intake of cooling water to support power-plant operations is unlikely to entrain or impinge juvenile steelhead. Juvenile steelhead emigrate from streams to lagoons and the ocean primarily as age-1 and older steelhead, based on NMFS' data (A. Spina, NMFS fisheries biologist, unpublished data). NMFS believes that age-1 and older juvenile steelhead, because of their size (>100 mm fork length) and their swimming ability, are more than capable of avoiding entrainment by and impingement on the intake structure. Moreover, intake samples show no evidence that steelhead are entrained. Second, the known loss of vertebrate and invertebrate forage is not expected to diminish the value of the bay as a temporary rearing area for juvenile steelhead. There is no reason to believe that food availability in the bay is or would be limiting growth and survival of steelhead, owing in part to the size of the bay, and to the amount of food items that are believed to be present in the bay and that are frequently contributed to the bay from natural sources (i.e., tributaries and the ocean itself). NMFS believes that while power-plant operations do reduce the abundance of invertebrate and vertebrate organisms in the bay, the reduction is not sufficient to cause detectable effects on steelhead growth and feeding in the bay. Third, a thermal impact on the bay is not of concern because the heated effluent is discharged outside the bay.

This concludes informal consultation for the proposed action. Consultation must be reinitiated where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and: (1) if new information becomes available revealing effects of the action on listed species in a manner or to an extent not previously considered, (2) if project plans change, (3) if the agency action is subsequently modified in a manner that causes an effect to listed species that was not considered, or (4) if a new species or critical habitat is designated that may be affected by this action. Anthony Spina is NMFS' representative for this specific consultation. Please call him at (562) 980-4045 if you have a question concerning this letter or if you require additional information.

Sincerely,

for Rodney R. McInnis
Acting Regional Administrator

IV - H

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
PAS 185.199.542

May 23, 2005

Gerardo C. Rios, Chief
Permits Office, Air Division
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105-3901

Subject: Biological Opinion for the Morro Bay Power Plant Modernization Project, Morro Bay, San Luis Obispo County, California (1-8-03-F-56)

Dear Mr. Rios:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion on the effects of your proposed authorization, pursuant to Part C of the Clean Air Act and regulations in 40 *Code of Federal Regulations* 52.21, for the modernization of the Morro Bay Power Plant (power plant), on the federally threatened California red-legged frog (*Rana aurora draytonii*), and the endangered Morro shoulderband snail (*Helminthoglypta walkeriana*) and tidewater goby (*Eucyclogobius newberryi*) in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act). We received your April 10, 2003, request for consultation on April 17, 2003.

This biological opinion is based on the following sources of information: the summary of project components and impacts to federally listed species (Huffman-Broadway Group 2004), the biological assessments (Huffman-Broadway Group 2001, 2002), electronic mail and discussions between staff of our agencies, and our files.

CONSULTATION HISTORY

On December 6, 2001, we received your letter dated November 27, 2001, requesting our concurrence that the proposed project was not likely to adversely affect any federally listed species. On January 18, 2002, we requested additional information regarding the effects of the proposed project on the California red-legged frog and Morro shoulderband snail. On December 9, 2002, we received a response to our request for additional information from the Huffman-Broadway Group (biological consultant to Duke Energy). Upon review of the biological assessment and the December 9, 2002 response letter, you determined the proposed project is likely to adversely affect the California red-legged frog, Morro shoulderband snail, tidewater goby, and the threatened southern sea otter (*Enhydra lutris nereis*) and western snowy plover (*Charadrius alexandrinus nivosus*).

On June 18, 2003, the Service, the Environmental Protection Agency (EPA), Duke Energy and the Huffman-Broadway Group participated in a telephone conference to discuss your determination of the effects of the proposed project on the California red-legged frog, Morro shoulderband snail, tidewater goby, southern sea otter and western snowy plover. At the conclusion of this telephone conference, the participants concurred that the proposed project would have no effect on the western snowy plover or southern sea otter, and that the proposed project may affect and is likely to adversely affect the California red-legged frog, Morro shoulderband snail, and tidewater goby.

On October 23, 2003, we requested Duke Energy to clarify the minimization measures it would include in its project description and summarize the effects of the proposed action. We received an updated list of minimization measures and a project summary from the Huffman-Broadway Group on September 2, 2004.

On April 13, 2004, we proposed critical habitat for the California red-legged frog (69 *Federal Register* 19620). The portions of the proposed project area that have been proposed for critical habitat do not support the primary constituent elements. In addition, the proposed project activities would occur outside the boundaries of designated critical habitat for the Morro shoulderband snail and tidewater goby. Consequently, this biological opinion does not address critical habitat for these species.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The EPA is considering the authorization of a Federal Prevention of Significant Deterioration permit in accordance with Part C of the Clean Air Act and regulations at 40 *Code of Federal Regulations* 52.21 for the modernization of the power plant. This authorization would be valid for the duration of the modernization project, approximately 5 years. This authorization would not give EPA the ability to maintain discretionary control over the operation of the power plant (Walters 2004).

The EPA's authorization would allow Duke Energy to replace the existing natural gas-fired, 1,002-megawatt power plant with a new 1,200-megawatt facility. The proposed project would be completed in three phases:

1. Demolition and removal of a fuel-oil tank farm located in the northwestern portion of the project site, adjacent to Morro Creek;

2. Construction of the new power plant in the former location of the tank farm; and

3. Demolition of three exhaust stacks and the old power plant.

Demolition of the tank farm would take approximately 3 months to complete. Construction of the new power plant would take approximately 21 months. During construction, a temporary sediment basin and drainage swales will be installed in the southwest corner of the new power plant site. The

demolition of the existing power plant and exhaust stacks would begin after commercial operation of the new power plant commences and would take 36 months.

In addition to these demolition and construction activities, the proposed project would include the following additional components. A complete description of the proposed project can be found in the final biological assessment (Huffman-Broadway Group 2002).

High Pressure Gas Pipeline
Horizontal directional boring would be used to drill under Willow Camp Creek, on the existing power plant site. The drill site would be located approximately 275 feet from the edge of the creek. The pipeline would be located approximately 20 feet below the creek bed and would surface approximately 305 feet from the creek.

Temporary Footbridge
Duke Energy would construct an 8-foot-wide, temporary footbridge across Willow Camp Creek to allow workers to get to the power plant from the on-site parking area, on the east side of the creek. The bridge would span the entire creek and be supported by an existing, 24-inch inactive fuel oil pipeline. Duke Energy will implement a re-vegetation plan following the removal of the temporary footbridge.

Embarcadero Extension, Access Road, and Morro Creek Bridge
Duke Energy proposes to pave an existing dirt road along the western boundary of the power plant site (Embarcadero Extension), from South Embarcadero Road to Morro Creek. Duke Energy would also construct a 24-foot-wide bridge across Morro Creek and a 24-foot-wide access road to the power plant from the Embarcadero Extension. Throughout the duration of the proposed project, construction and delivery traffic would access the power plant site from the north side of Morro Creek, using the new bridge, Embarcadero Extension, and new access road.

Emergency vehicles, pedestrians, and bicycles would have the use of the bridge during and after the proposed project is completed. No public or private vehicle traffic would be allowed on the bridge, other than emergency vehicles during emergency situations.

On-site Parking Area
A 4-acre area on the power plant site would be used as a temporary parking area during construction. This area is adjacent to Morro Creek and Willow Camp Creek.

Off-site Parking Area
Duke Energy would also use a 10-acre site for a temporary off-site parking area during construction. The site is between Morro Bay and Camp San Luis Obispo, adjacent to State Highway 1 and approximately 3 miles southeast of the power plant. Parking would be concentrated in the southern portion of the site, adjacent to Quintana Road. Camp San Luis Obispo is located approximately 7 miles southeast of Morro Bay along State Highway 1.

Off-site Staging Areas
Duke Energy would use five sites (A, B, C, D, and E) totaling 40 acres, on Camp San Luis Obispo, as temporary staging areas for heavy equipment and construction materials. Duke Energy would clear the areas of vegetation, grade them, line them with geotextile fabric, and cover them with crushed aggregate base.

Road Widening and Culvert Extensions
Access to off-site staging areas would be through the rear entrance of Camp San Luis Obispo, via Foothill Road and O'Conner Way. The intersection of these two roads cannot accommodate 18-wheel trucks. Therefore, Duke Energy proposes to widen the western portion of the intersection and extend an existing concrete box culvert approximately 25 feet.

Truck access from O'Conner Way to staging areas C and D would also require widening of a driveway and extending an existing pipe culvert. The culvert would be extended approximately 20 feet to the west and 20 feet to the east of the existing driveway. All culvert work would be completed during the dry season when both drainages are dry.

Minimization Measures
Duke Energy has proposed the following measures to minimize adverse effects to Morro shoulderband snails, California red-legged frogs, and tidewater gobies:

1. Prior to the onset of activities that result in disturbance to California red-legged frogs, Morro shoulderband snails, or their habitat, all project workers will be given information on the status of the listed species in the project area, a brief overview of the species' natural history, the protection afforded the species by the Endangered Species Act, and the specific protective measures to be followed during project construction. Videos, brochures, books, and briefings will be used in the education program, provided that a qualified biologist is present to answer any questions.

2. Duke Energy will designate a biologist to monitor on-site compliance with its proposed minimization measures. The monitor will have the authority to halt any action by Duke Energy or its contractors that may result in injury or mortality to California red-legged frogs or Morro shoulderband snails.

3. During project activities, all trash that may attract predators will be properly contained, removed from the work site regularly, and disposed of at an approved location. Following construction, Duke Energy will remove all trash and construction debris from work areas.

4. Fueling and maintenance of vehicles and other equipment will occur at least 60 feet from any wetland or riparian habitat. Prior to the onset of work, Duke Energy will prepare a spill prevention and response plan. All workers will be informed of the importance of preventing spills and of the appropriate response measures, should a spill occur.

5. Sediment runoff and erosion into creeks and drainages will be limited by the implementation of best management practices.

6. Prior to the start of construction related activities, a qualified biologist will inspect work areas and access routes for the presence of Morro shoulderband snails and California red-legged frogs. If Morro shoulderband snails or California red-legged frogs are found, they will be relocated to pre-determined, suitable habitat.

7. A qualified biologist will monitor project activities on a weekly basis at the power plant site to ensure that all practicable measures are being implemented to avoid disturbance to native plant communities or other habitat for the Morro shoulderband snail.

8. Unless maintenance is necessary, construction vehicles will remain on-site at the end of each workday to minimize the potential for disturbance to native vegetation and other Morro shoulderband snail habitat.

9. Construction area boundaries, access routes, and sensitive resource areas will be clearly delineated with stakes, flagging, construction fencing, or rope and signage to minimize inadvertent degradation or loss of sensitive habitat during construction.

10. Duke Energy will install permanent fences, signs, and informational kiosks in the dunes at the intersection of Atascadero Road and North Embarcadero Road and in the dunes along North Embarcadero Road, the Embarcadero Extension, and the access road to inform the public about threatened and endangered species in the area and to keep people from entering the dunes at unauthorized access points.

11. A qualified biologist will conduct daily surveys for Morro shoulderband snails during the installation of the dune fencing. Any Morro shoulderband snails found in work areas will be relocated out of harm's way to adjacent suitable habitat.

12. Prior to release of detained storm water, a qualified biologist will inspect the sediment basin for the presence of California red-legged frogs. If any California red-legged frogs are found, they will be relocated to appropriate habitat outside the construction zone. Detained storm water will be released as soon as feasible.

13. Construction of the Morro Creek Bridge will take place from upland areas. No work will take place in the stream channel, stream banks, or riparian areas. Silt fencing and sandbags will be installed around the perimeter of the work area to prevent sediment from entering the creek.

14. Disturbed areas of the project site associated with the installation of the high-pressure gas line and temporary footbridge will be re-vegetated with suitable native vegetation.

15. Construction of the temporary footbridge will take place during the dry season (mid-April to mid-October), when no rain is forecast for at least 7 days and little or no water is flowing in the streambed.

16. No motorized or heavy equipment will be used in the streambed or the stream banks within the footprint of the temporary footbridge. During the wet season, a weekly California red-legged

frog monitoring program will be implemented in the on- and off-site parking areas, and staging areas, while they are in use.

17. At the off-site parking area, a 300-foot-wide buffer will be established between the parking area and the western drainage and a 25-foot buffer will be established between the parking area and the eastern wetland swale.

18. Construction activities related to the O'Conner Way culvert improvements will take place during the dry season, when no rain is forecast for at least 7 days and when little or no water is flowing in the streambed. Silt fences and sandbags will be installed around the work area to prevent sediment discharges into the creek. Disturbed areas of the O'Conner Way culvert site will be re-vegetated with suitable native vegetation.

19. On a periodic basis, Duke Energy will continue to conduct befouling control of the cooling water intake structure, inspect the cooling water trash racks and intake screens, and dredge the intake area, which is necessary to maintain relatively low water velocities, and decrease the potential for entrainment and impingement of tidewater gobies.

STATUS OF THE SPECIES

California Red-legged Frog

The California red-legged frog was federally listed as threatened on May 23, 1996 (61 *Federal Register* 25813) and critical habitat was designated on March 13, 2001 (66 *Federal Register* 14625). On November 6, 2002, the United States District Court for the District of Columbia set aside the designation and ordered the Service to publish a new critical habitat proposal for the California red-legged frog by March 2004 (*Home Builders Association of Northern California et al. versus Gale A. Norton, Secretary of the Department of Interior et al.* Civil Action No. 01-1291 (RJL) U.S. District Court, District of Columbia). We re-proposed critical habitat for the California red-legged frog on April 13, 2004 (69 *Federal Register* 19620). We published a recovery plan for the California red-legged frog on May 28, 2002 (Service 2002).

Much of the following information on the biology of the California red-legged frog is based on Storer (1925), Jennings and Hayes (1985), and Jennings et al. (1992). This species is the largest native frog in the western United States, ranging from 1.5 to 5 inches in length. The abdomen and hind legs of adults are primarily red; the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers, and dorsolateral folds are prominent on the back. Tadpoles range from 0.6 to 3 inches in length and are dark brown and yellow with dark spots.

California red-legged frogs breed from November through March with earlier breeding records occurring in southern localities. California red-legged frogs typically lay their eggs during or shortly after large rainfall events in late winter and early spring. Embryos hatch 6 to 14 days after fertilization, and larvae require 3.5 to 7 months to attain metamorphosis. Sexual maturity normally is reached at 3 to 4 years of age; California red-legged frogs may live 8 to 10 years.

The diet of California red-legged frogs is highly variable. Larvae likely eat periphyton. The most common food items for adults and juveniles are invertebrates. However, vertebrates such as Pacific tree frogs (*Pseudacris regilla*) and California mice (*Peromyscus californicus*) can constitute over half of the prey mass eaten by larger individuals. Juveniles have been observed to be active diurnally and nocturnally, whereas adults are mainly nocturnal.

California red-legged frogs spend most of their lives in and near sheltered backwaters of ponds, marshes, springs, streams, and reservoirs. Deep pools with dense stands of overhanging willows (*Salix* spp.) and an intermixed fringe of cattails (*Typha* spp.) are considered optimal habitat. California red-legged frog eggs, larvae, transformed juveniles, and adults also have been found in ephemeral creeks, drainages, and in artificial ponds devoid of riparian or wetland vegetation. Each of the life stages has also been observed in artificial environments, such as stock ponds, sewage treatment ponds, irrigation ponds, wells, canals, golf course ponds, sand and gravel pits, and large reservoirs.

Access to sheltering habitat is essential for the survival of California red-legged frogs within a watershed and can be a factor limiting population numbers and distribution. Juvenile and adult California red-legged frogs have been observed in areas of riparian vegetation where they may use small mammal burrows, moist litter, and debris such as old boards. During wet periods (particularly winter and spring), California red-legged frogs may move long distances between aquatic habitats, often traveling through areas considered to be unsuitable habitat. California red-legged frogs may reach isolated aquatic habitats up to a mile away from the nearest known populations and have been found more than 2.25 miles from breeding habitat.

The California red-legged frog has been extirpated or nearly extirpated from 70 percent of its former range. At present, California red-legged frogs are known to occur in approximately 243 streams or drainages from 22 counties, primarily in central coastal California. Habitat loss and alteration, combined with over-exploitation and introduction of exotic predators, such as bullfrogs (*Rana catesbeiana*), were important factors in the decline of the California red-legged frog in the early to mid-1900s. Ongoing threats include habitat loss, fragmentation and degradation from urbanization, agricultural activities, and establishment of non-native vegetation and predators.

Morro Shoulderband Snail

On December 15, 1994, the Service listed the Morro shoulderband snail as endangered (50 *Federal Register* 64613). A recovery plan for the Morro shoulderband snail and four plants from western San Luis Obispo County was published in September 1998 (Service 1998). Critical habitat for the Morro shoulderband snail was designated on February 7, 2001 (66 *Federal Register* 9233).

The Morro shoulderband snail is a member of the land snail family Helminthoglyptidae. The genus *Helminthoglypta*, the shoulderband snails of California, is a complex of many species, each with a relatively small range and therefore relatively vulnerable to extinction (Burke et al. 1999).

The recovery plan for the Morro shoulderband snail describes its current distribution as areas south of Morro Bay, west of Los Osos Creek and north of Hazard Canyon (Service 1998). The species

occurs throughout the community of Los Osos and in the dunes north of Morro Bay. Although the geographic range of the Morro shoulderband snail is not fully known, we do not expect it to extend much beyond the region it is now known to inhabit (Walgren 2003). Roth and Tupen (2004) examined the systematic status of the Morro shoulderband snail.

The Morro shoulderband snail is found in the accumulated litter and on the undersides of low shrub branches in coastal dune scrub vegetation, particularly mock heather (*Ericameria ericoides*), seaside golden yarrow (*Eriophyllum staechadifolium)*, deerweed (*Lotus scoparius*), and dune almond (*Prunus fasciculata* var. *punctata*). Morro shoulderband snails have been found in introduced iceplant (*Mesembryanthemum* spp. and *Conicosia puginoniformis*) and fig-marigold (*Carpobrotus edulis*). In the past, researchers noted that the species was found most often in mock heather but this observation is not entirely consistent with more recent observations (Roth 1985; Hill 1974; Walgren 2002, 2003). Morro shoulderband snails seem to prefer shrubs of the coastal dune scrub community that exhibit dense, low growth with ample contact to the ground. Based on this observation, favorable microclimate for the species may depend on shrubs that provide partial shading and can act as windbreaks to moderate temperatures and moisture loss within accumulated plant litter.

Most active or non-aestivating Morro shoulderband snails are observed during moist environmental conditions when moisture availability likely facilitates the species' ability to find food and mates and disperse. Roth (1985) also proposed that, because the congeneric species, *Helminthoglypta arrosa*, copulates, lays eggs, and grows in size during the wet season, Morro shoulderband snails would be expected to exhibit similar general life history characteristics. In the dry season, Morro shoulderband snails typically aestivate in the accumulated litter or attach to low-lying branches of shrubs. Based on our present understanding of the Morro shoulderband snail, we assume the following: 1) Morro shoulderband snails typically deposit their eggs under shrubs within the accumulated leaf litter or other areas that contain the appropriate microclimates; 2) Morro shoulderband snail eggs likely hatch the same wet season they are laid; and 3) Morro shoulderband snail eggs become nonviable when they dry out.

The microclimate under shrubs provides the necessary moist and temperate environment for Morro shoulderband snails to survive the drier months of the year. Aestivating Morro shoulderband snails may suffer physiological stress or even death upon disturbance of shrubs and accumulated leaf litter if subsequently exposed to drier, hotter, or otherwise more desiccating conditions. However, no studies have been conducted to determine how Morro shoulderband snails are affected when disturbed during aestivation. Snails in this genus aestivate by producing an epiphragm (a seal of dried mucus in the aperture of the shell) to reduce water loss during seasonal periods of inactivity (i.e., dry season).

The greatest threat to the Morro shoulderband snail is loss of habitat through partial or complete removal of native vegetation. Habitat loss, fragmentation and degradation can result from urban development and by invasion of non-native plant species, particularly veldt grass (*Ehrharta calycina*). Although Morro shoulderband snails have been found in non-native iceplant and veldt grass, if left unchecked these invasive plants can dominate native plant communities and exclude native plants, rendering the habitat unsuitable for Morro shoulderband snails. Because dehydration

is a major threat to terrestrial mollusks, shrub species are needed as partial shading and to provide windbreaks that reduce the drying effect of wind at ground level. Woody debris also provides shelter for Morro shoulderband snails and may act as a source of nutrients for fungi, a potential food source for Morro shoulderband snails.

Other threats to the species include direct trampling, soil disturbance, and soil compaction caused by horses, human activities, and off-road vehicles. Morro shoulderband snails may also be threatened by the application or spilling of chemicals, including pesticides, herbicides, fertilizers, and fire retardants. The senescence of dune vegetation may also threaten their survival; older shrubs that no longer contact the ground may not provide the necessary microclimate, in terms of temperature and moisture in the accumulated litter.

Tidewater Goby

The tidewater goby was listed as endangered on March 7, 1994 (59 *Federal Register* 5494). We published a draft recovery plan for the tidewater goby on November 18, 2004 (Service 2004). On June 24, 1999, we proposed to delist the remaining northern populations of the tidewater goby (64 *Federal Register* 33816). In the same rule, we defined a southern distinct population segment as those populations occurring in San Diego and Orange counties. Critical habitat was designated for the southern distinct population segment on November 20, 2000 (65 *Federal Register* 69693). We withdrew our proposal to delist the northern populations of the tidewater goby on November 7, 2002 (64 *Federal Register* 67803). Detailed information on the biology of the tidewater goby can be found in Wang (1982), Irwin and Soltz (1984), Swift et al. (1989), Worcester (1992), and Swenson (1995); much of the information from this account was taken from these sources.

The tidewater goby is a small, elongate, gray-brown fish with dusky fins. Individuals rarely exceed 2 inches standard length. The tidewater goby typically occurs in coastal lagoons, estuaries, and marshes with relatively low salinities (approximately 10 parts per thousand [ppt]). Its habitat is characterized by brackish shallow lagoons and lower stream reaches where the water is fairly still but not stagnant. However, tidewater gobies can withstand a range of habitat conditions. They have been documented in waters with salinity levels from 0 to 42 ppt, temperatures from 46 to 77 degrees Fahrenheit, depths from 10 to 79 inches, and dissolved oxygen levels of less than 1 milligram per liter.

Tidewater gobies may range upstream into freshwater. In San Antonio Creek and the Santa Ynez River, Santa Barbara County, tidewater gobies are often found 2 to 3 miles upstream of the tidal or lagoon areas, sometimes in sections of streams impounded by beavers (*Castor canadensis*). Conversely, tidewater gobies enter marine environments when sandbars are breached during storm events. The species' tolerance of high salinities (up to 60 ppt) for shorter time periods probably enables it to withstand salinities in the marine environment (approximately 35 ppt of seawater), allowing it to colonize or re-establish in lagoons and estuaries following flood events.

The tidewater goby is primarily an annual species in central and southern California, although some variation has been observed. If reproductive output during a single season fails, few, if any,

tidewater gobies survive into the next year. For this reason, populations are exceedingly sensitive to short-term adverse environmental conditions. In one notable case, a population estimated at between 10,000 and 30,000 individuals was extirpated after a single construction project (Swift and Holland 1998). However, recent research suggests that tidewater gobies have adapted to climatically dynamic conditions and are adept at recolonizing sites from which they have been extirpated (Lafferty et al. 1999a).

Reproduction peaks from late April or May to July and can continue into November or December depending on seasonal temperatures and rainfall. Males begin the breeding ritual by digging burrows (3 to 4 inches deep) in clean coarse sand. Females then deposit eggs into the burrows at an average of 400 eggs per spawning effort (Swenson 1999). Males remain in the burrows to guard the eggs and frequently forgo feeding during this period, possibly contributing to the mid-summer mortality noted in some populations. Within 9 to 10 days, larvae emerge at approximately 0.2 to 0.3 inch standard length. The larvae live in vegetated areas within the lagoon until they are 0.6 to 0.7 inch long, when they become substrate oriented, spending the majority of time on the bottom rather than in the water column. Both males and females can breed more than once per season, with a lifetime reproductive potential of 3 to 12 spawning events.

Tidewater gobies feed on small invertebrates, usually mysids, amphipods, ostracods, snails, and aquatic insect larvae, particularly dipterans. Small tidewater gobies (0.16 to 0.32 inch long) probably feed on unicellular phytoplankton or zooplankton similar to many other early stage larval fishes (Swenson and McCray 1996).

Historically, the tidewater goby occurred in California coastal lagoons from Tillas Slough near the Oregon border to Agua Hedionda Lagoon in northern San Diego County. Swift et al. (1989) reported 87 localities where the tidewater goby was historically known to occur, although 124 localities are currently known (Service 2004).

Twenty-eight (23 percent) of the 124 documented locations are considered extirpated and 55 to 70 (45 to 55 percent) localities are naturally so small or have been degraded over time that long-term persistence is uncertain (Service 2004). Today, the most stable populations are in lagoons and estuaries of intermediate sizes (5 to 124 acres) that have remained relatively unaffected by human activities. These populations have probably provided colonists for nearby smaller ephemeral sites (Swift et al. 1997, Lafferty et al. 1999b).

Losses of tidewater goby populations can be attributed primarily to urban, agricultural and industrial development in and surrounding coastal wetlands and alteration of habitats from seasonally closed lagoons to tidal bays and harbors. Some extirpations are believed to be related to pollution, upstream water diversions, and the introduction of exotic fish species (most notably sunfishes and black basses, family Centrarchidae). These threats continue to affect some of the remaining populations of tidewater gobies. Tidewater gobies have been extirpated from several water bodies that are impaired by degraded water quality (e.g., Mugu Lagoon, Ventura County), but still occur in others (e.g., Santa Clara River, Ventura County).

ENVIRONMENTAL BASELINE

The implementing regulations for section 7(a)(2) of the Act define the "action area" as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 *Code of Federal Regulations* 402.02). California red-legged frogs may be found in the off-site parking area adjacent to State Highway 1 and Quintana Road; in the off-site staging areas (A, B, C, D, and E) at Camp San Luis Obispo; in the drainage at the intersection of O'Conner Way and the driveway to staging areas C and D; and in the drainage at the intersection of O'Conner Way and Foothill Road. Morro shoulderband snails may be found in the dune areas proposed for: permanent fencing at the intersection of Atascadero Road and North Embarcadero Road and along North Embarcadero Road and the Embarcadero Extension; and the temporary access road adjacent to the tank farm. Tidewater gobies may occur near the power plant's cooling water intake structure in Morro Bay. For the purposes of this biological opinion, these areas comprise the action area.

California Red-legged Frog

California red-legged frogs have been documented in an unnamed drainage, approximately 0.2 mile from proposed staging areas A, B, and E, and approximately 0.62 mile from staging areas C and D. The proposed staging areas are either paved or disturbed areas dominated by annual grasses and forbs. California red-legged frogs have also been documented approximately 0.62 mile from the intersection of O'Conner Way and the driveway to staging areas C and D, where culvert improvements would occur (Huffman-Broadway Group 2001). The culvert is located in an unnamed, ephemeral drainage ditch, approximately 3 feet wide, that is mowed for fire abatement during the dry season.

Culvert improvements would also take place in an unnamed, drainage ditch at the intersection of O'Conner Way and Foothill Road. This location is approximately 1.2 miles from the nearest California red-legged frog occurrence. The drainage ditch is approximately 10 feet wide and has a gravel substrate. The drainage ditch is vegetated primarily with grassland species.

California red-legged frogs are not known from the power plant site or from Morro and Willow Camp Creeks, adjacent to the power plant site. No California red-legged frogs were identified during four protocol surveys of Morro Creek conducted on August 7, 2000, and May 21, 2001, or during two protocol surveys of Willow Camp Creek conducted on May 20 and May 21, 2001 (Schneider 2001). Portions of the on-site parking area are heavily disturbed and do not support any vegetation; other portions of this area support introduced grasses, ornamental trees, and shrubs. Duke Energy currently uses this area to dispose of kelp and other materials collected from the cooling water intake.

Duke Energy has not conducted surveys for California red-legged frogs in the proposed off-site parking area. The nearest known occurrence of California red-legged frogs to the off-site parking area is in San Bernardo Creek, approximately 0.2 mile to the northwest, in the vicinity of Highway 1. Parking would be concentrated in the southern portion of the site. The majority of the 10-acre site is used for hay crop cultivation. A veterinary clinic is located on the western portion of the site. Two ephemeral drainages also occur on the site. On the west side of the site, a 6- to 8-

foot-wide, channelized drainage runs north to south. On the east side of the site, a small swale parallels Highway 1. The lower portion of the swale is periodically mowed for fire abatement. Neither of the drainages provide breeding habitat or permanent aquatic habitat for California red-legged frogs. Highway 1 borders the site to the north and Quintana Road to the south. Surrounding land uses include cultivated farmland, grazing, and commercial and residential development.

Morro Shoulderband Snail

No live Morro shoulderband snails were found on the power plant site during 43 hours of protocol surveys and 10 hours of non-protocol surveys, conducted by the Morro Group (2001). The Morro Group found two weathered Morro shoulderband snail shells on the power plant site: one in a highly disturbed, industrial area; another on top of a vegetated slope along the southern boundary of the property. Morro shoulderband snails may have historically occupied the area, but we do not believe they are currently present at the power plant site. Morro shoulderband snails have been documented in ice plant around the intersection of North Embarcadero Road and Atascadero Road, and in degraded coastal dune scrub habitat adjacent to the Embarcadero Extension, where Duke Energy will install permanent fencing (Walgren 2001, Huffman-Broadway 2002).

Tidewater Goby

Tidewater gobies occurred historically in Morro Creek and Chorro Creek and are known to currently occupy Los Osos Creek (Service 2004). Tidewater gobies were not found among 84,000 larval specimens collected weekly over 30 months in two studies of the power plant's cooling water intake structure (Huffman-Broadway 2002, Jacobs 2001, Tenera Environmental Services 2001). The area around the cooling water intake structure is regularly dredged and does not provide suitable habitat conditions for tidewater gobies.

EFFECTS OF THE ACTION

California Red-legged Frog

California red-legged frogs could be injured or killed by heavy equipment and vehicles while dispersing through, or sheltering in the staging areas on Camp San Luis Obispo and the off-site parking area. To minimize potential adverse effects, a Service-approved biologist will conduct pre-construction surveys of all work areas and relocate any California red-legged frogs in the work areas to adjacent suitable habitat.

California red-legged frogs could be injured or killed by heavy equipment during the proposed culvert widening near the rear entrance to Camp San Luis Obispo and the intersection of O'Conner Way and Foothill Road. However, because the proposed work would be conducted in the dry season and the drainages are ephemeral, we do not anticipate California red-legged frogs will be in this work area during construction. A Service-approved biologist will conduct pre-construction surveys and on-site monitoring during the construction, and relocate any California red-legged frogs found in the construction area to nearby suitable habitat.

California red-legged frogs could be injured or killed if they are improperly handled during capture and translocation efforts. However, only Service-approved biologists would capture and relocate California red-legged frogs; using experienced biologists should reduce the potential for this adverse effect.

Accidental spills or careless use of hazardous materials, such as fuel and lubricants, could degrade water quality or upland habitat to the degree that California red-legged frogs are adversely affected or killed. The potential for these effects to occur would be reduced through the implementation of the vehicle fueling and maintenance measures described in the project description of this biological opinion.

Predators of California red-legged frogs may be attracted to project sites if food-related items and garbage are not regularly emptied. Uninformed workers may intentionally or unintentionally disturb, injure, harm, or kill California red-legged frogs. The proposed worker education program and the trash and food debris removal measures proposed by Duke Energy will likely minimize these potential adverse effects to California red-legged frogs.

Adverse effects to California red-legged frogs associated with the proposed project would be short-term and would not extend beyond the duration of the project (approximately 5 years). Because we do not anticipate California red-legged frogs to be in the work areas during construction, and there would be no effect to breeding habitat, the proposed project would not affect reproduction in the local population of this species. The action area for the proposed project constitutes a small portion of the range and geographic distribution of the California red-legged frog. Consequently, we do not expect the proposed action to substantially affect the overall population or distribution of this species.

Morro Shoulderband Snail

Morro Shoulderband snails may be injured or killed during the installation of fencing along the Embarcadero Extension, North Embarcadero Road, and intersection of North Embarcadero and Atascadero Roads. Morro shoulderband snails could also be injured or killed during construction of the temporary access road through the dunes adjacent to the tank farm. To minimize adverse effects to Morro shoulderband snails, a Service-approved biologist will conduct pre-construction surveys and relocate any Morro shoulderband snails found within the work area to nearby suitable habitat.

Morro shoulderband snails may also be adversely affected during surveys, capture, and relocation if they are accidentally mishandled or stepped on. Duke Energy proposes to minimize these adverse effects by ensuring only Service-approved biologists conduct surveys, capture, and relocation activities.

Adverse effects to occupied Morro shoulderband snail habitat during the installation of fencing would be temporary. Installation of the proposed fencing may be beneficial to individual Morro shoulderband snails by limiting encroachment into occupied dune habitat and minimizing the potential for Morro shoulderband snails to be crushed by people walking through the habitat. However, the protection of these areas that are dominated by ice plant may contribute toward the

spread of this invasive plant and the further degradation of coastal dune scrub, which is natural habitat of Morro shoulderband snails.

The amount of occupied Morro shoulderband snail habitat (approximately 0.33 acre) that would be adversely affected by the proposed project is small relative to the amount of occupied habitat immediately north of the action area (approximately 30 acres) and south of the action area in Los Osos (approximately 3,000 acres). Consequently, the proposed project would not have a substantial effect on the overall population of Morro shoulderband snails.

Tidewater Goby

Tidewater gobies may be flushed into Morro Bay from Los Osos Creek during large storm events. If tidewater gobies were flushed far enough into Morro Bay to reach the cooling water intake structure, they could be killed or injured by entrainment or impingement. However, we believe the likelihood that this scenario will occur is remote because the area around the cooling water intake structure is regularly dredged and does not provide suitable habitat for tidewater gobies.

Duke Energy estimates that operation of the new cooling water system would use 30 percent less seawater than the existing power plant and water velocity at the cooling water intake structure would be reduced from 0.37 to 0.30 foot per second. Therefore, we anticipate a lower potential for tidewater gobies to be injured or killed as a result of the proposed project than under the current scenario.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this biological opinion because they require separate consultation pursuant to section 7 of the Act. We are not aware of any future State, tribal, or Federal actions that are reasonably certain to occur in the action area. Any future actions at Camp San Luis Obispo will be subject to the consultation requirements of section 7(a)(2) of the Act and therefore are not cumulative to the proposed action.

CONCLUSION

After reviewing the current status of the California red-legged frog, Morro shoulderband snail and tidewater goby, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that EPA's authorization of the Morro Bay Power Plant modernization project, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog, Morro shoulderband snail or tidewater goby. We have reached this conclusion for the following reasons.

1. Numerous measures will be implemented to minimize any potential adverse effects to California red-legged frogs and Morro shoulderband snails.

2. We anticipate that only a small portion of the overall California red-legged frog and Morro shoulderband snail populations and their range-wide habitats are likely to be adversely affected by the proposed project.

3. Tidewater gobies and their habitat (brackish lagoons and lower stream reaches) have not been documented in the vicinity of the cooling water intake structure.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary and the EPA must ensure that they become binding conditions of its authorization to Duke Energy for the exemption in section 7(o)(2) to apply. The EPA has a continuing duty to regulate the activity covered by this incidental take statement. If the EPA fails to require Duke Energy to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the EPA or Duke Energy must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 *Code of Federal Regulations* 402.14(I)(3)].

We anticipate that the following forms of incidental take may result from the proposed activities:

1. Few California red-legged frogs in the form of injury or mortality.

2. A low number of adult and juvenile California red-legged frogs in the action area in the form of harassment as a result of capture and relocation effort.

3. Morro shoulderband snails could be incidentally taken in the form of injury or mortality. Because of its small size, cryptic coloration, and behavior (feeding, crawling, resting, or aestivating beneath decayed plant litter, on the lower limbs of shrubs, or on equipment and vehicles), finding dead or injured Morro shoulderband snails is difficult. Therefore, we are unable to anticipate the exact number of Morro shoulderband snails that would be taken through injury or mortality. In addition, we do not have a reliable population estimate of the

number of Morro shoulderband snails in the action area. We are unable to anticipate the exact number of Morro shoulderband snails that would be taken through harassment; however, we anticipate that all Morro shoulderband snails found in the construction footprints of the proposed dune fencing will be taken in the form of harassment during capture and relocation. We also anticipate that an undeterminable number of Morro shoulderband snails which are not found and relocated, will be taken through injury or mortality during installation of the fencing.

4. We do not anticipate the proposed action will incidentally take any tidewater gobies. However, if any tidewater gobies are found dead or injured within the cooling water intake system, the EPA or Duke Energy must contact our office immediately so we can review the project activities to determine if additional protective measures are needed.

This biological opinion does not exempt any activity from the prohibitions against take contained in section 9 of the Act that is not incidental to the action as described in this biological opinion. Take that occurs outside of the demarcated work areas or from any activity not described in this biological opinion is not exempted from the prohibitions against take described in section 9 of the Act.

REASONABLE AND PRUDENT MEASURES

We believe the following reasonable and prudent measures are necessary and appropriate to minimize take of California red-legged frogs and Morro shoulderband snails.

1. The pre-construction training sessions, monitoring work activities, capturing, handling, and relocating California red-legged frogs and Morro shoulderband snails must be conducted only by Service-approved biologists

The Service's evaluation of the effects of the proposed action includes consideration of the minimization measures proposed by Duke Energy and included in the Description of the Proposed Action section of this biological opinion. Any subsequent changes to these measures may constitute a modification of the proposed action and may warrant re-initiation of formal consultation, as specified at 50 *Code of Federal Regulations* 402.16. These reasonable and prudent measures are intended to supplement the protective measures that were proposed by Duke Energy as part of the proposed action.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the EPA and Duke Energy must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline reporting and monitoring requirements. These terms and conditions are non-discretionary.

1. The following terms and conditions implement reasonable and prudent measure 1.

a. The EPA or Duke Energy must request our approval of any biologist it wishes to conduct activities with California red-legged frogs and Morro shoulderband snails. The names and credentials of the biologists must be supplied to the Service for our review and approval at least 30 days prior to conducting the activities.

b. At a minimum, the pre-construction training sessions must include a description of the California red-legged frog and Morro shoulderband snail and their habitats; the general provisions of the Act; the necessity for adhering to the provisions of the Act; the penalties associated with violating the provisions of the Act; the specific measures that are being implemented to conserve the species as they relate to the project; and the boundaries of the project within which it must be accomplished

c. If more than one (1) adult or juvenile California red-legged frog or more than three (3) Morro shoulderband snails are found dead or injured during implementation of the project, the EPA or Duke Energy must contact our office immediately so we can review the project activities to determine if additional protective measures are needed. Project activities may continue during this review period, provided that all protective measures and the terms and conditions of this biological opinion have been and continue to be implemented.

REPORTING REQUIREMENTS

The EPA must ensure that Duke Energy provides us a written annual report by March 1 for each year that activities are conducted pursuant to this biological opinion. The report must include, but not be limited to, the following:

1. A brief discussion of the activities completed;

2. Any incidental take that resulted from the implementation of the proposed project, including the form of take, and when and where the take occurred;

3. Whether any California red-legged frogs or Morro shoulderband snails were relocated, including the location of the release sites, and habitat types present in the release site;

4. The acreage of habitat which has been enhanced or restored;

5. The number of California red-legged frogs and Morro shoulderband snails killed or injured during work activities;

6. The disposition of any dead or injured animals; and

7. Any recommendations regarding modifications to the measures described in this biological opinion, or additional measures to improve or maintain protection of the California red-legged frog, Morro shoulderband snail, and tidewater goby.

DISPOSITION OF DEAD OR INJURED SPECIMENS

Upon locating a dead or injured California red-legged frog or Morro shoulderband snail, the Service's Division of Law Enforcement (370 Amapola Avenue, Suite 114, Torrance, California 90501) must be notified in writing by facsimile (310/328-6399) within 3 working days of its finding. You must also notify the Ventura Fish and Wildlife Office (2493 Portola Road, Suite B, Ventura, California 93003; 805/644-1766) by telephone and in writing. The report must include the date, time, location of the dead or injured individual, a photograph, cause of death if known, and any other pertinent information.

Care must be taken in handling injured California red-legged frogs to prevent additional injury. Injured California red-legged frogs may be released to the wild after receipt of concurrence from the Service. Live Morro shoulderband snails found with damaged shells must be placed under dense native vegetation outside of the work areas.

Dead California red-legged frogs and Morro shoulderband snails must be preserved in accordance with standard specimen preservation methods. The remains must then be deposited with an educational or research institution that holds the appropriate State and Federal permits in accordance with relevant permit conditions, such as the following: for California red-legged frogs, the Santa Barbara Natural History Museum (contact Paul Collins,Vertebrate Zoology Department, 2559 Puesta del Sol, Santa Barbara, California 93105, telephone 805/682-4711); and for Morro shoulderband snails, the California Academy of Sciences (contact Dave Kavanaugh, Entomology Department, Golden Gate Park, San Francisco, California 94118, telephone 415/750-7037).

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that Duke Energy use individuals holding 10(a)1(A) permits for Morro shoulderband snail habitat restoration to remove ice plant and restore coastal dune scrub habitat in areas where they would install permanent fencing. This would help reduce further degradation of native plant communities.

2. We recommend that Duke Energy develop and implement a long-term program to remove non-native species from Morro Creek. This would help restore the natural ecosystem in the creek.

REINITIATION NOTICE

This concludes formal consultation on the effects of your proposed authorization of the modernization of the Morro Bay Power Plant. As provided in 50 *Code of Federal Regulations* 402.16, reinitiation of formal consultation is required where discretionary Federal agency

involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

Please contact Chris Kofron of my staff at (805) 644-1766 extension 303 if you have any questions.

Sincerely,

Diane K. Noda
Field Supervisor

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V - A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

June 19, 2001

Mr. David W. Dixon
Engineering Division Supervisor
San Luis Obispo Air Pollution Control District
3433 Roberto Court
San Luis Obispo, CA 93401

Re: Preliminary Determination of Compliance for Duke Energy Morro Bay LLC
CEC Docket Number 00-AFC-12

Dear Mr. Dixon:

I am writing to you concerning the Preliminary Determination of Compliance ("PDOC") for the proposed Duke Energy Morro Bay LLC project. We appreciate the opportunity to comment on the PDOC for this project. We have two comments concerning Best Available Control Technology ("BACT"):

1. **BACT for NO_x Emissions**

Although we have not seen the San Luis Obispo Air Pollution Control District ("District") top-down BACT analysis for this project, we believe the BACT limit for NO_x should be set at 2.0 ppmvd on a 1-hour rolling average. The San Joaquin Valley Unified Air Pollution Control District recently determined NO_x BACT to be 2 ppmvd @ 15% O_2 averaged over 1-hour for a similar project, the Midway Sunset Cogeneration Company 500 MW natural gas-fired combined-cycle power plant project nears Fellows, California (December 14, 2000, Notice of Final Determination of Compliance, CEC Docket No. 99-AFC-9). We also expect that 5 ppmvd ammonia slip can be achieved at the 2.0 ppmvd NO_x level.

2. **BACT for CO Emissions**

EPA believes that presumptive BACT for CO for this project, unless the data from the BACT analysis show otherwise, to be 2.0 ppmvd on a 3-hour rolling average, not the 6.0 ppmvd 3-hour rolling average that is specified in the PDOC.

We ask that the District address our comments before issuing a final Determination of Compliance. We look forward to working with you on these comments. If you have any questions, please contact me at (415) 744-1259 or have your staff contact Mark Sims at (415) 744-1229.

Sincerely,

for Gerardo Rios
Acting Chief
Air Permits Office

cc: Mr. Wayne Hoffman (Duke Energy)
Ms. Nancy Matthews (Sierra Research)
Mr. Gary Willey (SLOAPCD)
Mr. Mike Tollstrup (CARB)
Mr. Magdy Badr (CEC)

V-B

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, California 94105-3901

November 27, 2001

Ms. Diane Noda
Field Supervisor
U.S. Fish and Wildlife Service
Ventura Office
2493 Portola Road, Suite B
Ventura, CA 93003

Re: Designation of Non-Federal Representative and Request for Concurrence with EPA Finding of No Likely Adverse Effect under Section 7 of the ESA for the Morro Bay Power Plant Modernization Project, Morro Bay, San Luis Obispo County, California

Dear Ms. Noda:

By this letter, the U.S. Environmental Protection Agency, Region IX ("EPA") seeks to conclude informal consultation under Section 7 of the Endangered Species Act ("ESA") between EPA and the U.S. Fish and Wildlife Service ("Service") regarding the Morro Bay Power Plant Modernization Project ("Project"). Duke Energy Morro Bay LLC ("Duke Energy") has applied to EPA for a Federal Prevention of Significant Deterioration ("PSD") permit as required by Part C of the Clean Air Act and regulations at 40 C.F.R. § 52.21. Background information on the PSD program and more detailed information regarding the Project and this consultation are included below.

Background on PSD Program

EPA is responsible for complying with ESA Section 7 requirements with respect to Federal PSD permitting. Because the Project may affect listed species and/or critical habitat, EPA will not issue a final PSD permit for the Project until EPA has determined that the permit issuance will be consistent with the substantive and procedural requirements of the ESA.

Informal Consultation, Designation of Non-Federal Representative, and Request for Concurrence under Section 7 of the ESA

EPA and Duke Energy have been engaged in informal consultation with your office regarding the Project. This letter confirms that EPA has designated the applicant for this Project, Duke Energy, as EPA's non-Federal representative for purposes of conducting informal consultation and preparing a biological assessment under ESA Section 7, in accordance with 50 C.F.R. § 402.08. Duke Energy and its consultants have assisted with preparation of documents constituting the Final Biological Assessment, dated November 2001, regarding the effects of the

Project on listed species and critical habitat. The biological assessment provides an analysis of the Project's effects on listed species (most notably the California Red-Legged Frog) and critical habitat, and includes information on background/critical habitat, survey methodology and results, occurrence and potential occurrence, potential project effects and impacts, and mitigation measures. It is our understanding that your office already has copies of a number of these documents, so we are not forwarding them to you with this letter. The following attachments to the Final Biological Assessment you do not have, but will be sent to you directly under separate cover from Duke Energy:

Attachment 16	Draft Coastal Dune Enhancement/Restoration Plan
Attachment 17	Draft Stream Protection Plan
Attachment 18	Plant Species List for Landscaping Plan
Attachment 19	O'Conner Way Culvert Widenings Assessment
Attachment 20	Draft Storm Water Pollution Prevention Plan
Attachment 29	Draft Biological Resources Mitigation Implementation and Monitoring Plan

As part of the informal consultation process, Duke Energy has discussed with the Service directly, and has agreed to take, a number of measures that would avoid or minimize the effects associated with the Project. These measures are detailed in the November 2001 Final Biological Assessment. With the incorporation of the measures for minimizing and avoiding effects to listed species and critical habitat, EPA finds, under Section 7 of the ESA, that the Project is not likely to adversely affect listed species or critical habitat, in accordance with 50 C.F.R. §§ 402.13 and 402.14(b). I am writing to request written concurrence from the Service with this finding. If your office does not concur with this finding, please consider this letter a request to initiate formal consultation for the Project.

If you have any questions regarding this request or the Project, please contact Mark Sims of my staff at (415) 972-3965.

Sincerely,

Gerardo Rios, Chief
Permits Office
Air Division

cc: Ms. Catrina Martin, USFWS
Ms. Carol Tyson, USFWS
Mr. Jonathan Lilien, Huffman-Broadway Group
Mr. Wayne Hoffman, Duke Energy
Mr. Dick Anderson, CEC

V-C

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, California 94105-3901

November 30, 2001

Mr. James Lecky
Assistant Regional Administrator for Protected Species
National Marine Fisheries Service
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, CA 90802-4213

Re: Designation of Non-Federal Representative and Request for Concurrence with EPA Finding of No Likely Adverse Effect under Section 7 of the ESA for the Morro Bay Power Plant Modernization Project, Morro Bay, San Luis Obispo County, California

Dear Mr. Lecky:

By this letter, the U.S. Environmental Protection Agency, Region IX ("EPA") seeks to conclude informal consultation under Section 7 of the Endangered Species Act ("ESA") between EPA and the National Marine Fisheries Service ("NMFS") regarding the Morro Bay Power Plant Modernization Project ("Project"). Duke Energy Morro Bay LLC ("Duke Energy") has applied to EPA for a Federal Prevention of Significant Deterioration ("PSD") permit as required by Part C of the Clean Air Act and regulations at 40 C.F.R. § 52.21. Background information on the PSD program and more detailed information regarding the Project and this consultation are included below.

Background on PSD Program

EPA is responsible for complying with ESA Section 7 requirements with respect to Federal PSD permitting. Because the Project may affect listed species and/or critical habitat, EPA will not issue a final PSD permit for the Project until EPA has determined that the permit issuance will be consistent with the substantive and procedural requirements of the ESA.

Informal Consultation, Designation of Non-Federal Representative, and Request for Concurrence under Section 7 of the ESA

EPA and Duke Energy have been engaged in informal consultation with your office regarding the Project. This letter confirms that EPA has designated the applicant for this Project, Duke Energy, as EPA's non-Federal representative for purposes of conducting informal consultation and preparing a biological assessment under ESA Section 7, in accordance with 50 C.F.R. § 402.08. Duke Energy and its consultants have assisted with preparation of documents constituting the Final Biological Assessment, dated November 2001, regarding the effects of the

Project on listed species and critical habitat. The biological assessment provides an analysis of the Project's effects on listed species (notably the South Central California Coast Steelhead) and critical habitat, and includes information on background/critical habitat, survey methodology and results, occurrence and potential occurrence, potential project effects and impacts, and mitigation measures. It is our understanding that your office already has copies of a number of these documents, so we are not forwarding them to you with this letter. The following attachments to the Final Biological Assessment you do not have, but will be sent to you directly under separate cover from Duke Energy:

Attachment 16	Draft Coastal Dune Enhancement/Restoration Plan
Attachment 17	Draft Stream Protection Plan
Attachment 18	Plant Species List for Landscaping Plan
Attachment 19	O'Conner Way Culvert Widenings Assessment
Attachment 20	Draft Storm Water Pollution Prevention Plan
Attachment 29	Draft Biological Resources Mitigation Implementation and Monitoring Plan

As part of the informal consultation process, Duke Energy has discussed with both NMFS and the U.S. Fish and Wildlife Service directly, and has agreed to take, a number of measures that would avoid or minimize the effects associated with the Project. These measures are detailed in the November 2001 Final Biological Assessment. With the incorporation of the measures for minimizing and avoiding effects to listed species and critical habitat, EPA finds, under Section 7 of the ESA, that the Project is not likely to adversely affect listed species or critical habitat, in accordance with 50 C.F.R. §§ 402.13 and 402.14(b). I am writing to request written concurrence from NMFS with this finding.

If you have any questions regarding this request or the Project, please contact Mark Sims of my staff at (415) 972-3965.

Sincerely,

Gerardo Rios, Chief
Permits Office
Air Division

cc: Mr. Bryant Chesney, NMFS
Mr. Jonathan Lilien, Huffman-Broadway Group
Mr. Wayne Hoffman, Duke Energy
Mr. Dick Anderson, CEC

V-D

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

June 21, 2005

Mr. James White
Regional Manager
Environmental Health and Safety
Duke Energy Morro Bay LLC
Morro Bay Power Plant
1290 Embarcadero
Morro Bay, CA 93442

re: PSD Permit Application for Duke Energy Morro Bay LLC
Morro Bay Power Plant Modernization Project
(Proposed PSD Permit Number SCC 2005-01)

Dear Mr. White:

This letter is to notify you that the U.S. Environmental Protection Agency ("EPA") has received the final Biological Opinion ("BO") dated May 23, 2005, from the U.S. Fish and Wildlife Service ("FWS"). FWS issued the BO in accordance with section 7 of the federal Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)("ESA") concerning the proposed Duke Energy Morro Bay LLC ("Duke Energy") Morro Bay Power Plant Modernization Project. This letter will clarify for the applicant the remaining few steps that we have determined are necessary and appropriate to ensure that the issuance of the federal Prevention of Significant Deterioration ("PSD") permit by EPA pursuant to 40 CFR § 52.21 is consistent with the requirements of the ESA.

As you know, the Morro Bay Power Plant Modernization Project ("Project") is a "major modification" of criteria air pollution, specifically PM_{10}, and is thus required to obtain a federal PSD permit. We have determined that issuance of this federal PSD permit is an action that is subject to the consultation requirements of section 7 of the ESA. Pursuant to ESA section 7, EPA is required to ensure that this PSD permitting action is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of such species' designated critical habitat. Section 7 requires EPA to consult with the FWS on the proposed project, and EPA requested consultation with FWS.

The BO concludes that the Project, as proposed (including measures specified in the BO), is not likely to jeopardize the continued existence of the federally threatened California red-legged frog, and the endangered Morro shoulderband snail or tidewater goby. The BO includes reasonable and prudent measures ("RPMs") that are necessary and appropriate to minimize the impact of the Project on the take of California red-legged frogs and Morro shoulderband snails,

V-E

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

May 10, 2006

Mr. Steve Goschke
Plant Manager
Morro Bay Power Plant
LSP Morro Bay, LLC
1290 Embarcadero Road
Morro Bay, CA 93442

Re: Request for Prevention of Significant Deterioration (PSD) Permit
(Morro Bay Power Plant Modernization Project, SCC 2005-01)

Dear Mr. Goschke:

This letter and the enclosures are in response to your October 2000 application, which was supplemented on June 23, 2005, for a PSD permit for the LSP Morro Bay, LLC (formerly Duke Energy Morro Bay, LLC) Morro Bay Power Plant Modernization Project located in Morro Bay, California. Enclosed are the proposed PSD permit and Ambient Air Quality Impact Report.

The public comment period will commence in the near future. Comments on this proposed action may be submitted to the EPA Region 9 office in San Francisco, ATTN: Mark Sims, for a period of thirty (30) days from the start of the public comment period. Should there be a significant degree of public comment with respect to the proposed action, EPA may choose to hold a public hearing. Unless substantive new information is forthcoming, a final decision on the proposed action will be taken within thirty (30) days from the close of the public comment period. The final permit action will be effective thirty (30) days following LSP Morro Bay, LLC's receipt of EPA's final decision unless:

1. Review is requested under 40 CFR § 124.19; or

2. No comments were received requesting a change to the permit action, in which case the permit shall become effective immediately upon issuance of EPA's final decision.

V-F

Mark Sims/R9/USEPA/US
06/09/2006 02:23 PM

To moniqueanddavid@sbcglobal.net
cc
bcc
Subject Answers to Your Questions

Hi Monique,

Below are answers to most of your questions. Next week I will be out of the office until Thursday, so if you have any additional questions before then, send your e-mail to r9airpermits@epa.gov and someone will respond. The public comment period closes on June 16.

Mark
(415) 972-3965

moniqueanddavid@sbcglobal.net

moniqueanddavid@sbcglobal.net
06/06/2006 07:58 AM
Please respond to moniqueanddavid@sbcglobal.net

To Mark Sims/R9/USEPA/US@EPA
cc
Subject Re: Region 9 Weblink to Morro Bay PP Permit

I have taken a first look at some of the documents pertaining to the issuance of the EPA permit for the proposed Morro Bay Power Plant project, and I would appreciate your feedback on the following questions and requests.

1) What prompted the permit being processed at this time?

-- Duke Energy submitted the PSD permit application to EPA in October 2000. However, EPA could not issue the proposed PSD permit for public notice until the Endangered Species Act consultation process was complete. The U.S Fish & Wildlife Service issued the Biological Opinion for the project in May 2005, completing the ESA consultation. This is why EPA issued the public notice for the permit now and not in 2001.

2) What is the process? For instance, what is required in order to have a public hearing on this matter? (What is "significant amount of public interest?")

-- The regulations do not define what a "significant" amount of public interest is. However, anyone who wants to request a public hearing should contact me or send an e-mail to r9airpermits@epa.gov on or before June 16.

3) I see the notice says requests for a hearing must state the nature of the issues proposed to be raised at the hearing. How much detail is required when identifying the issues?

-- I'm not sure how much detail is required, but I would recommend that enough detail be provided so that we understand what the issue is.

4) If there is a public hearing, would it be in Sacramento or could it be in SLO County?

-- If there is a public hearing, EPA would try to hold it either in Morro Bay or San Luis Obispo, depending upon availability of meeting facilities.

5) What are the federal PSD (prevention of significant deterioration) regulations for particulate matter less than 10 microns in diameter? (Compare with Q. 14 below)

-- The federal PSD regulations are contained in 40 CFR 52.21.

6) What is the relationship between the EPA and the CEC with regard to this permit?

-- None. The PSD permit is a federal requirement, and the CEC process is a California state requirement. However, the CEC is aware of our PSD permitting action.

7) Do they have any of the documents from the CEC licensing process?

???

8) The notice says, "Would allow for construction and operation of MBPP..." - wouldn't it still have to pass CA state review?

-- Yes. The PSD permit allows for construction and operation for federal PSD purposes only. For the Modernization Project, the facility must still obtain all other necessary federal and state permits for the project.

9) Please put CAPE on your list of interested parties.

-- Done.

10) Regarding the requirement that the permittee notify the EPA in writing of the anticipated date of initial start-up, is that copied to interested parties?

-- No. However, once in EPA's possession, the written notice is a public record available to the general public through the Freedom of Information Act (FOIA).

11) What is the length of the permit? Five years?

-- The PSD permit is valid for the life of the project. It is not a Title V permit that must be renewed every 5 years.

12) How is the plant monitored to make sure it stays within permit limits?

-- The permit requires annual emissions testing for PM10, fuel sampling for sulfur content, and hours of operation restrictions. The plant must keep these records and make the records available for EPA inspection.

13) Plant operator self monitors/regulates? Conducts testing annually after initial performance tests?

-- Yes.

14) Confirm that the current standards are those on p. 4 of "PSD Permit Conditions." What are the standards currently being proposed for adoption?

-- Not sure what your question is. However, all the conditions in the proposed permit would apply to the facility.

15) Also on p. 4, there's a description of the records to be kept but, even though the paragraph title is "Reporting and Recordkeeping," it's silent about reporting. Are these records available to the public upon reasonable request?

-- These records would be kept at the facility and would be available for EPA inspection. Any documents in EPA's possession are public records and are available through FOIA.

16) Can we get a copy of the plant operator's plan for monitoring and participate in review of plan's adequacy (e.g., where the two testing locations will be)?

-- I assume you mean the plans for ambient monitoring. For PM10, these plans will be reviewed jointly by EPA and the SLOAPCD. The 2 sites are yet to be determined. We know there is a great deal of public interest in this issue and we will solicit public participation during the review of the plan.

17) What are the definitions for "Class I" and "Class II" areas?

-- "Class I" applies to federally-designated wilderness areas and National Parks. "Class II" applies to all other areas in the United States. The closest Class I area to Morro Bay is the San Rafael Wilderness.

18) What is meant by, "A PSD review would apply to all pollutants from a major stationary source showng signficant net increases in emissions..."?

-- If a proposed modification (i.e. Modernization Project) to an existing major stationary source (such as the Morro Bay Power Plant) results in a significant net emissions increase, then PSD (40 CFR 52.21) would apply to the modification for that pollutant. PM10 from the proposed project triggered PSD review and that's why EPA is issuing a PSD permit for PM10.

19) Under the chart on p. 3 of the "Ambient Air Quality Impact Report (AAQIR), it says, "Analysis of air quality and visibility impacts on Class I areas" -- Why not Class II areas (where plant located)?

-- The PSD regulations require analysis of project ambient air quality impacts on both Class I and Class II areas, but a visibility impact analysis only for the Class I area.

20) Can we have a copy of applicant's BACT analysis for PM-10?

-- Yes. The BACT analysis is contained in the PSD permit application. (Page 6.2-76)

21) The meteorological data collected at the MBPP site goes back 10-12 years. The air quality data goes back to 1997-1999. Will this be updated? When will measurements of existing ambient air quality levels in the vicinity of the project site be taken?

-- EPA considers the existing met data to be current. Pursuant to Special Condition IX.G. of the permit, ambient air quality data will be collected both before and after commencement of operation of the Modernization Project.

22) What is the definition of "rural" and what is the Auer methodology? What other methodologies could have been used?

-- For this question, I will try to get some information to you next week.

23) What is an "Acid Rain" permit and what is the process for issuing it (or not)? Is there a public notice? This is handled by the SLO APCD?

-- An acid rain permit is required by Title IV of the federal Clean Air Act. This permit will be issued by the SLOAPCD, and I believe the District will public notice this permit.

24) Can we get copies of:

a) 5/17/02 letter from Rodney R. McInnis, of National Marine Fisheries Service?

-- Sent to you by mail today.

b) Duke's PSD permit application along with Duke's 6/23/05 letter (addendum to application)

-- I am working on obtaining an electronic version of the application. If I can get it, I will send it to you by e-mail. It will be in a pdf format. The 6/23/05 letter is being sent to you by mail today.

c) 40 CFR 52.21 (re authority to issue permit)

d) 40 CFR 124.12 (re discretion to hold public hearing)

e) 40 CFR § 52.21(b)(9) (re definition of "commenced")

f) 60 CFT Part 60, especially subparts A, Da, and KKKK, (re Standards of Performance for New Stationary Sources)

-- You should have the weblink I sent to you a couple of days ago.

Thank you for your help! -Monique Nelson

V-6

Kerry Drake/R9/USEPA/US
06/12/2006 04:55 PM

To news@thebaynews.net
cc Mark Sims/R9/USEPA/US@EPA, Kathleen Stewart/R9/USEPA/US@EPA
bcc
Subject Public comment period closing date.

Hi Neil,

Assuming the notice was published in the Tribune on the 17th, the final day of the official public comment period will be Friday, June 16.

Mark, could you please add Neil Farrell at this E-mail address to any future communications regarding the Morro Bay permit?

Thanks,
Kerry

V-H

Mark Sims/R9/USEPA/US
06/15/2006 04:12 PM

To DeMeritt04@yahoo.com
cc
bcc
Subject Public Hearing for EPA PSD Permit SCC 2005-01

Hi Melody,

EPA will hold a public hearing on the proposed PSD permit for the Morro Bay Power Plant Modernization Project (we have at this point received more than 20 requests).

In your June 14 letter, you mention that the City of Morro Bay could offer facilities for such a public hearing. I would like to talk to you or someone on your staff about facility arrangements for the public hearing.

Timing for a public hearing would probably be early August. After we arrange facilities, EPA would publish in the local newspapers (Morro Bay Sun Bulletin and Morro Bay Bay News) notice of the public hearing at least 30 days prior to the actual date of the hearing. We will also respond directly to anyone who requested a public hearing with information concerning the public hearing.

Also, since there will be a public hearing, the public comment period on the proposed PSD permit will not close on June 16. We will extend the public comment period until after the public hearing.

Thanks, and talk to you soon.

Mark Sims
Air Permits Office (AIR-3)
EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3965

V - I

Mark Sims/R9/USEPA/US
06/21/2006 01:46 PM

To Mark Sims/R9/USEPA/US@EPA
cc
bcc
Subject Public Hearing -- Morro Bay Power Plant PSD Permit

EPA is in the process of scheduling a public hearing for the proposed Prevention of Significant Deterioration (PSD) permit for the Morro Bay Power Plant Modernization project (Permit No. SCC 2005-01). The public hearing will be held in the City of Morro Bay, probably in early August. EPA will publish a notice for the public hearing in the Morro Bay newspapers at least 30 days prior to the actual date of the hearing.

EPA will also contact directly every person who requested a public hearing to provide specific information concerning the hearing. EPA has extended the public comment period on the proposed PSD permitting action to a date (still to be determined) sometime after the date of the public hearing.

The proposed PSD permit, the proposed Ambient Air Quality Impact Report, and the permit application are posted on the EPA Region 9 website. See http://www.epa.gov/region9/air/permit/r9-permits-issued.html

Please bring this e-mail to the attention of all persons who you know would be interested in this matter.

V-K

Anita Lee/R9/USEPA/US
10/20/2006 09:29 AM

To Anita Lee/R9/USEPA/US@EPA
cc
bcc
Subject Fw: Morro Bay Power Plant - Public Hearing

Please note that the following has been added to the EPA Website regarding the Public Hearing for the proposed PSD Permit for the Morro Bay Power Plant:

If you require a reasonable accommodation due to disability, please contact by email or phone:
Olivia Fiel, (fiel.olivia@epa.gov) US EPA Office of Civil Rights
(415) 947-4282

This can be found at: http://www.epa.gov/region9/air/permit/r9-permits-issued.html

Please bring this to the attention of all persons who you know would be interested in this matter. Thank you.

----- Forwarded by Anita Lee/R9/USEPA/US on 10/20/2006 09:25 AM -----

Anita Lee/R9/USEPA/US
10/17/2006 01:20 PM

V-J

To Anita Lee/R9/USEPA/US
cc
Subject Morro Bay Power Plant - Public Hearing

EPA has posted a Project Information Sheet summarizing the Morro Bay Power Plant Modernization Project to the following website:

http://www.epa.gov/region9/air/permit/r9-permits-issued.html

EPA will accept comments at a Public Hearing for the proposed PSD permit for the Morro Bay Power Plant Modernization Project, scheduled for Tuesday October 24 at the City of Morro Bay--Veterans Memorial Hall, 209 Surf Street, from 6:00 PM - 9:00 PM.

Please bring this to the attention of all persons who you know would be interested in this matter.

Anita Lee/R9/USEPA/US
10/20/2006 09:17 AM

To Anita Lee/R9/USEPA/US@EPA
cc
bcc
Subject Morro Bay Power Plant - Public Hearing

Please note that the following has been added to the EPA Website regarding the Public Hearing for the proposed PSD Permit for the Morro Bay Power Plant:

If you require a reasonable accommodation due to disability, please contact by email or phone:
Olivia Fiel, (fiel.olivia@epa.gov) US EPA Office of Civil Rights
(415) 947-4282

This can be found at: http://www.epa.gov/region9/air/permit/r9-permits-issued.html

Please bring this to the attention of all persons who you know would be interested in this matter. Thank you.

V - L

"Laura A. Borg" <yakalom@gmail.com>
10/26/2006 09:17 PM

To Anita Lee/R9/USEPA/US@EPA
cc
bcc
Subject Re: question - morro bay

History: This message has been replied to.

Thank you so much, I wouldn't have found that without you!
I'm a Master's student at Cal State San Bernardino in the Environmental Education Dept and I'm taking an issues class this quarter. I'm focusing my project on this issue, so I really appreciate your help!
Laura Borg

On 10/26/06, **Lee.Anita@epamail.epa.gov** <Lee.Anita@epamail.epa.gov > wrote:

Hi Ms. Borg,

Although you may already be aware that the public hearing was indeed videotaped (I was surprised to learn it would be videotaped when we arrived at the Vets Hall), I wanted to send you the link to access it online, just in case you aren't aware of it.

http://www.slo-span.org/cgi-bin/media.pl?folder=SM

After the final transcripts are completed, we will work on preparing written responses to the comments received, and will then notify all persons on our mailing list.

Thanks, and please feel free to contact me if you have any further questions or concerns.

Anita Lee
ph: (415) 972-3958
fax: (415) 947-3579
lee.anita@epa.gov

U.S. Environmental Protection Agency, Region 9
Air Permits Office, AIR-3
75 Hawthorne Street
San Francisco, CA 94105

_____ 10/12/06

Hi Ms. Borg,

A court reporter will be present at the Morro Bay Public Hearing to both

tape record audio and transcribe the proceedings. A copy of the transcript or audio tape can be ordered and purchased through the court reporter (Merit Reporting in San Luis Obispo - 1-800-549-3376). Alternatively, we plan to summarize public comments and prepare a formal response to comments after the hearing, and will post the document on our website when it is available. The Morro Bay permit website is:

http://www.epa.gov/region9/air/permit/r9-permits-issued.html

Regarding your request for a copy of the public docket compiled for Morro Bay, the most relevant documents are posted at the above website (the PSD permit conditions, Air Quality Impact Report, as well as documents provided by the applicant). If you do not have access to the web, those documents are also available at the San Luis Obispo Air Pollution Control District (3433 Roberto Court, SLO, CA 93041), or at the City of Morro Bay, City Attorney's Office (595 Harbor Street, Morro Bay, CA).

Please let me know if you do wish to have access to the entire docket (the documents stack to about 2 feet high) - I would have to double check on the best method to access them, but I believe the best way to get releasable documents would be through a Freedom of Information Act (FOIA) request, but this can have a significant cost if photocopies of a lot of documents are involved. FOIA requests can be made through online at

http://www.epa.gov/region9/foia/index.html

or calling 415-947-4251, or by email to r9foia@epa.gov, or by fax 415-947-3591.

Please feel free to contact me at lee.anita@epa.gov, or 415-972-3958 if you have any questions or concerns.

Anita

Anita Lee
ph: (415) 972-3958
fax: (415) 947-3579
lee.anita@epa.gov

U.S. Environmental Protection Agency, Region 9
Air Permits Office, AIR-3
75 Hawthorne Street
San Francisco, CA 94105

MORRO BAY POWER PLANT MODERNIZATION PROJECT (SCC 2005-01)
PSD PERMIT CONDITIONS

PROJECT DESCRIPTION

The Morro Bay Power Plant Modernization Project consists, in part, of replacing four existing 1950/1960-era fossil-fuel-fired electric utility steam generators (1002 megawatt [MW] total) with two combined cycle gas turbine block units. Each new block unit will be capable of producing 600 MW. Each new block unit will consist of two General Electric Frame 7 Model PG7241, 180 MW gas-fired turbines, two heat recovery steam generators with duct burners, and one 240 MW steam turbine.

PERMIT CONDITIONS

I. Permit Expiration

As provided in 40 CFR § 52.21(r), this PSD Permit shall become invalid if construction:

A. is not commenced (as defined in 40 CFR § 52.21(b)(9)) within 18 months after the approval takes effect; or

B. is discontinued for a period of 18 months or more; or

C. is not completed within a reasonable time.

II. Notification of Commencement of Construction and Startup

The Permittee must notify EPA in writing of the anticipated date of initial startup of the Morro Bay Power Plant Modernization Project ("Facility") not more than sixty (60) days nor less than thirty (30) days prior to such date and must notify EPA in writing of the actual date of commencement of construction and startup within fifteen (15) days after each has occurred. For all purposes of this permit, "initial startup" shall mean the setting in operation of an affected facility for any purpose. "Affected facility" is further defined as any apparatus, equipment, or emission unit subject to a standard in this permit or in the applicable Performance for New Stationary Sources regulations found at 40 CFR Part 60, Subparts A, Da, and KKKK.

III. Facility Operation

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit must at all times be maintained in good working order and be operated as intended so as to minimize air pollutant emissions.

IV. Malfunction

The Permittee must notify EPA by facsimile or electronic mail transmission within two (2) working days following the discovery of any failure of process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in Section IX of this permit. In addition, the Permittee must notify EPA in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section IX, and the methods used to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or of any law or regulation that such malfunction may cause.

V. Right to Entry

The EPA Regional Administrator, and/or his authorized representative, upon the presentation of credentials, must be permitted:

A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this permit;

B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit;

C. to inspect any equipment, operation, or method required in this permit; and

D. to sample emissions from the source.

VI. Transfer of Ownership

In the event of any changes in control or ownership of the facilities to be constructed, the permit is binding on all subsequent owners and operators. The Permittee must notify the succeeding owner and operator of the existence of this permit and its conditions by letter, a copy of which must be forwarded to EPA.

VII. Severability

The provisions of this permit are severable, and, if any provision of this permit is held invalid, the remainder of this permit shall be unaffected.

VIII. Other Applicable Regulations

The Permittee must construct and operate the proposed power plant modernization project in compliance with all other applicable provisions of 40 CFR Parts 51, 52, 60, 63, 72 through 75, and all other applicable federal, state, and local air quality regulations.

IX. Special Conditions

A. Performance Tests

1. Within 60 days after achieving maximum load, but no later than 180 days after initial startup, and annually thereafter (within 30 days of the anniversary of the initial performance test), the Permittee must conduct performance tests (as described in 40 CFR § 60.8) for PM_{10} on the exhaust stack gases for the combustion turbine generators. The Permittee must furnish EPA a written report of the results of such tests within thirty (30) days of the completion of each test. After initial performance tests, upon written request from the Permittee, and with adequate justification, EPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity.

2. The performance tests required by Section IX.A.1. of this permit must be performed in accordance with the test methods set forth in 40 CFR § 60.8 and 40 CFR Part 60, Appendix A, as modified below. Performance tests for the emissions of PM_{10} shall be conducted using EPA Methods 5 and 202.

   In lieu of the above-mentioned test methods, the Permittee may use equivalent methods with prior written approval from EPA.

   The Permittee must notify EPA in writing at least thirty (30) days prior to such tests to allow time for the development of an approvable performance test plan and to arrange for an observer to be present at the test.

3. For performance test purposes, sampling ports, platforms, and access must be provided by the Permittee on the emission unit exhaust system in accordance with 40 CFR § 60.8(e).

B. Emission Limits for PM_{10}

1. The Permittee shall restrict fuel use for the operation of the combustion turbines and supplemental duct firing to pipeline-quality natural gas with a sulfur content of no more than 0.25 grains per 100 scf on a twelve-month rolling average basis.

2. On and after the date of initial startup, the Permittee shall not discharge or cause the discharge of PM_{10} from each combustion turbine generator in excess of 11.0 lbs/hr (no duct burner firing) or 13.3 lbs/hr (with duct burner firing).

3. On and after the date of initial startup, the Permittee shall not discharge or cause the discharge of PM_{10} from all four combustion turbine generators combined in excess of 203.2 tons per year on a twelve-month rolling average basis.

C. Fuel Sampling

The Permittee shall take monthly samples of the natural gas combusted. The samples shall be analyzed for sulfur content using EPA- or San Luis Obispo County Air Pollution Control District-approved laboratory methods. The sulfur content test results shall be retained on site pursuant to Special Condition IX.E.

D. Hours of Operation Restriction – Duct Burners

For each combustion turbine generator, the duct burner shall be fired no more than 4,000 hours per year (twelve-month rolling average basis).

E. Reporting and Record Keeping

1. The Permittee must maintain a file of all records, data, measurements, reports, and documents related to the operation of the Facility, including, but not limited to, the following: all records or reports pertaining to adjustments and/or maintenance performed on any system or device at the Facility; all records relating to performance tests; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for five years following the date of such measurements, maintenance, reports, and/or records.

2. For each combustion turbine generator, the Permittee shall maintain an onsite log containing the following information:

a. All startups and shutdowns of the gas turbine including date, time, and total duration of each occurrence.

b. Firing hours and fuel flow rates for the gas turbine and duct burner.

F. New Source Performance Standards

The proposed Facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR Part 60). The Permittee must meet all applicable requirements of 40 CFR Part 60, Subparts A, Da, and KKKK of this regulation.

G. Ambient PM_{10} Monitoring

Twenty-four (24) months prior to the first firing of the first combustion turbine generator or ninety (90) days following California Energy Commission approval of 00-AFC-12, whichever is later, the Permittee shall submit a plan for performing ambient air monitoring, and shall obtain EPA approval for that monitoring. The plan shall provide for air monitoring at two separate locations in the surrounding area, to be performed by an EPA-approved third party. Continuous parameters measured at each location shall include surface wind speed and direction. 24-hour particulate matter samples 10 microns or less in size (PM_{10}) shall be taken on the standard 1 day in 6 schedule at each site. The monitoring locations will be selected, subject to EPA approval, with the intent to be best indicators of potential project air quality impacts and/or to be locations of highest community concern. The monitoring shall meet all requirements contained in the San Luis Obispo Air Pollution Control District GUIDELINES FOR AMBIENT AIR QUALITY AND METEOROLOGICAL MONITORING, dated March 1993. Pre-Modernization Project monitoring shall occur at each of these sites for twelve months prior to turbine startup, with the length of the monitoring period and the startup date of monitoring subject to EPA approval.

At each of these sites, ambient air monitoring for the same parameters noted above shall be conducted continually until one year following the start of commercial operation of the Modernization Project.

The duration of this monitoring may be extended for one or both of the sites per EPA request, for up to three additional years. This extension may occur at each site if requested by EPA and justified by the monitoring data according to a protocol to be developed and agreed upon by both EPA and the Permittee.

X. Agency Notifications

All correspondence as required by this permit must be forwarded to:

1. Director, Air Division (Attn: AIR-5)
   U.S. EPA Region 9
   75 Hawthorne Street
   San Francisco, CA 94105-3901

   Email: R9AEO@epa.gov
   Fax: (415) 947-3579

2. Air Pollution Control Officer
   San Luis Obispo Air Pollution Control District
   3433 Roberto Court
   San Luis Obispo, CA 93401

AMBIENT AIR QUALITY IMPACT REPORT (AAQIR)
LSP MORRO BAY, LLC
(SCC 2005-01)

This document serves as the statement of basis as required by 40 CFR § 124. This document sets forth the legal and factual basis for permit conditions, including references to applicable statutory and regulatory provisions, including provisions under 40 CFR § 52.21. This document is for all parties interested in the permit.

I. APPLICANT

LSP Morro Bay, LLC
Morro Bay Power Plant
1290 Embarcadero Road
P.O. Box 1737
Morro Bay, CA 93443-1737

II. PROJECT LOCATION

LSP Morro Bay, LLC ("LSP Morro Bay" or the "applicant") has submitted an application for a Prevention of Significant Deterioration ("PSD") permit for the construction of two new combined cycle gas turbine block units at the Morro Bay Power Plant ("MBPP") located in Morro Bay, San Luis Obispo County, California. The project is called the LSP Morro Bay LLC Morro Bay Power Plant Modernization Project ("Modernization Project").

The MBPP is located in the San Luis Obispo County portion of the South Central Coast air basin. This area is either attainment or unclassified for all regulated pollutants: nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), particulate matter less than 10 microns in aerodynamic diameter (PM_{10}), and ozone (regulated as volatile organic compounds (VOC) and oxides of nitrogen (NO_x)). The project's surrounding area is classified as Class II. The nearest Class I area, approximately 60 miles southeast of the power plant, is the San Rafael Wilderness located in the Los Padres National Forest.

III. PROJECT DESCRIPTION

The Modernization Project consists of replacing four existing 1950/1960-era fossil-fuel-fired electric utility steam generators (1002 megawatt [MW] total) with two combined cycle gas turbine block units. Each new block unit will be capable of producing 600 MW. Each new block unit will consist of two General Electric

Frame 7, Model PG7241, 180 MW gas-fired turbines, two heat recovery steam generators with duct burners, and one 240 MW steam turbine.

The Modernization Project also includes, in part, demolition of the existing fuel oil tank farm, demolition of three existing 450-foot exhaust stacks, installation of two new 145-foot exhaust stacks, and refurbishment of the sea-water cooling intake structure.

The new units will be substantially more efficient than the existing units, will use less natural gas and cooling water, will generate more electrical power than the existing units, and will emit significantly less NO_x and CO than the existing units. See Table 1.

For PM_{10} emission control, the applicant proposes good combustion practices and exclusive use of natural gas for each of the emission units.

The San Luis Obispo Air Pollution Control District issued the initial Title V permit to Pacific Gas and Electric Company for the MBPP on February 10, 1998, and issued a renewed Title V permit to Duke Energy Morro Bay, LLC on July 9, 2004. Effective May 4, 2006, company ownership of the MBPP changed from Duke Energy Morro Bay, LLC to LSP Morro Bay, LLC. The MBPP has not been previously permitted by EPA under the PSD program since the existing facility is a grandfathered major stationary source and has not been subject to PSD review prior to the Modernization Project.

IV. APPLICABILITY OF THE PREVENTION OF SIGNIFICANT DETERIORATION (PSD) REGULATIONS

The PSD regulations (40 CFR § 52.21) define a "major stationary source" as any stationary source belonging to a list of 28 source categories which emits or has the "potential to emit" 100 tons per year ("tpy") or more of any attainment or unclassified pollutant regulated under the Clean Air Act, or any other source type which emits or has the potential to emit such pollutants in amounts equal or greater than 250 tpy. The existing facility (included in the list of 28 source categories) is a grandfathered major stationary source because it has the potential to emit over 100 tpy of pollutants regulated under the Clean Air Act, but has not previously triggered PSD requirements.

Under the PSD regulations, a major modification is defined as a significant net emissions increase greater than the threshold prescribed for any pollutant subject to the regulation. See 40 CFR § 52.21(a)(2)(iv)(*a*). The significant thresholds prescribed by the PSD regulations, 40 CFR § 52.21(b)(23)(i), for the subject pollutants are:

Pollutant	Significant Emission Rate (tons/year)
Carbon Monoxide	100
Nitrogen Dioxide	40
Sulfur Dioxide	40
Ozone (regulated as VOC)	40
PM_{10}	15

A PSD review would apply to all pollutants from a major stationary source showing significant net increases in emissions for which the applicable federal National Ambient Air Quality Standards ("NAAQS") have not been exceeded (attainment areas), or areas where the status of the area is uncertain (unclassified). The Modernization Project is located in an area in the San Luis Obispo County portion of the South Central Coast air basin, which currently has a designation of attainment or unclassified for all criteria pollutants.

Table 1 compares emissions from the new turbines and the existing boilers at the MBPP and provides the net emissions change of the Modernization Project:

Table 1. Comparison of Emissions from New Turbines and Existing Boilers

	EMISSIONS (tons per year)				
	NO_x	CO	VOC	SO_2	PM_{10}
New Turbines	292.3	917.4	77.6	23.0	203.2
Existing Boilers	855.4	1436.0	92.1	10.0	127.2
Net Change	(-563.1)	(-518.6)	(-14.5)	13.0	76.0

Table 1 shows PM_{10} to be a pollutant for which the proposed emission change exceeds the significance threshold. Therefore, only PM_{10} is subject to PSD review and must satisfy the following requirements:

1. Application of Best Available Control Technology ("BACT");

2. Analysis of ambient air quality impacts from the project;

3. Analysis of air quality and visibility impacts on Class I areas; and

4. Analysis of impacts on soils and vegetation.

V. BEST AVAILABLE CONTROL TECHNOLOGY ("BACT")

Any major stationary source or major modification subject to PSD review must conduct an analysis to ensure the application of BACT. See 40 CFR § 52.21(j). The federal Clean Air Act ("CAA") defines BACT as follows:

> The term "best available control technology" means an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under the CAA emitted from or which results from any major emitting facility. The permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, makes a BACT determination through application of processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of each pollutant. In no event shall application of BACT result in emissions of any pollutant which will exceed the emissions allowed by any applicable standard established pursuant to section 111 ("NSPS") or 112 ("NESHAP") of the CAA.

EPA has also stated that BACT may be a design, equipment, work practice, operational standard, or combination thereof in the event that EPA determines that emission measurement limitations for a particular unit would make the imposition of an emission standard infeasible. See EPA's New Source Review Workshop Manual, at page B-56.

The applicant provided a BACT analysis for PM_{10}. Particulates emitted from gas turbine trains result, in part, from fuel sulfur, inert trace contaminants, and incomplete combustion of hydrocarbons. The combination of good combustion practices and low or zero ash fuel (i.e., natural gas) is generally considered the top BACT control option for the control of gas turbine PM_{10}. Therefore, EPA did not consider other control options. The lowest emission rate will be achieved by the MBPP through exclusive use of natural gas fuel with a sulfur content of no more than 0.25 grains per 100 scf, along with good combustion controls, as BACT for the gas turbines. This method of operating the Modernization Project to control PM_{10} emissions is consistent with BACT determinations for other similar facilities in the RACT/BACT/LAER Clearinghouse.[1]

VI. AIR QUALITY IMPACTS

The PSD regulations require that an air quality analysis be performed to determine impacts of the proposed project on ambient air quality. For all regulated pollutants emitted in significant quantities, the analysis must consider

[1] PM_{10} emissions from cooling towers were not analyzed since the facility will use seawater, not cooling towers, for process cooling.

whether the proposed project will cause a violation of (1) the applicable PSD increments, and (2) the National Ambient Air Quality Standards ("NAAQS").

A discussion on the general approach, background air quality, air quality model selection, significant impact levels and de minimis monitoring levels, PSD increment consumption, and compliance with ambient air quality standards is presented below.

A. Meteorological and Background Ambient Air Quality Data

The applicant used surface meteorological data collected at the MBPP site during 1994, 1995, and 1996, and upper air data collected from the Vandenburg Air Force Base, 45 miles southeast of the plant site. To evaluate whether the emissions from the MBPP Modernization Project will cause violations of the NAAQS, it is necessary to have available measurements of existing ambient air quality levels in the vicinity of the project site. These levels are needed for each criteria pollutant that will be emitted above the significant emission level, in the case of the MBPP, PM_{10}.

The applicant used air quality data for PM_{10} from the Morro Bay monitoring station between the period of 1997 to 1999 for the ambient air impact analysis. In addition, because of source air quality impact uncertainties due to complex flow resulting from the land-sea interface, the applicant shall be required to collect ambient air quality data for PM_{10} at two separate locations on a standard one day in six day schedule. A plan for performing pre- and post-construction Modernization Project ambient air quality monitoring should be submitted to EPA for approval twenty-four months prior to the first firing of the Gas Turbine units or 90 days following CEC approval of 00-AFC-12, whichever is later. The plan shall include a discussion of monitor siting, quality assurance procedures, and data submission requirements.

B. Air Quality Analysis

The applicant used EPA-approved dispersion models to perform an analysis of air quality impacts from the proposed project. The Industrial Source Complex Short-Term (ISCST3) was used to predict the worst-case average ambient concentration for PM_{10}.

The area was classified as rural, based on the Auer methodology. SCREEN3 was used to simulate maximum ground level concentrations for short term periods under fumigation conditions.

C. NAAQS Compliance and Increment Consumption Analysis

The estimated ground-level concentrations of the worst case predicted emissions from the facility are presented in Table 2.

Table 2
Estimated Worst Case Ground Level Concentration[2]
(Source – Table 6.2-38 of Application)

Averaging Time	Pollutants (μ/m^3)			
	NO_2	CO	SO_2	PM_{10}
1-hour	----	8615	17.3	----
3-hour	----	----	----	----
8-hour	----	1508	----	----
24-hour	----	----	----	24.2
Annual Average	2.6	----	0.23	2.7

The project net emission increases of NO_x, CO, and SO_2 do not exceed PSD significance levels, and therefore, an increment and NAAQS analysis is required only for PM_{10}. The proposed project impact is above the PSD significance threshold and triggers pre-construction monitoring requirements for PM_{10}, increment consumption, and NAAQS analyses under the PSD program regulations. The proposed major modification to the existing major stationary source sets baseline date, and is therefore, the only increment-consuming source in the San Luis Obispo County District. Table 3 and Table 4 below indicate that the source is in compliance with the Class II increment and NAAQS for PM_{10}.

Table 3
Predicted Maximum Modeled Impact and Class II Increments

Averaging Time	PM_{10} (μ/m^3)		
	Maximum Modeled Impact	PSD Class II Increment	In Compliance with Increment?
24-hour	24.2	30	Yes
Annual Average	2.7	17	Yes

Table 4
Predicted Maximum Modeled Impact, Background Concentration and NAAQS

Averaging Time	PM_{10} (μ/m^3)				
	Maximum Modeled Impact	Background	Total Impact	NAAQS	In Compliance with NAAQS?
24-hour	24.2	57	81.2	150	Yes

[2] Values for NO_2, CO, and SO_2 are included for informational purposes only because these pollutants are not subject to PSD review for this project.

Annual Average	2.7	20.6	23.3	50	Yes

D. Class I Area Air Quality Analysis

The only Class I area within 100 km of the project is the San Rafael Wilderness. The modeled results, presented in Table 5 below, indicate that the facility does not consume the Class I increment in the San Rafael Wilderness.

Table 5
Maximum Predicted 24-Hour Average PM_{10} Concentrations in San Rafael Wilderness

Averaging Time	PM_{10} (μ/m^3)		
	Maximum Modeled Impact	PSD Class I Increment in San Rafael Wilderness	In Compliance with Increment?
24-hour	0.04 (highest second high) 0.0774 (maximum)	8	Yes
Annual average	0.009	4	Yes

VII. ADDITIONAL IMPACT ANALYSIS

In addition to assessing the ambient air quality impacts expected from a proposed major modification, the PSD regulations require that certain other impacts be considered. These include impacts on visibility, soils and vegetation, and growth.

A. Visibility Analysis

The visibility analysis was conducted using ISCST in screening mode to evaluate the impact of the project on San Rafael Wilderness. Table 6 and Table 7 below indicated the modeled maximum concentrations and visibility impact in the San Rafael Wilderness.[3] The maximum visibility impact is within the allowable level of acceptable change to extinction.

[3] NO_3 and SO_4 data shown for informational purposes only.

Table 6
Maximum Predicted 24 hour Average Concentrations in San Rafael Wilderness[3]

Class I Area	NO_3 (ug/m^3)	SO_4 (ug/m^3)	PM_{10} (ug/m^3)
San Rafael Wilderness	0.0727	0.0086	0.0774

Table 7
Maximum Visibility Impact in San Rafael Wilderness[3]

Class I Area	b_{NO3} (Mm^{-1})	b_{SO4} (Mm^{-1})	b_{course} (Mm^{-1})	24-Hour Average Visibility Impact	Percent Change in Extinction	Acceptable change
San Rafael Wilderness	0.5599	0.0706	0.0464	0.6769	4.07	5

B. Soils and Vegetation

The MBPP has operated and coexisted without incident in proximity to agricultural uses since operations began in the 1950s. Since the new generating facility will be placed within the existing MBPP industrial site and since new operations will result in lower overall criteria pollutant emissions, the Modernization Project will not result in significant impacts to soils and vegetation.

C. Growth

The Modernization Project will be constructed entirely within the existing MBPP site and consists of the modernization of the existing MBPP facility. In addition, the Modernization Project will not result in the expansion of the existing facility. Therefore, the Modernization Project will not result in significant growth impacts to the surrounding area.

VIII. ENDANGERED SPECIES

Pursuant to Section 7 of the Endangered Species Act ("ESA"), 16 U.S.C. § 1536, and its implementing regulations at 50 C.F.R. Part 402, EPA is required to ensure that any action authorized, funded, or carried out by EPA is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of such species' designated critical habitat.

EPA consulted with both NMFS and FWS on this project, and EPA's responsibilities under ESA Section 7 have been fulfilled. The conclusions of the Services are provided below:

A. National Marine Fisheries Service ("NMFS")

NMFS reviewed the Modernization Project since it occurs in an area where federally threatened steelhead (*Oncorhynchus mykiss*) is present. NMFS concluded that the Modernization Project is not likely to adversely affect steelhead. See May 17, 2002, letter from Rodney R. McInnis, Acting Regional Administrator, NMFS Southwest Region, to Gerardo Rios, Chief, Air Permits Office, EPA Region 9.

B. Fish and Wildlife Service ("FWS")

FWS reviewed the Modernization Project and issued a Biological Opinion ("BO") on May 23, 2005. The BO concluded that the Modernization Project, as proposed (including measures specified in the BO), is not likely to jeopardize the continued existence of the federally threatened California red-legged frog, the endangered Morro shoulderband snail, or the tidewater goby. The BO also included reasonable and prudent measures ("RPMs") that are necessary and appropriate to minimize Modernization Project impacts on these species. By letter dated June 23, 2005, Duke Energy Morro Bay LLC (Randall J. Hickok, Vice President, California Assets, to Gerardo Rios) stated that Duke Energy Morro Bay LLC will implement the RPMs, the terms and conditions, and the reporting requirements contained in the BO for the Modernization Project, and will incorporate these requirements into the project description. Duke Energy Morro Bay LLC (now LSP Morro Bay, LLC) submitted the June 23 letter to EPA as an addendum to the PSD permit application.

IX. TITLE IV (ACID RAIN PERMIT)

The MBPP is presently an "Acid Rain" source, and will remain so after the Modernization Project. The applicant has submitted a new application for an Acid Rain Permit to the San Luis Obispo Air Pollution Control District.

X. CONCLUSION AND PROPOSED ACTION

Based on the information provided by LSP Morro Bay and our review of the analysis contained in the permit application, it is EPA's preliminary determination that the proposed project will employ BACT for PM_{10} and will not cause or contribute to a violation of the PM_{10} NAAQS, or an exceedance of PM_{10} PSD increments. Therefore, EPA intends to issue LSP Morro Bay a permit for the

Morro Bay Power Plant Modernization Project, subject to the permit conditions specified herein. This permit is subject to public review and comment. A final decision on issuance of the permit will be made after considering comments received during the public comment period.

*** PUBLIC NOTICE ***

EPA ANNOUNCES PUBLIC HEARING
MORRO BAY POWER PLANT MODERNIZATION PROJECT

PERMIT NO. SCC 2005-01

On May 17, 2006, the Region 9 office of the United States Environmental Protection Agency (EPA) requested public comment on a proposed permit for the Prevention of Significant Deterioration (PSD) of air quality, issued in accordance with 40 CFR 52.21, to LSP Morro Bay, LLC, for the construction and operation of the Morro Bay Power Plant Modernization Project.

The proposed modernization project will consist of two combined cycle gas turbine block units. Each block unit will be capable of producing 600 MW of electric power, and each block unit will consist of two 180 MW natural gas-fired turbines, two heat recovery steam generators with duct burners, one 240 MW steam turbine, and associated air pollution control equipment. The Morro Bay Power Plant Modernization Project is subject to federal PSD regulations for particulate matter less than 10 microns in aerodynamic diameter (PM_{10}). Other air emissions, including PM_{10} from the proposed project are regulated by the San Luis Obispo Air Pollution Control District (District), and are subject to the District air permit.

Due to significant public interest in the proposed PSD permit, EPA has scheduled a Public Hearing to accept written and oral comments on the proposed PSD permit. Persons interested in the proposed PSD permit are encouraged to attend this hearing. Comments received at the Public Hearing will receive the same weight in EPA's decision making as those comments submitted at other times during the public comment period. The date, location, and time of the hearing are as follows:

Date: Tuesday, October 24, 2006

Place: City of Morro Bay, Veterans Memorial Hall
209 Surf Street
Morro Bay, CA 93442

Time: 6:00 PM – 9:00 PM

The proposed permit, ambient air quality impact report, and permit application are available on the EPA Region 9 website at www.epa.gov/region9/air/permit/r9-permits-issued.html and the administrative record may also be viewed Monday through Friday from 9:00 AM to 4:00 PM at the EPA Region 9 address below. Due to building security procedures, please call to arrange a visit 24 hours in advance.

Copies of the proposed permit, ambient air quality impact report, and permit application are also available for inspection at the San Luis Obispo Air Pollution Control District office, 3433

Roberto Court, San Luis Obispo, CA 93401; and the City of Morro Bay, City Attorney's Office, 595 Harbor Street, Morro Bay, CA 93442.

Written comments on the proposed permit will be accepted at any point prior to the public hearing and up to Monday, October 30, 2006. Such comments must be received (if sent by e-mail) or postmarked (if sent by U.S. mail) on or before October 30, 2006. Written comments not submitted at the public hearing must be submitted via e-mail or U.S. mail to either of the following addresses:

E-mail: r9airpermits@epa.gov

U.S. Mail: Mark Sims (AIR-5)
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105-3901
Phone: (415) 972-3965

All comments will be included in the public docket without change and may be made available to the public, including any personal information provided, unless the comment includes Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Information that you consider CBI or otherwise protected should be clearly identified as such and should not be submitted through e-mail. If you send e-mail directly to EPA, your e-mail address will be automatically captured and included as part of the public comment. Please note that an e-mail or postal address must be provided with your comments if you wish to receive direct notification of EPA's final decision regarding the permit and its responses to comments submitted during the public comment period.

EPA will respond to all significant comments on the proposed permit and will make the hearing proceedings available to the public. EPA will consider the public comments before taking final action on the permit and will send notice of the final decision to each person who submitted comments and contact information during the public comment period or requested notice of the final permit decision. The decision will become effective immediately upon issuance of such decision unless the decision is appealed to the Environmental Appeals Board pursuant to 40 CFR 124.19 (any person who submits written comments on the proposed permit or who participates in the Public Hearing may petition the Environmental Appeals Board to review any part of the permit decision within 30 days after the decision has been issued. Any person who failed to comment either in writing or by participation in the Public Hearing on the proposed permit may petition for review by the Environmental Appeals Board only those parts of the final decision which are different from the proposed permit).

For questions or information requests, please contact Mark Sims at the phone number or e-mail address provided above.
Please bring the foregoing notice to the attention of all persons who you know would be interested in this matter.

Clean Air Act Proposed Permit

Overview

United States Environmental Protection Agency

Morro Bay Power Plant Modernization Project

Notice of Public Hearing:

Opportunity to give written and oral comments to U.S. EPA on proposed action

6 – 9 PM on October 24, 2006
Veterans Memorial Hall
209 Surf Street
Morro Bay, CA 93442

Proposed Action

The U.S. EPA Region IX proposes to issue a Prevention of Significant Deterioration (PSD) Permit to LSP Morro Bay, LLC for the Morro Bay Power Plant (MBPP) Modernization Project.

Background

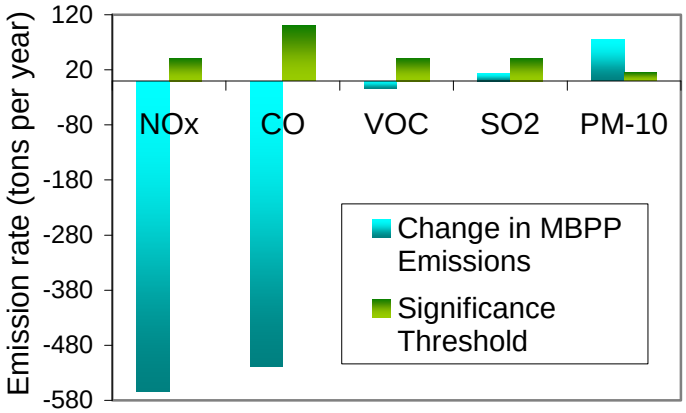
MBPP produces electricity and has been in operation since 1955. The San Luis Obispo Air Pollution Control District issued an initial Title V operating permit in 1998, and a renewal permit in 2004. EPA Region IX is the PSD permitting authority for San Luis Obispo County. In 2000, Duke Energy Morro Bay, LLC submitted a PSD permit application to EPA for the Modernization Project. Ownership of the MBPP changed to LSP Morro Bay, LLC in 2006.

Location of Morro Bay Power Plant

What will be changed at the Morro Bay Power Plant?

- Replace (4) existing 1950-60's fossil fuel-fired electric utility steam generators with (2) combined cycle natural gas-fired turbine block units
- Replace (3) existing 450-foot exhaust stacks with (2) 145-foot stacks to comply with good engineering practices
- Remove existing fossil fuel oil tanks

Figure 1



What will result from these changes?

- Power generation will increase from 1002 MW to 1200 MW
- Decreased emissions of NO_x, CO, and VOC (Figure 1)
- Emissions increase of SO_2 below significance threshold (Figure 1)
- Emissions increase of PM-10 (Figure 1) triggers PSD review and requirements

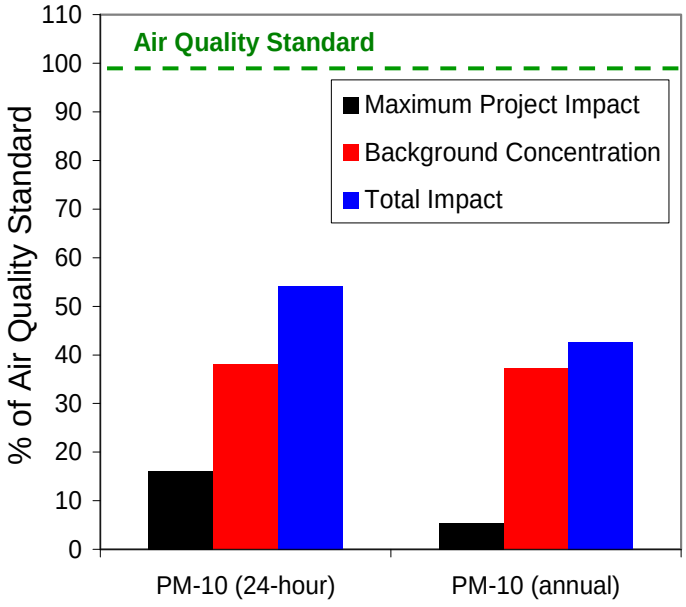
PSD requirements apply to PM-10

- Obtain permit before construction
- Install Best Available Control Technology
- Conduct Air Quality Analysis

How will emissions impact air quality?

- Impact of PM-10 emissions (Figure 2) modeled using new emissions level and 145-foot stack heights
- Emissions of PM-10 will not result in ambient PM-10 concentrations that exceed the National Ambient Air Quality Standards (NAAQS)
- The incremental increase in PM-10 concentration (24-hour and annual average), complies with the allowable PSD Increment
- At the San Rafael Wilderness (Class I area), the incremental increase in PM-10 concentration (24-hour and annual average), complies with the allowable PSD Class I Increment
- Emissions will not significantly impact visibility, soils, or vegetation

Figure 2



How will PM-10 be regulated by the PSD Permit?

- Exclusive use of low-sulfur natural gas to reduce PM-10 formation (BACT)
- Good Combustion Practices (BACT)
- Performance tests
- PM-10 emission limits

The proposed PSD permit and Air Quality Analysis are available for public inspection:

1. Online at: http://www.epa.gov/region09/air/permit/r9-permits-issued.html
2. San Luis Obispo Air Pollution Control District, 3433 Roberto Court, San Luis Obispo, CA, 93041
3. City of Morro Bay, City Attorney's Office, 595 Harbor Street, Morro Bay, CA 93442

To Submit Comments outside of the Public Hearing before the October 30, 2006 deadline, contact:

Mark Sims
Air Division (AIR-5)
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

Phone: 415-972-3965
Fax to: (Attn: Mark Sims)
415-947-3579
email: r9airpermits@epa.gov

EPA will consider all comments in making the final decision. Comments will be included in the administrative record and are available to the public. The administrative record for the permit is available for public inspection Monday through Friday at the EPA office from 9 AM until 4 PM. Public inspection of these documents must be arranged in advance by contacting Mark Sims.

EPA will provide an official response to all comments after the public hearing. You may request to receive a copy of the response to comments by contacting Mark Sims, or by registering at the hearing.

EPA United States Environmental Protection Agency

Public Comment Form

(Please Print)

Name: Susan Heinemann

Address: 453 Fairview Ave
Morro Bay, Ca

Affiliation: Resident

Telephone: 805 772 7828

Email: Susielarry ∅ @ yahoo.com   ∅ = # zero

Would you like to be added to our mailing list? ☑ Yes ☐ No

Comments: I am very concerned about the increase in particulate matter that will occur. I have respiratory problems myself but my concern is also the young people at the high school in close proximity to the plant. It is hard to know the truth about the plants output due to the usage of energy credits + spin. Morro Bay is a healthy place to live, let's keep it that way!

One thing that I have not heard addressed is

what happens to the particulate matter during MB fog, which is heaviest during the summer when the plant is heaviest in useage.

CAPE'S EPA COMMENT LETTER EXHIBIT LIST
(SCC 2005 -01)

CEC Filings

Exhibit A: Opening Brief of Intervenor The Coastal Alliance on Plant Expansion ("CAPE") re Group III Topics dated April 19,2002 In the Matter of Application for Certification for Morro Bay Power Plant Project, State of California State Energy Resources Conservation and Development Commission, Docket No. OO-AFC-12 (the "MBPP CEC Matter").

Exhibit B: Reply Brief of Intervenor CAPE re Group III Topics Other Than Soil and Water dated May 3, 2002 in the MBPP CEC Matter.

Exhibit C: Applicant's Petition for an Order Authorizing Demolition of the Morro Bay Tank Farm dated April 15, 2005 in the MBPP CEC Matter.

Exhibit D: Commission Amended Order Authorizing Demolition of the Morro Bay Tank Farm dated June 22, 2005 in the MBPP CEC Matter.

CEC Transcripts

Exhibit E: Reporter's Transcript of the MBPP CEC Matter Hearings on February 5, 2002 (pp. 11, 159-160, 168-171, 240-241).

Exhibit F: Reporter's Transcript of the MBPP CEC Matter Hearings on February 6, 2002 (pp. 11-19, 24-26; 30-38, 67).

Exhibit G: Reporter's Transcript of the MBPP CEC Matter Hearings on March 12, 2002 (pp. 7, 16-17; 21-22; 30-32; 60-61; 119-134; 171-174; 194-197).

Other CEC Exhibits

Exhibit H: Exhibit 12 in the MBPP CEC Matter Hearings: Letter from Sierra Research to Gary Willey, SLOAPCD, Re: Additional Information to Address Permit Data Adequacy Issues, dated November 21, 2000.

Exhibit I: Exhibit 34 in the MBPP CEC Matter Hearings: Applicant's responses to Intervenor CAPE's March 9, 2001 Data Requests Related to Air Quality, only.

Exhibit J: Exhibit 44 in the MBPP CEC Matter Hearings: Applicant's responses to March 9, 2001 Intervenor CAPE Data Requests (Air Quality Data Requests 67-108, only), dated May 3, 2001.

Exhibit K: Exhibit 134 in the MBPP CEC Matter Hearings: Applicant's Testimony on Group II Issues dated January 15, 2002, pp. 117-142 related to Air Quality Issues, only.

Exhibit L: Exhibit 139 in the MBPP CEC Matter Hearings: Prefiled Testimony on Traffic and Transportation, Air Quality and Public Health, offered by Intervenor CAPE on Group II Topics, (only those portions relating to air quality, and related exhibits to air quality).

Exhibit M: Exhibit 147 in the MBPP CEC Matter Hearings: Document entitled "Sources of Uncertainty When Measuring Particulate Emissions from Natural Gas-Fired Turbines," authored by Gary Rubenstein, Sierra Research, and presented to the Air and Waste Management Association on March 30, 2001.

Exhibit N: Exhibit 179 in the MBPP CEC Matter Hearings: CAPE Compendium of AFC's Western, Midway, Sunset, Elk Hills, and Sunrise Cogeneration Power Projects.

Exhibit O: Exhibit 180 in the MBPP CEC Matter Hearings: Emission Test Report for Emission Compliance of 2 General Electric Frame 7EA Turbines at the Frontera Generation Facility in Hildago, Texas.

Referenced Newspaper Articles

Exhibit P: Los Angeles Times article entitled "Duke to Close California Plants" dated September 14, 2005.

Exhibit Q: New Times article entitled "Duke Energy Hushed Earthquake Damage" in the February 12-19, 2004 issue.

Exhibit R: San Luis Obispo Tribune articles entitled "Duke to Cut Morro Staff" dated February 20, 2004, "Duke May Shutter Morro Plant" dated March 16, 2004, and "PG&E Offer May Keep Plant on Line" dated February 11, 2005.

EPA United States Environmental Protection Agency

Public Comment Form

(Please Print)

Name ROY CINOWATT

Address 3965 EAST HWY 41
TEMPLETON

Affiliation

Telephone 4663502

Email

Would you like to be added to our mailing list? ☐ Yes ☐ No

Comments: THANKS.
YOUR STAFF COULD
SMILE A LITTLE
OCCASIONALLY.
THEY LOOK ANGRY
OR INDIFFERENT.

Power plant conversion in London at Battersea Station

380 metres of prime central London riverside next to Chelsea Bridge and across the Thames from Chelsea and Westminster, only 15 minutes from London’s West End .

Proposed Re-Use of power plant in Hampton, Virginia

Designed by The Cordish Company

Baltimore’s power plant is now a Barnes and Noble and more

Designed by The Cordish Company

- Seaholm power plant redevelopment in Austin, Texas

Why NOT here?

www.newfutures.morro-bay.org

San Luis Bay Chapter

U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105-3901
(415) 972-3965
r9airpermits@epa.gov

San Luis Bay Chapter of the Surfrider Foundation
PO Box 13222
San Luis Obispo, CA 93406
slbsurfrider@gmail.com

DATE: 10/30/06

SUBJECT: Comments on Proposed PSD, to LSP Morro Bay LLC
Morro Bay Power Plant Modernization Project

On behalf of the many members of the San Luis Bay Chapter of the Surfrider Foundation (SLB Surfrider), thank you for the opportunity to submit comments regarding the U.S. Environmental Protection Agency's (EPA) proposed Prevention of Significant Deterioration (PSD) permit to Dynegy for the Morro Bay Power Plant Modernization Project. The Surfrider Foundation is a non-profit environmental organization dedicated to the protection and enjoyment of the world's oceans, waves and beaches for all people, through conservation, activism, research and education.

San Luis Obispo (SLO) County has 100 miles of coastline to offer the public for recreational uses. The coastline's importance to our tourism-based economy is displayed by the variety of ocean enthusiasts from around the world that are attracted to our shores. Furthermore, we have entered an era recognizing the potentially catastrophic impacts of global climate change upon our economy, environment and society. Hence, SLO County, the State of California, and the EPA cannot afford to take a lax approach to developmental decisions that directly impact our environment. The health of the ocean and those who recreate and live near it depend on the highest standards of water and air quality.

Upon review, **SLB Surfrider** agrees with the Coastal Alliance on Plant Expansion (CAPE) and **strongly opposes the proposed PSD permit** for the following reasons:

1. As stated in the U.S. Clean Air Act, our industrial decisions, especially those impacting the nationally protected Morro Bay Estuary, require the EPA to, "protect public health and welfare from any actual or potential adverse effect" from air pollution or from exposure to pollutants, even in the event of "attainment and maintenance of all national ambient air quality standards" by the facility in question. The Clean Air Act also requires the EPA to "preserve, protect, and enhance the air quality" in national areas of special natural, recreational or scenic value. Again, Morro Bay is a nationally protected estuary and deserves higher standards than a PSD that will allow toxic emissions from the proposed new plant to remain at the levels of the existing 50-year-old power plant.

2. The central and uncontested fact is that ground-level concentrations of particulate matter (PM, both 2.5 and 10 micrometers in diameter), a potentially lethal toxic emission that the EPA considers a significant health risk, would rise 60% in Morro Bay, partly as a result of an increase in the proposed plants operating capacity by 20% to 1200 megawatts and stated plans to operate it more than the existing plant has been operated.

3. We agree that the proposed height reduction of the plant smokestacks from 450 feet to 145 feet, makes it less feasible for prevailing winds to blow the PM away from the community closest to the plant and the Morro Bay Estuary. Indeed, the California Energy Commission Final Staff Assessment, Part 1, Part 3, page 4-12, dated April 2002, concluded: "…the actual air quality impacts of the new facility are expected to be greater than the existing facility in nearly all cases. This is primarily due to the much greater stack height of the existing plant…"

4. We also agree that the local air quality permit, on which the proposed PSD is partly based, has expired, and newer state and federal emissions control standards may invalidate the PSD.

5. Emission rates for a new plant are contradictory and inconsistent, levels are understated by the applicant, air modeling for PM was inappropriate under EPA standards, the levels of emissions from the existing plant have been overstated to make those of the new plant appear to be lower, the baseline used to determine emissions levels for the existing plant has been inflated and the baseline years are the opposite of what the PSD requires for normal source emissions. We agree that the PM10 emissions levels for the new turbines proposed by the applicant are grossly understated.

6. The current Best Available Control Technology (BACT) may not allow use of duct burning, which contributes disproportionately to higher emissions, and more advanced and less-polluting turbines are commercially available, which EPA should review and consider as a requirement for the PSD permit.

7. We are disappointed that closed-cycle cooling and related PM emissions were not reviewed by EPA, even though it has not been ruled as for use by the proposed new plant.

8. We agree that an appropriate baseline of emissions from the existing plant may show that emissions from a new plant would violate PSD requirements, preventing issuance of the permit–leading to the applicant having to build a smaller, less polluting plant or no plant at all.

9. The meteorological data used to calculate ground-level emissions are not from Morro Bay, and no evidence has been presented to show that it is relevant to Morro Bay meteorological conditions.

   We agree with CAPE comments that the upper air meteorological data collected for the MBPP site was collected from Vandenburg Air Force Base, which is 45 miles southeast of the plant site. The owner/operator has never provided adequate evidence that this remote site has similar upper air conditions as the MBPP site, nor has it established any upper air meteorological data for the MBPP site itself since the original application was filed in 2000. The remote site data is inadequate for air modeling purposes to predict ground-level emission levels.

10. It is obvious that out-of-date national standards were used in determining permit compliance, and under newer ones, the proposed plant would not comply, if emissions were calculated correctly.

11. We agree that the Data analysis for PM 10 was inadequate to determine actual PM10 levels, exposing the public to significantly higher than allowable emissions and at farther distances from the plant.

12. We deem that Duke's analysis assumed no distribution of PM beyond a six-mile radius of the plant, even though scientific literature indicates particulates are

regional by nature, and the analysis failed to consider extreme meteorological conditions.

13. Furthermore we agree the PSD permit fails to consider Emission Reduction Credits, which are "offsets" that were used to find the new plant in compliance with local and state air quality standards, despite the fact emissions would still increase and the fact that the PSD is based in part on this compliance finding, serving to hide the real amount of emissions that the public would be exposed to.

14. Finally, the EPA Ambient Air Quality Impact Report (AAQIR) says the existing plant has operated since the 1950s "without incident" involving agricultural uses, even though many complaints have been made over the years by residents about emissions fallout from the plant, which damaged personal property and local vegetation.

CONCLUSION:

For all of the reasons discussed above, SLB Surfrider strongly supports CAPE's recommendations to the EPA to conclude that the PSD analysis must be provided for all pollutants based on an appropriate baseline emissions period and that PM10 emissions will clearly cause an exceedance of PM10 PSD increments. We agree that such conclusions would not allow issuance of a permit for the Morro Bay Power Plant Modernization Project as currently proposed.

The San Luis Bay Chapter of the Surfrider Foundation finds the consideration of extending the life of the Morro Bay Power Plant to be damaging to SLO County's tourism-based economy, human health and the environmental, particularly the Morro Bay National Estuary. In this day of serious global warming concerns our industrial decisions must appropriately reflect the planet's current environmental condition. In conclusion, the SLB Surfrider Foundation is committed to and supports the development of green technologies and energy conservation techniques that do not pose negative impacts on human health, the economy and the environment. The time is now to drastically reduce our society's toxic output and proceed into an ecologically abundant future.

Your consideration of our comments is greatly appreciated.

San Luis Bay Chapter
Surfrider Foundation

United States Environmental Protection Agency

Public Comment Form

(Please Print)

Name KEITH TAYLOR

Address 3128 BEACHCOMBER DR.

MORRO BAY CA 94332

Affiliation RESIDENT FOR PLANT MODERNIZATION

Telephone (805) 772-2852

Email CHER4GAGE@CHARTER.NET

Would you like to be added to our mailing list? ☑ Yes ☐ No

Comments: I AM IN FAVOR OF A NEW POWER PLANT FOR ADDED REVENUE TO OUR CITY. THE PLANT HAS BEEN HERE FOR OVER 50 YRS AND MANY PEOPLE HAVE LIVED HERE LONGER AND HAVE NO PROBLEMS. I TRUST YOU THE EPA TO EVALUATE THIS PROJECT AND WILL TRUST YOUR DECISION ON THIS. MY WIFE & I BOTH SUPPORT THIS PROJECT

Respectively Submitted

Keith Taylor

Joseph Lapka /R9/USEPA/US

10/25/2006 07:51 AM

To Anita Lee/R9/USEPA/US@EPA, Mark Sims/R9/USEPA/US@EPA
cc Roger Kohn/R9/USEPA/US@EPA
bcc
Subject Fw: Objection to Morro Bay Power Plant PSD permit

From the air permits e-mail box.

****

Joseph Lapka
Region 9 Air Permits Office
United States Environmental Protection Agency

phone: 415-947-4226
fax: 415-947-3579
e-mail: Lapka.Joseph@epa.gov

mailing address:
U.S. Environmental Protection Agency
Air Permits Office (AIR-3)
75 Hawthorne Street
San Francisco, CA 94105

----- Forwarded by Joseph Lapka/R9/USEPA/US on 10/25/2006 07:50 AM -----

savage@calpoly .edu

10/24/2006 09:05 PM

To R9AirPermits@EPA
cc
Subject Objection to Morro Bay Power Plant PSD permit

Environmental Protection Agency:

I live next door to the Morro Bay Power Plant, and I wish to record my objection to the EPA proposal to grant a "Prevention of Significant Deterioration" (PSD) permit to Dynegy, the new owner of the power plant, because I believe that toxic emissions from the smokestacks of a proposed new plant will increase when compared to the existing 50-year-old plant as it currently operates (on a very limited basis).

The U.S. Code requires the EPA "to protect public health and welfare from any actual or potential adverse effect" from air pollution or from exposures to pollutants, even in the event of "attainment and maintenance of all national ambient air quality standards" by the plant in question. Federal law also requires the EPA "to preserve, protect, and enhance the air quality" in national areas of special natural, recreational or scenic value. Morro Bay is a nationally-protected estuary.

Ground-level concentrations of particulate matter, a potentially lethal toxic emission that EPA considers a significant health risk, would rise 60% in Morro Bay, partly as a result of an increase in the proposed plant's operating capacity by 20% and plans to operate it more than the existing plant is operated.

With regard to emission rates for the new plant, I object to the issuance of

the PSD permit for the following reasons: (1) levels of pollutant emissions are understated by the applicant, (2) air modeling for particulate matter was inappropriate under EPA standards, (3) that levels of emissions from the existing plant have been overstated to make those of the new plant appear to be lower, (4) that the baseline used to determine emissions levels for the existing plant has been inflated, and (5) and the baseline years used for the permit are not in compliance with what the PSD requires for normal source emissions.

Arline Savage
1250 Scott Street
Morro Bay, CA 93442
Te. 805-771-0269

Joseph Lapka/R9/USEPA/US
10/31/2006 08:06 AM

To Anita Lee/R9/USEPA/US@EPA, Mark Sims/R9/USEPA/US@EPA
cc
bcc
Subject Fw: comments on Morro Bay PSD permit

from the permits box

****

Joseph Lapka
Region 9 Air Permits Office
United States Environmental Protection Agency

phone: 415-947-4226
fax: 415-947-3579
e-mail: Lapka.Joseph@epa.gov

mailing address:
U.S. Environmental Protection Agency
Air Permits Office (AIR-3)
75 Hawthorne Street
San Francisco, CA 94105

----- Forwarded by Joseph Lapka/R9/USEPA/US on 10/31/2006 07:06 AM -----

Santa Lucia Chapter of the Sierra Club <sierra8@charter.net>
10/30/2006 07:56 PM

To R9AirPermits@EPA
cc
Subject comments on Morro Bay PSD permit

SIERRA CLUB
FOUNDED 1892

Santa Lucia Chapter
P.O. Box 15755
San Luis Obispo, CA 93406
(805) 543-8717
www.santalucia.sierraclub.org

Oct. 30, 2006

Mr. Mark Sims
U.S. EPA Region 9
Air Permits Office (AIR-3)
75 Hawthorne Street
San Francisco, CA 94105

-via e-mail

Re: Comments on Proposed PSD Permit re Morro Bay Power Plant

Dear Mr. Sims,

The Santa Lucia Chapter of the Sierra Club, representing 2,500 members throughout San Luis Obispo County, supports the comments of the Citizens Alliance on Plant Expansion regarding the Prevention of Significant Deterioration permit for the proposed Morro Bay power plant.

Specifially, we are concerned that the timeframe used by Duke Power as its baseline of normal operations – coinciding with the "Califiornia energy crisis" -- clearly did not constitute a normal operational period for emissions, and should not be considered representatives or in any other way used as a baseline for analysis. We agree that EPA should require the operator to provide a 10 to 20-year history of emissions to provide the necessary context for the selected baseline period.

We are concerned by the possibility that PM10 emissions are being understated by half – thereby significantly exceeding PSD Class II Increment of 30 μ/m3 -- and the conclusion that NOx, CO and VOC should not be subject to PSD review for this project. We urge EPA to require a corrected baseline and review the data on that basis prior to considering the issuance of a permit for the MBPP project.

Conflicting testimony on the manufacturer's reported emission rates, the mehtodology used in PM10 modeling, and the use of a Final Determination of Compliance (FDOC) that expired two years ago and is no longer valid are also matters of concern that make the issuance of a PSD Permit at this time premature.

That current regulatory limits for PM10 are inadequate and outdated, made apparent by the 2000 American Petroleum Institute study which found that even low levels of particulates increase the risk of serious health problems and death, makes the necessity of accurate data even more critical for our citizens.

Sincerely,

Andrew Christie
Chapter Director, Santa Lucia Chapter

EPA United States Environmental Protection Agency

Public Comment Form

(Please Print)

Name David Nelson

Address 2580 Juniper AVE

Morro Bay CA.

Affiliation CAPE

Telephone 805 772-2524

Email MonigueandDavid@SBCglobal.NET

Would you like to be added to our mailing list? ☐ Yes ☐ No

Comments: Attached - Please find CRY CAL. Article from 1962 Telling About damage from The Plant. There are many more examples.

And The TRIBUNE Tue Oct 17, 2006 "County asthma rate Tops STATE"

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HEALTH

County asthma rate tops state's

MORE ONLINE
Go to **sanluisobispo.com** to see the UCLA study on state asthma rates.

BY SARAH ARNQUIST
sarnquist@thetribunenews.com

Our high pollen count and the Central Valley's drifting smog likely contribute to the higher local percentage, expert says

Rates of asthma are increasing among California adults, and the percentage of San Luis Obispo County residents with the condition is higher than the state average, according to a new report.

About 22,000 people in the county — or 9 percent of the population — have asthma, according to data from the 2003 California Health Interview Survey led by researchers at the UCLA Center for Health Policy Research. An additional 12 percent, or 30,000 people, have asthma-like symptoms that in some cases may be undiagnosed asthma.

Statewide, 7 percent of residents reported having asthma symptoms.

Researchers did not conclude why some counties have higher rates of asthma than others. Variance in demographic and socioeconomic factors, air quality, climate and physician diagnostic practices are all contributing factors, the report said.

Greg Thomas, the county's health officer, said the top two reasons San Luis Obispo County has higher rates of asthma are most likely the high pollen count and Central Valley air pollution drifting into the North County.

"Clearly, asthma and other

Please see ASTHMA, B2

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under the direction of Marshall-Spoo Funeral Chapel in Grover Beach.

WRIGHT — Joseph Wright, 63, of Creston died Sunday, Oct. 15, 2006. Arrangements are under the direction of Chapel of the Roses Mortuary in Atascadero.

ITUARY POLICY

ie obituaries are
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paid. All obituaries
r grammar, spelling
d will be accessible
via

sanluisobispo.com.

Deadline is 1 p.m. for an obituary published the following day. Deadlines for obituaries published on Sundays and Mondays is the previous Friday at 1 p.m. If you have questions, please call 805-781-7834.

OBITUARY

e Quinn, L.A. lawyer who d the working poor, dies

GELES (AP) —
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& Quinn Family Law Center in 1981 to offer low-cost legal help with child custody issues, paternity actions and other family matters. Today, the firm assists more than 1,000 clients a year.

Quinn, who was 66 at the time, felt the need to open the center after federal funding cuts had scaled back legal services for the working poor.

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lays of up to five minutes.
— *Sona Patel*

Asthma

From Page B1

breathing problems are significant issues for Californians and a growing challenge for our health care system," said Susan Babey, lead author of the report.

Asthma is most prevalent in young children and one of the leading causes of school absenteeism, the report said.

Local school nurse Judith Gier said parents should tell the school if their child has asthma so staff can help the child control his or her symptoms.

"Our job is to support the parent and the child with whatever they need for their asthma," Gier said.

Some schools have used a curriculum from the American Lung Association to teach children how to control their triggers and symptoms, she said. The public health department also notifies the schools on days when the air quality is particularly poor so teachers can limit outside physical activity.

Almost 10 percent of people statewide have asthma-like breathing problems that may be undiagnosed asthma, the report found. The authors suggest that asthma may be underdiagnosed, especially among minority and low-income populations.

Those people may not be receiving the necessary treatment to control their asthma. Many asthmatic people can live symptom-free if they receive the proper medications and mitigate triggers, such as exercising outside on days with poor air quality or high pollen counts, researchers said.

Amphitheater

From Page B1

phitheater better."

Monroe donated about $5,000 toward rebuilding the facility. A week before her death Sept. 30 at age 81, Monroe met with Cameron to review a proposed design the amphitheater.

"She was so excited to see the plans," Cameron recalled Monday. "She had a giant smile on her face. She had some suggestions" and approved the plans.

Donations at today's memorial service at 2 p.m. today at St. Paul's Episcopal Church, 2700 Eton Road in Cambria, or at Mid-State Bank & Trust, 1070 Main St., Cambria.

DONATIONSSOUGHT

Donations to the fund for the Bobbie Monroe Memorial Amphitheater at Camp Ocean Pines may be made at a memorial service at 2 p.m. today at St. Paul's Episcopal Church, 2700 Eton Road in Cambria, or at Mid-State Bank & Trust, 1070 Main St., Cambria.

The new amphitheater design includes a stage of about 30 feet by 15 feet, with two 12-by-12-foot structures.

Each smaller structure would have a roof and could seating tiers that sweep up the hill to the camp's Pines Lodge. Cameron envisions that as many as 300 to 400 people could sit on blankets or lawn chairs on the tiers.

Other attendees, including those with disabilities, could watch performances from the decks of the nearby lodge.

The site is surrounded by towering pine trees, oaks and coffeeberry bushes, with hawks soaring overhead and other wildlife wandering past.

"Bobbie would have loved the new amphitheater," Cameron said.

County fire crews made eight helicopter water drops on the site. On Saturday, firefighters cut a firebreak around the smoking ground.

GONZALES

Hunters don't have a problem with getting the lead out.

During a free shoot at the Monterey County Swiss Rifle Club, hunters were impressed with copper bullets, which are encouraged by conservationists and hunter organization trying to eliminate bullets as a source of lead poisoning of the California condor.

Copper bullets compared with conventional, unbonded jacketed lead bullets came out a winner in terms of cohesion, expansion and accuracy. The nonlead ammunition was provided free by manufacturers Federal Premium Ammunition, Bismuth Cartridge Co. and Barnes Bullets.

Blake McCann, wildlife biologist for the Institute for Wildlife Studies in Hollister, has used the Barnes bullets extensively for eradicating destructive wild pigs that invade sensitive habitat.

"If you can kill a wild pig with it, you can kill just about anything," said Terry Palmisano, senior wildlife biologist for the state Department of Fish and Game.

— *Associated Press*

CRY CALIFORNIA

The Journal of CALIFORNIA TOMORROW

FALL 1967

LET'S ABOLISH THE PLANNING COMMISSIONS
THE TOWERING STACKS OF MORRO BAY
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Ronald Loveridge and Larry Yount

THE TOWERING STACKS OF MORRO BAY

Morro Bay is a coastal village of about nine thousand people—a community of immaculate homes and shops covering hills which slope down to a scenic, well-protected harbor. The craggy mountains and grass-covered hills along Highway 1 are unmarked by housing projects, shopping centers, or industrial parks. Morro Rock, a famous landmark jutting up 576 feet, forms the northern tip of the bay and helps protect the fishing fleet which, coupled with the tourist trade, is the economic lifeline of the town.

From the top of the grade overlooking the bay, the view is dominated by two spectacular sights. The first is the imposing Morro Rock and the second, rising almost as high as the rock's summit, is the stack assembly of the Pacific Gas and Electric Company's steam-generating plant.

The plant is located on the northern shore of the bay and is separated from the rock and the harbor by a 600-foot strip of city-owned property. If the scenic pollution created by the plant's mere existence were not sufficient, the obvious threat of air pollution symbolized by the towering stacks raises the inevitable question: "Why, of all places, should an industrial plant of this size and character have been built here?" If there were ever any doubts about the legitimacy of this question, the destructive events of May, 1966, erased them.

The land on which the PG&E power plant now stands was originally county-owned. During World War II, it was used as an amphibian base and following the war, the base was dismantled and the supervisors of San Luis Obispo County were once again left with the land. Although it included some of the choicest harbor land of Morro Bay, it was bringing in no return, and consequently, it was

RONALD LOVERIDGE *is assistant professor of political science, University of California, Riverside, and* LARRY YOUNT *is a political science honor student at the Riverside campus.*

put up for public sale.

For PG&E the site was ideal from a technical standpoint, and the need for a power plant in the region was growing rapidly. And so in 1953, with the blessings of almost all the local interests, PG&E bought the land.

To the leaders of Morro Bay, installation of a $116 million plant was a welcome economic windfall in new taxes and jobs. They were quite willing to forego the esthetic and tourist trade loss, in lieu of the immediate and substantial financial gains. The city's newspaper, the *Morro Bay Sun*, did publish several letters of protest from citizens who felt they had little to gain from the plant's presence or who placed the esthetic loss above economic gain. But the few complaints were ignored.

The original plant was completed in 1956. It consisted basically of two generating units which required one intake and one exhaust tunnel, one smoke stack, and a main plant which occupied a small portion of the newly purchased property. This alone represented quite an eyesore for Morro Bay, but it was only the beginning. For in 1961, PG&E began construction on two larger generators which would more than double the plant's electrical output and require the construction of two additional smoke stacks, two more intake tunnels, and a main plant much larger than the original.

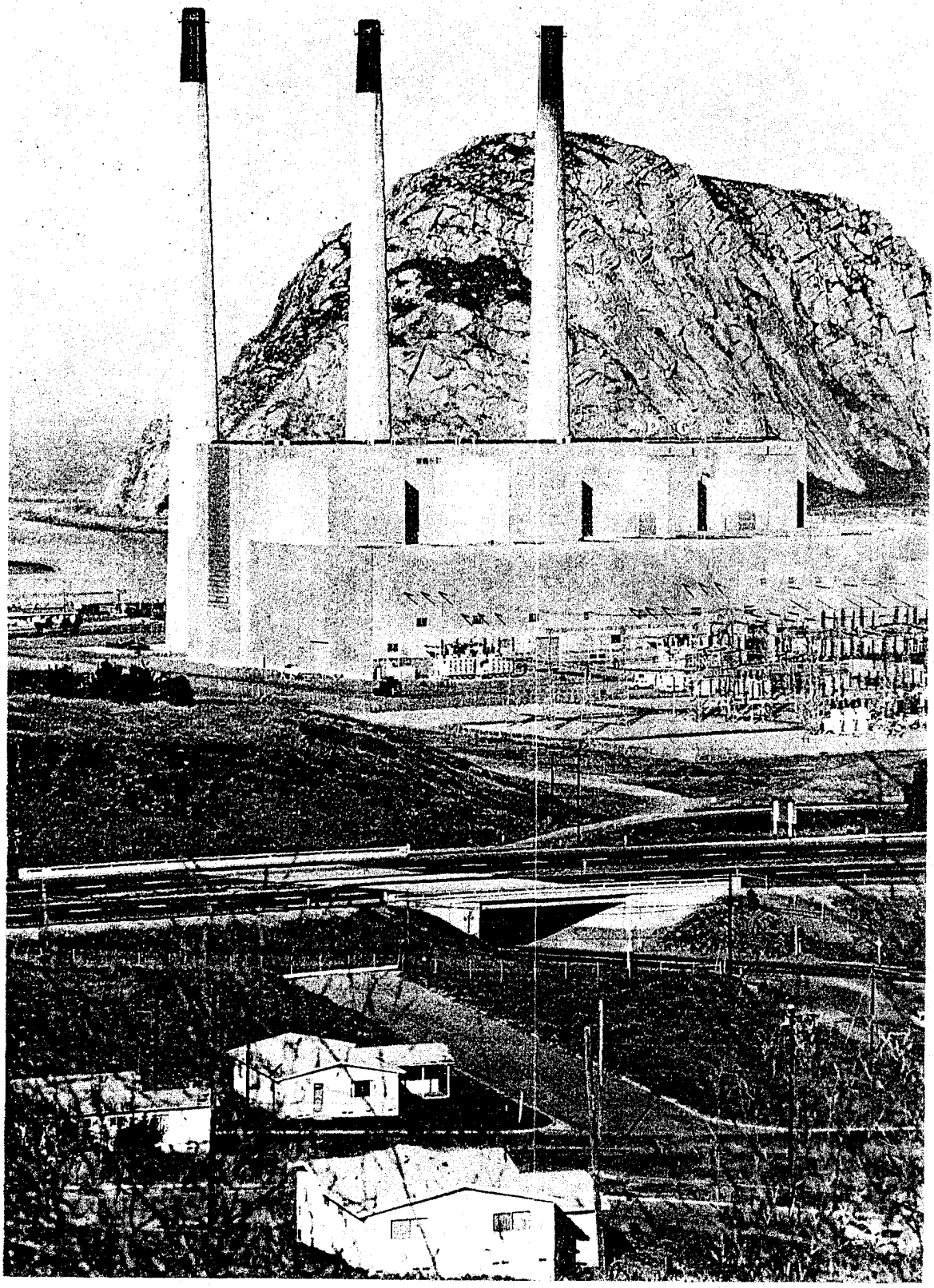
The consequences of the enlarged operation were far greater than the mere increase in visual blight. The greater capacity of the plant periodically created excessive demands on PG&E's natural gas supply. The company takes natural gas for its own use only after the domestic needs of its customers have been supplied. During cold spells, when gas consumption is increased, the generating plant must burn fuel oil to maintain power generation. Thus, the stage was set for the appearance of air pollution.

Normally, a stiff, off-shore breeze keeps the air of Morro Bay clear and sparkling, the only visible blemish being the plumes of smoke rising from the stacks of the generating plant. When the plant burns natural gas, the plumes consist mostly of steam vapor and are generally considered only a minor visual nuisance. But when the plant converts to fuel oil the plumes change to black clouds with destructive potential.

Each generator is supplied with steam for its turbines by a boiler. The boilers for number one and two units generate 1,135,000 pounds of steam per hour at 1,850 pounds pressure and burn 1,400,000 cubic feet of gas or 10,440 gallons of fuel oil per hour. Those for number three and four units create a flow of 2,160,000 pounds of steam per hour at 2,475 pounds pressure and burn 2,800,000 cubic feet of natural gas or 19,110 gallons of oil. At full capacity the plant burns 59,100 gallons of fuel oil per hour. When asked what percentage of the oil combustion products escapes into the air, a plant executive declined to answer, stating that this was information which he was not at "liberty to divulge." Even if the oil were burned at a high efficiency (which from all indications it is not), the amount of pollutants spewed into the air would certainly not be negligible.

Historically, communities which suffer from air pollution invariably failed to adopt stringent control measures before allowing polluters to begin operation. When they are finally snapped into awareness by a disaster or the appearance of a

PHOTOGRAPHS BY BARON WOLMAN



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mixture of poisons where their air used to be, the various interests are so tangled that control of air pollution is extremely difficult to achieve. Morro Bay was no exception in its dealings with the PG&E. But the Morro Bay example is extremely useful since it is free of confusion. There can be no passing the blame from one polluter to another as is done in most metropolitan areas. PG&E is the only significant air polluter in Morro Bay.

Air pollution was not a big issue before the plant was built. The question was raised, but PG&E representatives pointed out differences in atmospheric conditions in the Los Angeles Basin and at Morro Bay and convinced those concerned that Los Angeles-type problems could not occur in Morro Bay. No demands were made at the time by either county or city representatives for the installation of control devices even though it was obvious that smoke would at the very least be an ugly addition to Morro Bay's skyline. Neither the city nor the county had then or has now any pollution control laws affecting industry.

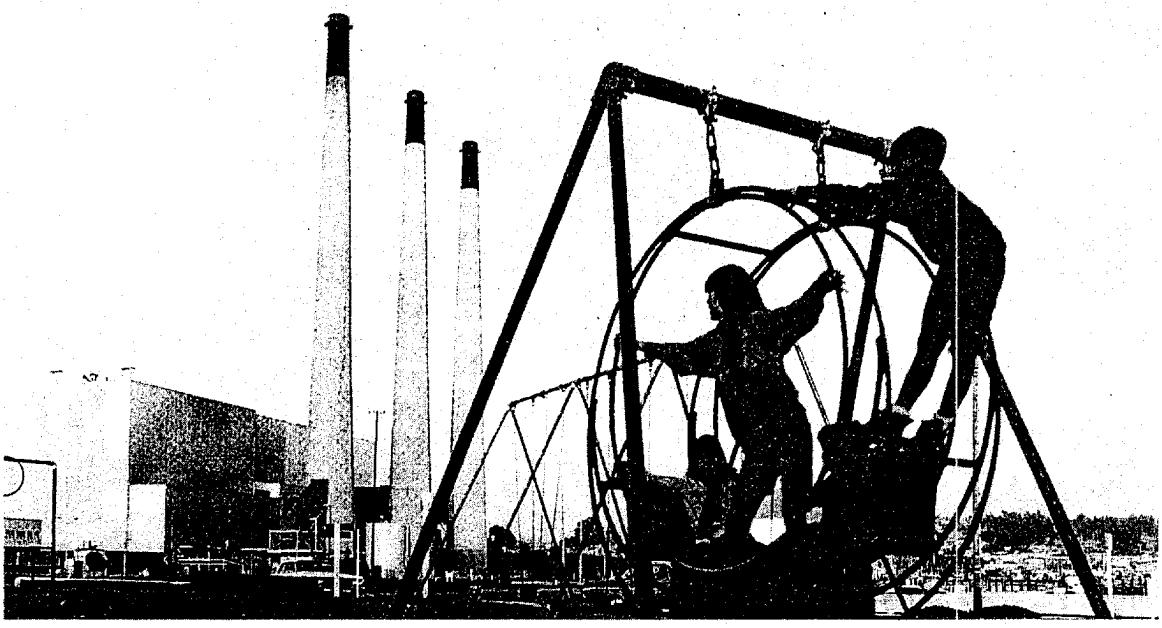
The case illustrates a lack of farsightedness in both local governments. Air pollution was clearly a problem in other areas at that time and adequate control devices were available. It was undoubtedly realized that control devices would cost less if installed as the plant was being built. And the city leaders must have known that the plant's smoke would not aid the tourist trade. Yet controls were not even considered. The desire to obtain the economic advantages which industry brings overshadowed all else.

It wasn't until May of 1966 that the town was gripped in widespread alarm over the poisons infesting the air.

On the 20th of that month, a fog bank moved in and shrouded the town. Unseasonably low temperatures prevailed in other parts of San Luis Obispo County and in Santa Barbara County, which is also served by the plant. Natural gas consumption increased and the power plant had to resort to burning fuel oil. The high humidity and the lack of wind caused the thick clouds which issued from the stacks to mix with the moisture in the air and sink to the ground. The clouds now consisted of water vapor, particulate matter, sulphur dioxide, and other pollutants. The toxins drifted across the city for two days leaving a wake of destruction in their path. Only then did the people of Morro Bay become aware of the dangerous potentialities of their industrial neighbor. A loud and vengeful outcry was raised as indicated in an article in the May 26th issue of the *Morro Bay Sun*:

> The low grumble of Morro Bay residents regarding 'fallout' damage to car paint flared into a roar when cars, housepaint, clothes out to dry, flowers and vegetables were increasingly and visibly damaged last week.

Complaints to the newspaper, the city council and the generating plant came from all over the town. Meetings were held, a Citizens' Committee on Air Pollution and a Committee for the Protection of Plants and Trees sprang into being. A



petition with 219 signatures was raised stating that "no fuel oil should be burned in the Morro Bay plant." There were no local air pollution laws in effect so the city turned to the state for help. The state responded with loans of sulphur dioxide analyzers, lead phosphate candles, equipment for determining thermal conditions and a member of the State Bureau of Air Sanitation who was to appraise the Morro Bay air pollution problem. But the net result of all this was that nothing was done. The reasons why nothing was done show why industrial air pollution is such a knotted problem wherever it occurs.

First, insurance representatives quietly went about paying claims against the company for damages incurred by the "fallout." Compensation was more than adequate, the hostility of those directly harmed was quieted and none of the complaints was taken to court. Second, Leigh Smith, PG&E division manager from Salinas,spoke at a city council meeting. He is quoted in the *Sun* as saying,

> We have been your neighbor for eleven years and this is only the second time such a situation has occurred. The company does not use fuel oil by choice . . . as to the ordinance, [which proposed that no fuel oil could be burned], we can't live with it.

He was at a disadvantage since there were no other significant polluters on which to shift the blame. Yet Smith labeled the fallout of "undetermined origin" and claimed that the company would look into it.

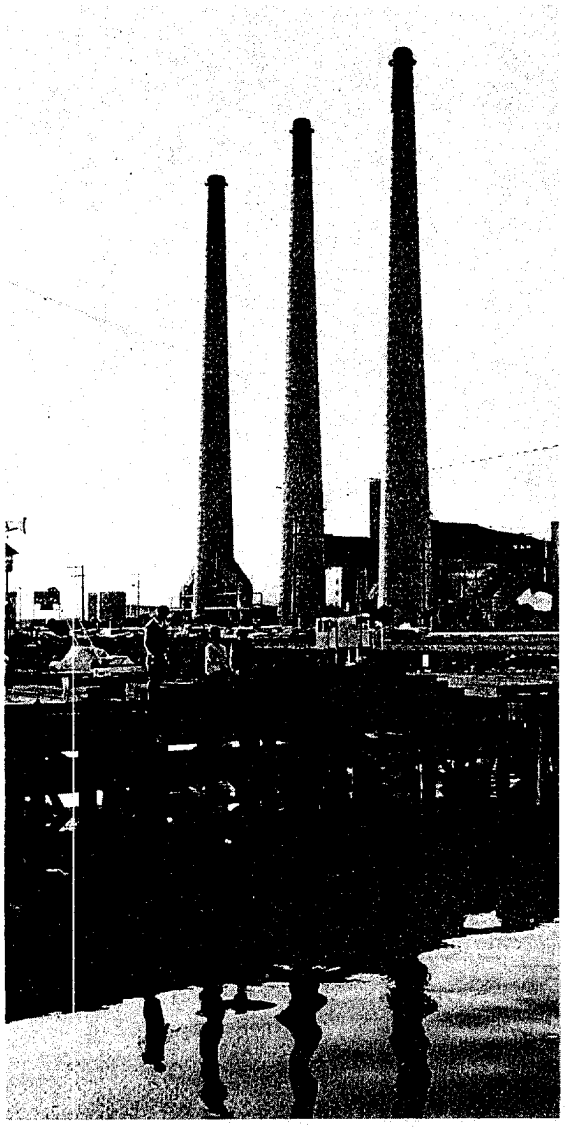
His arguments were evidently effective, for no ordinance was passed. The citizens' committee then proposed that a "filter referred to as 'bagging' be installed to control such situations." Smith argued, again successfully, that "such a factor, particularly in the volume of fuel used here, would present a severe economic problem, the cost of which would be passed on to the consumers."

Third, the council appointed the city attorney, Peter Kardel, to check into the state health and safety code to see if any of those laws were applicable. Kardel, whose firm, strangely enough, is also PG&E's local representative, stated that none was. He offered three steps which the city could take: first, after a study the city should pass an ordinance for future action; second, action could be taken to "abate a nuisance;" third, no legal action at all except a discussion between PG&E officials and the city. The council chose the third prerogative.

Finally, PG&E refrained from burning fuel oil until the situation had cooled considerably. Now it is operating as before the incident and burning fuel oil approximately 20 percent of the time.

But what became of the citizens' committees which were formed at the height of the controversy? The Citizens'Committee on Air Pollution met in June, July and August of 1966, and after that, although it still exists in name, no one showed up. The Committee for the Protection of Plants and Trees was even less fortunate. It survived only one meeting. Each of these committees had a local PG&E executive as a member, incidentally.

Air pollution is not, then, a phenomenon easily controlled. Even in Morro Bay's case, where there is only one polluter and where practical means of solving the problem are available, the situation can become inextricably tangled. The sources of this

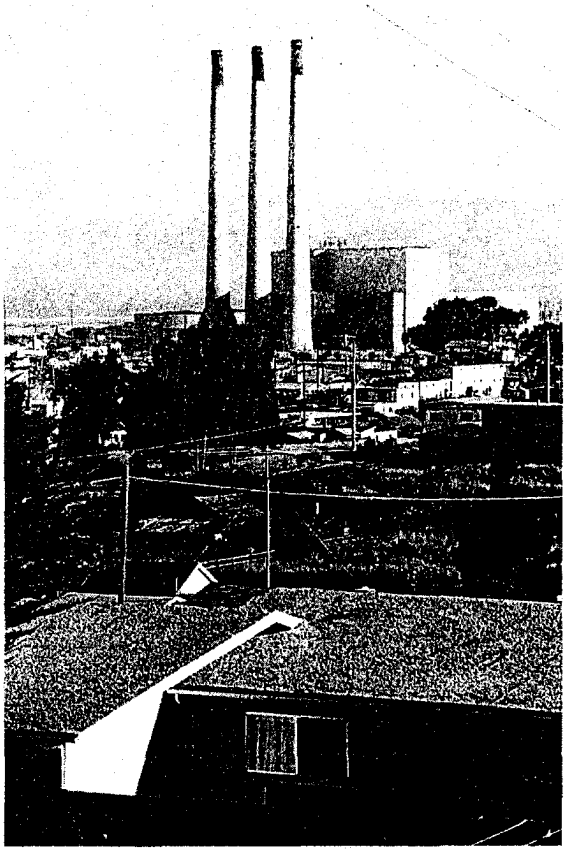


complication lie in economics and in public apathy.

The payoff to those who complained most ardently (the ones economically harmed by the pollution), the threat of economic reprisal against corrective action by the city and the ability of the polluter to wage a long and costly defensive legal battle combined to stifle any attempts by city government to clean up its air.

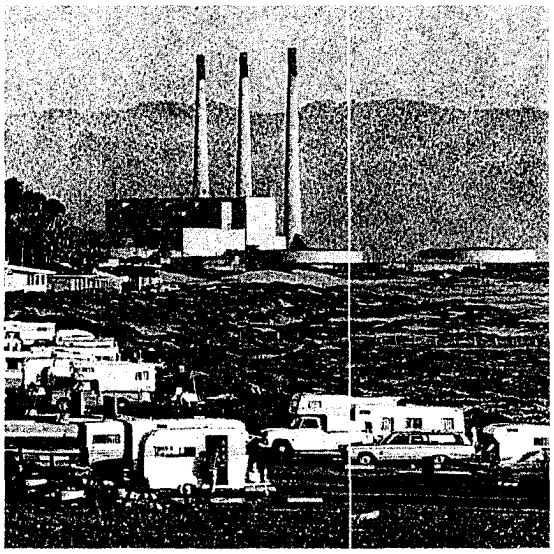
Also, once the problem was out of the headlines and the complaints were quieted, the public tended to forget the damage which pollution inflicted. The attitude of Morro Bay residents now is that the plant will clean up of its own accord. After all, they have operated since June of 1966 without a repeat of the "fallout."

San Luis Obispo County's air is still almost



always bright and clean. But the supervisors should take a lesson from our smog-ridden counties and pass control ordinances now, while opposition is still relatively weak. For eventually urban growth will overtake the air's capacity for poison disposal and the struggle for air pollution control will be many times more difficult. Pollution will spread until it is widely recognized that there is only one sure way to control it. That solution involves more than technical achievements, for "fair, sensible, practical means of controlling air pollution are at hand." Rather than technology, control depends on the political decision to treat air as a public resource and not as the private property of the highest bidder. The popular maxim that "air is free" is a shortsighted and increasingly dangerous fiction—as the residents of Morro Bay have discovered.

Recent federal legislation will take some halting steps at setting up minimum air quality standards. But a bill to create an Environmental Quality Control Board which would have, among other things, regulated air pollution on a statewide basis failed to pass in the state legislature. Similar legislation may eventually be passed, and perhaps in time,



safeguards and sanctions will be established at Morro Bay.

Two further questions, however, are raised by the PG&E plant of Morro Bay. First, does the responsibility of a public utility extend beyond the immediate cost-benefits of running a power plant? If it does, then even if reluctant to install control equipment, PG&E should immediately publicly announce that it will at least stop the burning of fuel oil at Morro Bay when atmospheric conditions become hazardous. And second, should a generating plant be located on some of the most beautiful and accessible California shoreline? If we decide that the coast should no longer be subject to casual and random development, then we must look insistently to the state government for an over-all coastline-use plan and laws to give it meaning.

EPA United States Environmental Protection Agency

Public Comment Form

(Please Print)

Name Lynda Merrill

Address 391 Sequoia

Morro Bay, Calif.

Affiliation Former Rec & Parks Commissioner, MB

Telephone _____

Email _____

Would you like to be added to our mailing list? ☒ Yes ☐ No

Comments: Children & the elderly are particularly vulnerable to the PM (particulate matter) so I am most concerned for the Health of our citizens. We already have a high rate of Asthma in our area. With increased PM's & Lower stacks my fear is an unhealthy air quality will add to this Asthma — Fog makes this worse! Lynda Merrill

Joseph Lapka /R9/USEPA/US

10/30/2006 09:02 AM

To Anita Lee/R9/USEPA/US@EPA, Mark Sims/R9/USEPA/US@EPA

cc

bcc

Subject Fw: Comment on proposed PSD for Morro Bay Power Plant

From the air permits e-mail box...

****

Joseph Lapka
Region 9 Air Permits Office
United States Environmental Protection Agency

phone: 415-947-4226
fax: 415-947-3579
e-mail: Lapka.Joseph@epa.gov

mailing address:
U.S. Environmental Protection Agency
Air Permits Office (AIR-3)
75 Hawthorne Street
San Francisco, CA 94105

----- Forwarded by Joseph Lapka/R9/USEPA/US on 10/30/2006 08:02 AM -----

Melody DeMeritt <demeritt04@yahoo.com>

10/29/2006 06:56 PM

To R9AirPermits@EPA

cc

Subject Comment on proposed PSD for Morro Bay Power Plant

I spoke at your recent hearing and could not show a powerpoint I had prepared. I left the paper copy with your staff, but I thought it would be wise to send you an electronic copy.

Several residents of Morro Bay, myself included, have asthma and don't want the further damage of a 60% increase in PM10s coming out of stacks that are 1/2 the height of the existing stacks.

Morro Bay has hosted the Power Plant for 50 years. The Council-appointed group, New Futures, now looks to a different future. Morro Bay is home to a natural estuary and is an obvious natural refuge for Californians in over-populated zones.

Please look at the attached powerpoint show (5 slides) and know that there should be something better for Morro Bay than another gas-fired plant using once-through-cooling. I would prefer an alternative use of the site that improves the "profile" of Morro Bay and increases our health to residents and our value to visitors.

Melody DeMeritt
Councilmember
City of Morro Bay

epa.ppt

ENVIRONMENTAL PROTECTION AGENCY (EPA)

PROPOSED PERMITTING ACTION

FOR THE MORRO BAY POWER PLANT MODERNIZATION PROJECT

MORRO BAY, CALIFORNIA

Tuesday, October 24, 2006

6:09 p.m. - 8:15 p.m.

PUBLIC COMMENTS

Held at the Veteran's Memorial Hall

209 Surf Street

Morro Bay, CA 93442

Reported by: Allyson Whitendale, CSR No. 12996

File No. 207346

Public comments were taken at the Veteran's Memorial Hall, Morro Bay, California, before Allyson Whitendale, CSR No. 12996, on Tuesday, October 24, 2006, commencing at the hour of 6:09 p.m.

INDEX

Public Hearing Officer for EPA:
Stephen Jawgiel
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

PUBLIC HEARING

Morro Bay, California

Tuesday, October 24, 2006

-oOo-

MR. JAWGIEL: Welcome and good evening. This public hearing is now in session. My name is Stephen Jawgiel, and I'm the acting public hearing officer for the United States Environmental Protection Agency, Region 9, in San Francisco, California, and I'll be the presiding officer for today's hearing.

The purpose of today's hearing is to accept public comment on the Environmental Protection Agency's proposed Clean Air Act prevention of significant deterioration, and I'll be referring to that phrase as PSD permit for the Morro Bay power plant modernization project.

Under the proposed PSD permit, LSP Morro Bay's LLC will, Number 1, replace four existing 1950 to 1960's era fossil fuel fired electric utility stream generators with two combined cycle natural gas fired turbine block units; Number 2, replace three existing 450-foot exhaust stacks with two 145-foot stacks complied with good engineering practices; and Number 3, will remove the existing fossil fuel tanks.

With me tonight are Gerardo Rios, Anita

Lee, and Leslie Ramirez, who is our timekeeper up here, of the EPA Region 9 air division; Carole Vondencamp from EPA's air technical services office; and Wendy Chavez from EPA's office of public affairs.

Before we begin accepting comments, I would like to describe the procedures for tonight's proceeding. Thereafter, we will receive public comments in the order of the speaker sign-up cards, in the order that they were received. I would like to go over the ground rules for today's public hearing. This hearing is a formal legal proceeding. Public notice of this hearing was made by publication in the Morro Bay Sun Bulletin, the San Luis Obispo Tribune, and the Bay News. Public notice was also posted on EPA's website.

The audio from this hearing will be tape-recorded, and a court reporter, whom you see to your right, will be transcribing a verbatim recording during this hearing. If you present oral comments at today's hearing, please speak clearly and slowly so that the court reporter can understand you and record your comments accurately.

I also ask that you refrain from interrupting other speakers or asking any questions during their presentations, and the purpose for that is the simple courtesy helps the court reporter to listen

to one person individually for accuracy's sake so that she doesn't have to try to record voices that are being spoken over each other.

Please note that you will have the opportunity to make comments shortly. Once we begin the public comment portion of this hearing, we realize that this is a complex issue, so informational materials are available at the sign-up tables in the lobby.

I don't see any here right now, but in case there are any people who show up with banners and posters, they will be allowed to be placed in the rear of the room; however, banners and posters that are attached to a stick will not be allowed in the hearing room. If you wish to carry a banner or poster to your seat, you'll be asked to sit in the rear of the hearing room so that others behind you can have a clear view of the stage here. Any sign or banner may be excluded from this hearing if it is determined to be disruptive to the conduct of the hearing.

I'd also like to mention that there's -- as you walk in, you noticed that there was a registration table located in the lobby. You don't need to register to be present here at the hearing; however, if you would like to make oral comments at

today's hearing, please fill out a green speaker card, which you can see here. I will be calling individual speakers based upon the order that they submitted their speaker cards.

If you would like to receive direct notification of EPA's final decision on the proposed permit, please sign in one of the sign-in sheets located in the registration table. And I know Carole and Anita are back there, and they can assist you with any of those forms that you may need.

If you don't wish to speak tonight you can also submit written comments for the official record. Written comments and oral comments will receive equal consideration by the EPA in making a final permit decision. There is a box at the registration table for submitting written comments. If you would like to write comments while you are here today, a form for that purpose is available also at the registration table in the lobby. If you have submitted written comments, it is not necessary for you to give oral comments as well.

If you submit by -- comments by US mail, written comments must be postmarked on or before October 30th, 2006. Comments submitted by e-mail may be sent to the attention of Mark Sims, and I'd like to

provide you with Mr. Sims' mailing address, his fax number, and his e-mail address. For the purposes of mailing and comments, you would address them to Mark Sims, Air Division, open paren, capital AIR-5, close paren, US EPA Region 9, 75 Hawthorn Street, San Francisco, California 94105-3901. Comments that you would like to fax in to the EPA can be faxed at area code 415-947-3579, and if you would like to submit your comments via e-mail, they should be sent to R as in the letter R, 9, the numeral 9, air permits, all one word, R9Airpermits@EPA.gov and, again, those need to be submitted by October 30th, 2006. The oral comments received at this hearing and all written comments received by the end of this comment period will be considered by the EPA in making the final permit decision.

EPA decisions on Clean Air Act permits are typically made with the participation of a number of people within the organization. EPA staff cannot comment to any specific decision related to the proposed permit today. The purpose of this hearing is to listen to comments, so we will not be providing responses during this hearing; rather, EPA will prepare a written summary of the comments and EPA's responses. The response to comments will accompany the final

permit decision. EPA will not make a decision on the proposed permit until all comments have been considered. EPA's notice of the final decision on the permit, along with a response to comments, will be sent to each person who has submitted written comments or who has signed up at the registration table to receive notice and provide an e-mail or postal address. This information will also be available on EPA's website.

A copy of today's transcript -- of today's hearing will also be available for inspection at EPA's office in San Francisco. If you wish to purchase an official copy of the transcript, please make arrangements directly with the court reporter following the hearing. We also intend to make this available on EPA's website.

When EPA issues a permit, it becomes effective 30 days after the notice of the decision; however, EPA's final decisions are reviewable by the environmental appeals board, the regulations of which are found at 40 CFR part 124. Permits to review must be filed within 30 days of the decision.

In a few minutes I will begin calling speakers. Speakers will be called in groups of five in the order that they presented their cards. When I call your name, please come forward, and then you can see

there are five chairs to your left over here. As I call your name, the chair closest to the podium is chair Number 1, so if people can fill in the chairs from 1 to 5, I would appreciate that. And I will be calling individuals to come up to the podium and provide comments.

In order to give everyone who wishes to speak during this hearing a chance to do so, I ask that everyone who speaks please make your oral comments brief, as this hearing is only scheduled for three hours. To assist in this effort, I am asking the speakers to limit their comments to three minutes. If you have lengthier comments, you may submit them in writing. Each speaker will be given a one-minute warning and then notified when their time is up.

And I will apologize beforehand if it seems at some point I'm kind of pushing you off the microphone just for the purposes of we want to make sure that everyone who wants to provide comments tonight has the opportunity to do so. If we perchance have additional time at the end of the hearing and people would like to make additional comments, we may allow people to come back up to the microphone if time permits. But we would like to strictly enforce the three-minute rule just so that everyone who is here has

a fair and equal opportunity to provide comments at this hearing.

I also wish to mention that we have a group here, the Coastal Alliance Against Plant Expansion, also known as CAPE. CAPE has had some of their members donate their time slots to -- so that they can make one presentation. Currently, it appears as though they have four individuals that wanted to donate their time to the organization, so the organization of CAPE will likely have a 12-minute slot. So in case it seems you're wondering why they are allowed to speak longer than the allotted three minutes, that is the reason why, because instead of having their individual members come up, we decided it would be more expedient and probably more efficient to basically have one person, representative from that group speak.

I would also like to mention that I'm aware that some of you may have comments relating to water permit issues regarding this project in addition to air permit issues; however, I ask you to please refrain from making any comments related to the water issues because they are not relative to this specific air permit hearing and will not be considered as part of this process. I understand the comment period for

the Morro Bay water permit is closed; however, if you still wish to submit written comments on the water permit, you may do so by sending written comments to Michael Thomas at the California Regional Quality Control Board. You can also, if you feel that it is necessary to do so or if you would like to do so, you can also submit written comments to Nancy Yoshikawa at the United States Environmental Protection Agency, also at 75 Hawthorne Street, San Francisco, California 94105. Because the official comment period is closed for the water permits, I cannot guarantee that your comments will be considered in that permit process.

I would like to now begin the comment period, and I would like to read off the first five names of individuals who have submitted requests to make comments and, again, I'm going to preapologize here if I mispronounce anyone's name. What I would like to do is if I call you up to the podium, if you would please state your name for the record and also spell your name for the court reporter. That would be greatly appreciated.

So I would like to call off the first five names. The first name is Roger Ewing, if you could please come up and take the first seat. Thank you, Mr. Ewing. If you could please sit in that front

seat right there, I would appreciate it. The next person is Colleen Johnson. The third person is Nelson Sullivan. The fourth person is Garry Johnson. And the fifth person is Joan Carter.

Mr. Ewing, if you would like to please take the podium and, again, Mr. Ewing, I please request that you limit your comments to three minutes. You will receive a one-minute warning, so to speak, when we're approaching the end of your comment period. So please feel free to begin.

MR. EWING: Is this on? Is the mic on?

MR. JAWGIEL: It does not sound like it is.

MR. EWING: Good evening. My name is Roger Ewing, E-W-I-N-G, and I'm a Morro Bay citizen. And first, I'd like to thank all of you very much for giving us the opportunity to voice our concerns.

I have been opposed to the power plant from the very beginning. The city government of Morro Bay chose to pursue the modernization because of the money interests. I've opposed it because of the health interests. It is my opinion that the long-term health of our citizens is far more important than the money gained in profit to one company. By lowering the smokestacks from 450 feet to 145 feet, PM-10 particulate matters will be coming right through our

windows, right through our doorways, and right into our lungs. I think that's wrong. I don't think that's fair to the elderly in our community, nor do I think it's fair to the very, very young, who's lungs are just beginning to form. So I would ask the EPA to think very seriously before granting a permit to continue the construction of this new power plant.

And, again, thank you for the opportunity to speak. There are many others that will come and speak on a more technical matter than I can, so listen carefully. Again, thank you. Have a good meeting.

MR. JAWGIEL: Thank you, Mr. Ewing.

I should also mentioned to people that as you come up and speak that you may be wondering my specific role in the approval of this process, and I can assure you I actually -- as a hearing officer, I'm here to make sure that this proceeding moves forward in an orderly fashion. I actually do not personally have a say in the -- in the approval of this permit. I just wanted to make that clear to everyone as we move along. People who are -- who will actually make the decisions will be grading these transcripts and the written comments that come in, so I wanted to make that crystal clear for you.

Thank you, Mr. Ewing. I appreciate your comments tonight. Next person, Ms. Colleen Johnson.

MS. JOHNSON: Good evening and welcome to Morro Bay. My name is Colleen Johnson, and I appreciate your traveling here to receive public comment and to collect all available information regarding this issue that is so important to our city.

As you know, over the past few years, many studies have shown the relationship between increased concentrations of particulate matter and respiratory problems, especially in children and the elderly. One study that particularly impressed me was one that compared the health of children living near a power plant to those living far from a power plant. Those who lived near a power plant had a significant reduction in their lung capacity and an increase in respiratory problems as compared to those not exposed to the emissions of a power plant. This was particularly true for children in their teenage years, when they are going through a period of rapid growth. The teenage years, the high school years.

Concerning the power plant here in Morro Bay, Energy Commission documents referred to a six-mile radius of increased pollution around the power plant. Our high school is not 6 miles from the power plant.

Our high school is not even 3 miles from the power plant. It is almost right next door to the power plant, and if a new power plant is built, it will be north of the old plant, even closer to the high school than the old plant. The smokestacks of a new plant will be lower and closer to ground level so that the particulate matter, carbon monoxide, sulfur dioxide, and many other hazardous chemicals will saturate the students' airways as they run laps during PE or practice football after school.

To add insult to injury, we not only have the Morro Bay students here at the high school, but because there is no high school in the neighboring town of Los Osos, the students there come to Morro Bay to also attend school under the smokestacks.

MR. JAWGIEL: One minute left, Ms. Johnson.

MS. JOHNSON: Obviously, we have a problem. A power plant next door to a school is not a good situation. The solution: Build a power plant at a less populated location or, at the very least, employ best available technology at a new plant here. Knowing that we -- what we know today and if a permit will be granted, I urge you to prohibit the applicant from employing duct burning, and I urge you to ensure that the most advanced least-polluting turbans available are

used. Thank you.

MR. JAWGIEL: Thank you, Ms. Johnson. Appreciate that.

Our next comment speaker will be Nelson Sullivan.

MR. SULLIVAN: She's a tall girl.

MR. JAWGIEL: Good evening, Mr. Sullivan. How are you?

MR. SULLIVAN: Good evening.

MR. JAWGIEL: Mr. Sullivan, if you could please state and spell your name for the record, I would greatly appreciate that.

MR. SULLIVAN: Nelson Sullivan, N-E-L-S-O-N S-U-L-L-I-V-A-N. And I will be very brief because I know I'm going to be followed by much more well-informed people than myself, but I have been deeply involved in this power plant venture with the organization CAPE, and I am personally convinced that this is a bad, bad thing. Not only is it in the middle of a town where the downwind is going to bring these particulates right into our houses, but it's a bad place to be generating electricity. Wiring throughout the state -- we're out in left field as far as where the deeds are. And the wires are not in existence, nor do they plan to be in existence to make the best use of

the energy that's being put in that effort. And the stacks, it's ludicrous to have these short stacks. The 450-foot stacks would let the pollutants go much farther afield than the population here. That's my main concern, and thank you very much.

MR. JAWGIEL: Thank you, Mr. Sullivan. I appreciate your comments tonight.

Our next speaker is Garry Johnson. Mr. Johnson, if you could please take the podium.

MR. JOHNSON: Garry Johnson, live in Morro Bay, live two blocks from the plant. G-A-R-R-Y J-O-H-N-S-O-N.

First, I'd like to say I'm an independent person. I am not affiliated with any group, not paid by the power plant people or be influenced by them. I am a retired engineer who worked in the space industry for most of my career. I pioneered the field of particle analysis for 40 years working for Lockheed Corporation. I am considered an expert in this field. My work included optical microscopy, scanning electron microscopy, ocean analysis, atomic absorption, electron disperse of x-ray analysis, known as EDX, to identify particles and determine the origin of these particles.

I discovered that PM-10 or just

particles themselves are everywhere in our lives. Every breath we take we are breathing in particles from cars' emissions, diesel emissions, smoke, inside our cars. Cars are one of the worst things right now because of the outgasing of the plastics. When you buy a new car, beware. Windy days, that's another big one. Pollen, pollen's everywhere. The list goes on and on. There are more particles going airborne from the list just mentioned that the plant would ever produce. If I were so paranoid as some people are about particles, I would become a Howard Hughes and bury myself in a hotel room.

In my professional career, we had a contract with customers that I would perform an in-plant inspection of the facilities and determine if they all met their requirements, including particle contamination. After I retired to Morro Bay, I checked the power plant for safety and found out that the use is natural gas and the plant is very safe. I even took a complete tour of the facility and found the plant was in A+ condition and attended many meetings to discuss issues that I had -- that I had. I feel the plant is safe, the plant meets all its requirements, and the EPA should go ahead and approve the facility.

MR. JAWGIEL: One minute, Mr. Johnson.

MR. JOHNSON: Okay. I still feel that way. The plant does produce particles. They're not toxic. I'm more concerned about the emissions, if I was concerned of anything at all, but the most important thing it really meets the EPA requirements. More than -- you look at the graph, and it proves that if they didn't meet the EPA requirements, that would be another issue, but it is not an issue. They do meet the EPA requirements. Particle contamination is a complex subject, and that's why we studied it in our space program, and that's why Intel, for example, spends a billion dollars to build a facility because of contamination. It's everywhere around us. The people, we are the worst contaminants of it all.

So I could go on and on on this subject since I wrote papers on it and I'm a pretty good expert on the subject, so I'll leave it at that. Thank you.

MR. JAWGIEL: Thank you, Mr. Johnson.

And our next speaker will be Joan Carter. I'm sorry?

MS. CARTER: Are you going to call those people up?

MR. JAWGIEL: I'll call them up after you're finished, Ms. Carter.

MS. CARTER: Okay. My name is Joan Carter,

J-O-A-N C-A-R-T-E-R. I'm a Morro Bay resident, and I would like for this hearing to make note of an article that was in our San Luis Obispo County newspaper last week on the 17th. I'm just going to read a little bit of it to you. It's titled, "County Asthma Rate Tops State's."

"The rates of asthma are increasing among California adults, and the percentage of San Luis Obispo County residents with the condition is higher than the state average, according to a new report.

"About 22,000 people in the county -- or 9 percent of the population -- have asthma, according to data from the 2003 California Health Interview Survey led by researchers at the UCLA Center for Health Policy Research. An additional 12 percent, or an additional 30,000 people in the county, have asthma-like symptoms that in some cases may be undiagnosed asthma.

"Statewide, 7 percent of residents reported having asthma symptoms.

"Researchers did not conclude why some counties have higher rates of asthma than others.

"Greg Thomas, the county's health officer, said the top two reasons San Luis Obispo County has higher rates of asthma are most likely the

high pollen count and Central Valley air pollution drifting into the North County.

"'Clearly, asthma and other breathing problems are significant issues for Californians and a growing challenge for our health care system,' said Susan Babey, lead author of the report.

"Asthma is most prevalent in young children and one of the leading causes of school absenteeism, the report said.

"Some schools have used a curriculum from the American Lung Association to teach children how to control their triggers and symptoms, she said. The public health department also notifies the schools on days when the air quality is particularly poor so teachers can limit outside physical activity.

"Almost 10 percent of people statewide" --

MR. JAWGIEL: One minute, Ms. Carter.

MS. CARTER: -- "have asthma breathing problems that may be undiagnosed asthma, the report found."

So this is what's going on here. And this is a red flag not to add other contributing causes of asthma in our county, like particulate matter that will rise 60 percent due to the proposed increased

operating time and the lower smokestacks with wind not blowing the contaminants away, so this permit should not be issued. Thank you very much.

MR. JAWGIEL: Thank you, Ms. Carter.

I'd like to call the names of the next five commenters. The first person will be Phil Hill. If you could please take the first seat up here, Mr. Hill. Next will be Pauline LaPlante and, again, I apologize for mispronouncing anyone's names as we move through this. Is Pauline in the audience? Next is -- I believe it's Shoosh Crotzer. I'm sure all of you will correct me when you get up here, when you get up to the podium. Next is Colby Crotzer. And last is Bonita Churney.

Mr. Hill, if you could please take the podium and, again, I ask that all of us please state your name, spell your name for the court reporter, and please be mindful of the three-minute rule. Thank you.

MR. HILL: My name is Phil Hill, P-H-I-L H-I-L-L. It's not my fault. I'm a Morro Bay citizen. I live on a boat in the estuary.

I am just adamantly opposed to this whole project, have been for quite a while. I used to work for the Chamber of Commerce. I had access to an incredible amount of data some of which I wasn't

supposed to have access to, and it's just a hideous thing. I'm not a smoker, I'm not an asthmatic, and I don't play one on television, but when I go in public or I'm at a coffee house or something, I do not sit downwind from tobacco. I didn't quit smoking to die from it, okay? You don't have to be a rocket scientist or anything else to look up at them damn stacks and see what's coming out the top. If that was blowing into your garage, it would kill you deader than a doornail. Birds don't circle around those stacks for a good reason. I don't want to see the old plant there, and I don't want to see it operating, and I sure as heck don't want to see a new one with really big, fat, shorter stacks.

The predominant winds around here blow inland. They're blowing over the high school or over the town, and that much lower we're going to be sucking that junk into our lungs that much more. I'm violently -- not violently, excuse me, vehemently opposed to it. And one-third of that wet stuff out there that we're not allowed to address is composed of oxygen, so there's an interchange there. It's an exchange system, and that's another part that I can't talk about is the fact that it kills half a million life forms every day when they cook it.

So we -- you know, there's two schools here -- there's one -- there's three. There's one that's concerned with environmental upkeep, which is your job and mine, and then there's one that's concerned with economic vitality, and then there's people that are concerned about both. And I have one minute left and I am almost done. And I'm concerned about both, and I know that we can live in good quality and make decent money and breath good air better if we don't have that damn plant there. And I'm sorry if I sugarcoat my words. Thank you.

MR. JAWGIEL: Thank you. Thank you, Mr. Hill.

Pauline, I'm going to let you help me with your last name here. Would you please -- if you want to -- yes. If you could please state and spell your name for the record.

MS. LAPLANTE: Hi. My name is Pauline, P-A-U-L-I-N-E, and my last name is LaPlante L-a-P-L-A-N-T-E. I'm a new resident of beautiful Morro Bay, and I'm not an expert, but I do feel very strongly on -- and I would like to vote against the permit because I feel 6 percent more of the particulate matter would be most harmful to the health of the wonderful residents, the people who live here.

When you're talking about a six-mile radius being affected, the children, the teenagers, and the adults, as well as senior citizens like myself, I feel we're dealing with a very serious, dangerous situation, so I would like to put in my feelings that, you know, I would appreciate the permit not being accepted. Thank you.

MR. JAWGIEL: Thank you, Ms. LaPlante.

MS. CROTZER: Hi. My name is Shoosh Crotzer, S-H-O-O-S-H C-R-O-T-Z-E-R. Another speaker came up and said he was an expert on air quality and has worked in power plants. He then preceded to say that there's a tremendous increase in the particulates that we're breathing everywhere, he talked about new cars. Statistics have shown a terrible rise in asthma among children. There are enormous changes in the past six years with an increase of really bad things happening in our environment.

The permit for this plant, the data that's used for this application is six years old. Before any permit should be considered, this data needs to be revised. The permit is outdated and it needs to be updated, the information. So I'm hoping that this is really considered. If everyone talks about how much has changed in the past six years, look at our country,

look what's happened in the environment, in politics, everything. Six years is a long time, and the information for that permit is outdated and it needs to be changed before this is even considered at all. Thanks.

MR. JAWGIEL: Thank you, Ms. Crotzer.

Our next speaker will be Colby Crotzer.

MR. CROTZER: Yes. Colby Crotzer, C-O-L-B-Y C-R-O-T-Z-E-R. Thank you for having the hearing in Morro Bay to accept our public comments.

I have been -- in my second term as elected city council person here in the City of Morro Bay, I had the obligation to study the application that was then put forth by Duke. I know that material quite well, spent many, many hours studying the data. My testimony tonight is more anecdotal and personal. I'm a school teacher here locally. I know most of the families as they come through, having taught here for 20 years, and I worry about their health and the health of my progeny. I'm a four-time grandparent at present, and our family home, being located in Morro Bay Heights, is, just from my personal experience, downwind from the present location of the plant and the location of where the modernized expanded plant might be sited. So I'm very concerned about the lowering of the height

of the stacks from 450 feet to 145 feet.

My elevation of my newly-built second story and my major investment financially has been in my home here in Morro Bay, and I intend to live my life out here. The new kitchen and living room is exactly the 145 feet. Coming right downwind, studying the maps of the analysis of the particulate matter that APC did here locally, the X marking the location of where the particulate matter would increase 10 times is directly over my neighborhood.

I understand also that LS Power has an application to double that from 10 times to 20 times. Your officers will know the details of that better than I do.

The concern for me and for our school children and my own progeny is personally compounded by the fact that I don't want to be on my death bed. I'm beginning to experience some symptoms of asthma, and I don't want to die of emphysema, cursing the EPA, who's supposed to be the watchdog that looks out for my livelihood and that of my children.

MR. JAWGIEL: One minute, Mr. Crotzer.

MR. CROTZER: Thank you. I understand that APC's jurisdiction of air quality when they do their analysis is countywide. I wish -- and I know that you

can't answer a direct question, but my question to anyone listening to the tape to analyze this would be do you really care about the life of people -- the lung health of the people that live here in this town of Morro Bay, or is it simply you're going to analyze the impact of the overall county, the whole region, because if it's only the latter, then I think I've wasted my breath here. Thank you.

MR. JAWGIEL: Thank you for your comments, Mr. Crotzer.

And our next speaker is Bonita Churney.

MS. CHURNEY: Good evening. My name is Bonita Churney, B-O-N-I-T-A C-H-U-R-N-E-Y. I have several issues with respect to the permit and object to the proposed permit on several basis, one of which is that the proposed PSD permit understates actual expected PM-10 emission rates by at least 100 percent. The PM-10 emission rates are not supported by the facts. The PM-10 rates are not based on the manufacturers' warranted rates, which are 18 to 20 pounds per hour without duct firing. They are based instead on Duke Energy's hired expert's guesstimate of emission rates based only on his, quote, "professional judgment."

This guesstimate was not based on

modeling utilizing approved EPA methodology. It was not based on methods 5 and 202, which are the approved methodology for PM-10 emission rates, and it's actually -- it is the methods that are set forth in the proposed permit itself, so I think that underscores the fact that those are the methodologies that should have been used, but were not when coming up with the actual estimates of PM-10 emissions.

Instead, Duke's expert based his guesstimate of PM-10 emission rates on unapproved methodology using methods 201A and 8, and all of this took place before the California Energy Commission and hearings and testimony before the California Energy Commission, and it's all on record, and it's all been provided to you, to the EPA, by CAPE.

Not coincidentally, the emission rates that Duke came up with are substantially lower by half of the vendor guaranteed rate. The PM-10 source test results that the same model turbans in operation elsewhere and emission rates using proper EPA-approved source test methodology, that is, methods 5 and 202. Thank you.

MR. JAWGIEL: One minute, Ms. Churney.

MS. CHURNEY: All of the emission data from the vendor and source testing using approved

methodology are consistent at 18 pounds per hour without duct firing, which is well in excess of the proposed permitted rate of 11 pounds per hour without duct firing and 13 pounds per hour with. And as the evidence provided to you demonstrates, the weight of the evidence actually suggests emission rates without duct firing of 22 pounds per hour, for a total of 406 tons of particulate emissions per year, not the 203 tons modeled by Duke.

So how does the EPA justify permitting a PM-10 emission rate that is unattainable and factually unsupported and unproven, setting a lower cap in the permit condition is useless and unenforceable, because given current technology, there will be no way to provide continuous in-stack monitoring.

So I would submit that the proposed permit is based on faulty assumptions, bad science, and incorrect facts, and should be denied. Thank you.

MR. JAWGIEL: Thank you, Ms. Churney.

What I'd like to do is I'm going to call up the next five individuals and after -- just so people know -- after these next five individuals, I think what I'd like to do is slot in the 12-minute slot for CAPE to make their presentation, just in case you're wondering what the orders are, then I will

proceed on with individual comments.

So let's take the next five individuals. The first person is Michael Lucas. Mr. Lucas, if you could please take the first chair over there, I'd appreciate it. Second person is Robin Cole. Next is Peter Risley. Is Peter Risley in the room? Thank you. Mr. Risley, if you could take the next chair, I'd appreciate that. The fourth person is Mandy Davis. And the fifth person is Richard Sadowski.

Mr. Lucas, if you'll please take the podium. Please state and spell your name for the record and, again, if you could please be mindful of the three-minute rule, we would greatly appreciate it.

MR. LUCAS: My name is Michael Lucas, M-I-C-H-A-E-L, Lucas, L-U-C-A-S. I'm a Morro Bay resident. I'm on the faculty of Cal Poly, and I teach in the architecture and ethnic studies departments.

I have two different purposes tonight, the first is as a member of the New Futures Task Force, which the Morro Bay City Council appointed to review the power plant ramifications of a permit being granted or a permit not being granted. Those relationships with LS Power have been outstanding. They've been very forthcoming with a productive relationship as we've searched what might happen with the existing power

plant property and grounds, and I think that still has yet to be played out. I think we'll have some other speakers from the committee to talk about that productive relationship later on.

I also want to comment tonight as a citizen. In my field of architecture seven years ago, the differences in technology, of representation, modeling, the way we can anticipate any natural processes, the way we can study those things has changed radically, I share one of the former speaker's concerns that the permit now is going on six or seven years in terms of some of the nature of the facts that are in there. I think that whatever the EPA can enforce in terms of upgrades, new studies to further substantiate the claims in the permit would be positive.

I also am a resident of the hillsides here as well. I believe my house is probably right around where the new stack is going to be. So I share a concern about particulate matter due to the nature of the height of the stack that's in there. I also know that during the permit process, there were concerns about screening the facility, which by its nature may change the height of the stack as well. So I just hope that as EPA looks at these issues that the concerns

about technology and the modeling of the particulate emissions on the community would be open for closer study. Thank you.

MR. JAWGIEL: Thank you, Mr. Lucas.

Before I call the next person up to the podium, I also want to mention as a quick housekeeping matter. In case anyone needs to use the restrooms through this proceeding, the restrooms are out in the lobby. The restroom's to the right, and there's a wheelchair-accessible restroom to the left as you walk out the door. I also don't want you to feel like you're being held captive here. If you need to use the restroom and should I call your name and you're not here, I will merely put your name to the back of the pile and call it at a later time this evening. So I just wanted to make sure everyone knows they don't have to sit here if you need to go use the restroom.

The next person I would like to call to the podium is Robin Cole. Good evening, Ms. Cole.

MS. COLE: Good evening. Thank you for a chance to voice my concern. I don't have any statistics. I'm just speaking from the heart. I am a quite new resident here. I moved from Kern County in my retirement to get away from the terrible pollution there. You can imagine my alarm when I saw the

information about the possible pollution here. I understand from a previous speaker that there are many sources for pollutants, but I can't understand why we wouldn't try to regulate whatever we can.

You know, in Kern County when you sell a home, the county has to disclose to the buyer the problem with the bad air. Projecting in the future, I just can't imagine that happening in Morro Bay. I just wonder if our city council -- if some of those people have lived here so long that they don't realize how precious and special this area is, the Elfin Forrest, the estuary, the bay itself, just on and on. And I'm very concerned about the impact on humans, animals, and plants, especially after reading about an occurrence in the 1960s at the plant that really did cause some damage to the very things that I've mentioned.

Now when I recommend to my friends in Kern County to come to Morro Bay to retire, I'm not sure. I want to see how this plays out. And I can't imagine -- if word got out about all this statewide, I can't imagine that it would be such a mecca for tourists, and I cannot imagine it would even do our real estate value much good.

MR. JAWGIEL: One minute, Ms. Cole.

MS. COLE: So I'm just very concerned. I'm

not familiar with a lot of the technical aspects. I just wanted to voice this concern, and I thank you for the chance.

MR. JAWGIEL: Thank you. Thank you, Ms. Cole.

Next is Peter Risley.

MR. RISLEY: Yes. Did you want me to spell my name?

MR. JAWGIEL: Yes --

MR. RISLEY: R-I-S-L-E-Y. Thank you. I'm very concerned about this. When I heard that they were going to reduce the size of the stacks from 445 feet to 175 feet, I was very alarmed because I knew that the majority of the pollutants would thereby fall within the breathing range of Morro Bay citizens. And I have an article here from Cry California, fall of 1967, and I want -- I would like the people -- you might check it out. There's been a historical ignorance of the health of the people of Morro Bay.

And, yes, because you're lowering the stacks and because you're increasing the amount of exhaust of pollution to the people of Morro Bay, the real estate values are going to go down, and there's a good possibility that some people are going to die and, of course, they're going to be older people or younger

people.

And so I wonder if perhaps the EPA or the State or the power companies consider the people of Morro Bay less valuable, and I wonder if we can assign a value to the life of people in Morro Bay as compared to say, for instance, Austin, Texas, or Houston, Texas, where the owners of these plants who have made enormous amount of money are going to profit whereas we are going to have sickness. And that's a major concern of mine. I'm not against a power plant there. I am against the abuse and exploitation of the people of Morro Bay, and I'm against the real estate values being dropped.

MR. JAWGIEL: One minute, Mr. Risley.

MR. RISLEY: Yeah. And I wonder how really democratic this situation is as far as our concerns are. And so thank you very much.

MR. JAWGIEL: Thank you, Mr. Risley.

Our next speaker will be Mandy Davis.

MS. DAVIS: Hi. I'm Mandy Davis. I am currently a -- I live in Sarasota, Florida. I just moved from here. I lived here for over seven years.

MR. JAWGIEL: Ms. Davis, can you just take a moment to spell your name for the record?

MS. DAVIS: D-A-V-I-S. And I have been

really fortunate in the fact that I've been able to spend a good portion of my time outside on the estuary in observance of many of the patterns that we see here in nature, the wind patterns, our fog patterns. What happens -- and I happen to also be -- and this is a very important point -- a human canary in the fact that I am an asthmatic and I'm very chemical sensitive. So those combinations have a tendency to make me really pay attention to what's happening in the air and in the environment for me. Otherwise, I am in distress.

And one thing that I have noticed since I've been here, especially since the plant has been running as a peaker, I have lived on a boat, and I've lived around the corner from being able to see the plant and know whether or not it's running. And it's been a very interesting experiment for me, being a biologist, in that those days, especially when that we have a low ceiling and those days that the plant is running and the days it was running constantly when I first moved here, is I am in respiratory distress. I do notice it as soon as I wake up, and so I decided to kind of make an experiment out of it, and those days when I woke up and I could tell there was something in the air, I could feel the difference. I'd go around the corner and take a look, and it was invariably the

case.

This is not really what I wanted to tell you. I mean, you know all the studies on the PM-10. You know that if you have a lower ceiling, you know that if you have lower stacks that you are going to create more respiratory distress for the residents of this area, especially those of us -- with the prevailing winds, that are downwind, which is the majority, if not just about all, of Morro Bay.

What I would like to point out to you is being an animal rights activist --

MR. JAWGIEL: One minute, Ms. Davis.

MS. DAVIS: -- and being somebody that speaks for the animals in this area is that the avian population that we prize so much here that migrates to this area and migrates in and out over a large portion of the year is considerably more susceptible to PM-10s in any of these pollutants. This is a population that is important. As EPA, this is part of the national estuary program. This is a highly valued place, and we value our wildlife, so I ask that you not give this plant the permits. It will drastically influence in a very -- it will negatively impact the avian population, all the wildlife here, people like myself, the children, the older people. Please do not allow this

to happen. It's really important to our population. Thank you.

MR. JAWGIEL: Thank you, Ms. Davis.

And the next speaker will be Richard Sadowski. If you could please state and spell your name for the record.

MR. SADOWSKI: Richard Sadowski, S-A-D-O-W-S-K-I. Richard Sadowski, Ocean Outfall Group, also a member of the American Society of Mechanical Engineers.

This plant -- first of all, you mentioned about this being an air quality issue or a water quality issue or visual-impact issue, this issue is a pollution issue. I attended the American Society of Mechanical Engineers conference that was held in Las Vegas between the 18th and the 20th, and there were various academia and people of expertise, doctors in engineering, and also the chair of the EPA, Mr. John Lyons. And I got a chance to speak with him about this plant, and I told him that our mayor had just signed a 50-year lease with somebody we didn't know for an outfall, and we find out later on it's the guy that used to run Chernobyl and kind of brought on a little laughter there.

Now, the problem with this plant goes

beyond just those little issues. This was a piece of antiquity of engineering when it was built back then, and it's just worse, and it's just degrading more and more. The power plant symbolizes pollution, death, and destruction, and in my opinion and out of the respect for the unborn American generations yet to come, it should be immediately retired, period. It destroys 17 to 33 percent of the life coming into our beautiful estuary. The stacks pollute. We have already a nitrate problem. It contributes to our sewage problems. It's time for it to go. Thank you for this opportunity to address you.

MR. JAWGIEL: Thank you, Mr. Sadowski.

At this time, like I said before, we are going to allot a 12-minute slot for a representative from CAPE to speak. They will go ahead and have 12 minutes -- continuous 12 minutes.

MR. NELSON: Before the time starts, I wonder if I could make just a couple of corrections on what you earlier stated. First, we're Coastal Alliance on Plant Expansion, not "against."

MR. JAWGIEL: Again, I'm sorry.

MR. NELSON: A lot of people do, but I don't understand it.

MR. JAWGIEL: Thank you for the correction.

MR. NELSON: And the other thing was that you were asked about water board comments, and you said it was closed. I hope the EPA isn't under the illusion that they have their water permit, because that permit is not final or not even on the table so --

MR. JAWGIEL: All I said was that -- make for clarification is that the official comment period is closed.

MR. NELSON: See, that's not true because the hearing hasn't even been held.

MR. JAWGIEL: Okay. What I would recommend is I will have to go back and clarify what the comment period is. If you feel like you want to comment on the water issues I, again, would encourage you to still submit your comments to the sources that I identified earlier.

MR. NELSON: But that is open --

MR. JAWGIEL: You know what, I'll tell you what. I can't go on record right now to say that, but it's my understanding it was closed. If it is open, I certainly haven't closed it tonight. I don't have the authority to close it. If the comment period and the water permit is still open, if, in fact, is still open, it would be still open regardless of what I said here, so I would encourage anyone, again, who does have any

comments on that water permit to go ahead and submit, and we'll leave it at that. But why don't we go ahead and --

MR. NELSON: With those corrections made, I'm ready to --

MR. JAWGIEL: Okay. We'll begin with the 12 minutes.

MR. NELSON: Okay. I am David Nelson, and I am co-president of Costal Alliance on Plant Expansion. And speakers tonight will be Henriette Groot and myself and Monique Nelson. And I'm going to turn this over to Monique now, and if the timekeeper can five me the one minute warning at four minutes. Thank you.

MS. GROOT: Good evening. My name is Henriette Groot, that's spelled H-E-N-R-I-E-T-T-E G-R-O-O-T, and I want to tell you a little bit about CAPE. CAPE has been involved with this project since 1999. We became interveners in the process -- the application with the California Energy Commission. We never were opposed to the plant as to the new plant or, quote, "modernization" as such. We only took issue with the plans for air and for water, and that still is the case.

The -- scanning the application, it is indeed very outdated and incomplete. And having been

involved as well with the National Estuary Program. I'm surprised that the right hand and the left hand of the EPA don't seem to talk to each other. In other words, the National Estuary Program -- the Morro Bay National Estuary Program here is -- receives funding and is under the supervision of the EPA water division. And reading from the NEP website, EPA's "working" -- and I'm quoting -- "working to safeguard and improve the health of our nation's most important coastal waters." I wanted to remind you of that. That estuary's very important to us as well as the people who live around it, of course.

Again, as David says, the cooling method permit has not been issued, and the hearing has not even been scheduled. I thought -- it was my understanding that in order to have this present permit issued, all other permits had to be in line. Apparently that is not the case.

Then the other comment I need to make is on the meteorological analysis. I'm a sailor, and I know that wind patterns depend very much on the topology of the land mass nearby. The meteorological analysis was based on data from Vandenberg Air Force Base. They don't have a Morro Rock at Vandenberg. It's a totally different situation there, and people

who live here know the particular wind patterns around that rock are very typical of this particular area. So that's only one of the things that is wrong with the permit, and people have mentioned other parts of it.

I do want to thank you for coming here and letting us give you input, and now I'll turn it over to the next speaker.

MR. JAWGIEL: Thank you, Ms. Groot.

MR. NELSON: As I said, my name's David Nelson, N-E-L-S-O-N, and I'd like to start out by addressing here your conclusions on the ambient air quality impact report. It says on Number 10, "Based on the information provided by LS Power and the review of the analysis contained in the permit application." Now, LS Power's -- I'm quoting from a CEC study that has really different rules than what the EPA should be offering or does offer, as Ms. Churney said, about the methodology used to determine particulate matter. They didn't use manufacturers' specs or manufacturers' guarantees, so they varied from that. So that's just the beginning of this mess, and to base your conclusion on that is dangerous.

And the Coastal Alliance has put in a law, and I'm only going to brief over a few things. The wrong baseline is a really important thing to us.

The baseline of the emission levels for all pollutants of the existing Morro Bay power plant is four times lower than Duke claims. Duke inflated permissible levels of the emissions of all pollutants, including PM-10 for new turbans. We're really concerned that Duke based its baseline on 24-month emission period for all four units for the years of 1998 to 2000, and EPA is very clear that it should be 24 months of a five-year period closest to the destruction period of the plant. Obviously, we're in 2006, so this study that they based these numbers on are really out of whack, and we would then be asking you to use a more representative period because this period between 1998 and 2000 was during the so-called energy crisis, where they were running that plant way over what the normal is or was.

So that would be the first thing and, you know, baseline that they used in the period was just not representative, and we're asking that you make it within a period of five years immediately preceding construction. The best available technology, again, too, this is based on stuff from 1999, it's seven years old, we know that there's cleaner generators out there and available for best available technology.

The meteor -- the contention that Duke

has been here since 1950s and has done no harm, I have an article here from Cry California 1967, and I'll leave this as an add-on to what we've already put in, and this shows clearly that there's been lots of damage, so that takes care of our baseline concerns.

We have so many more, and in 12 minutes really isn't much to work with, but bear with me. The emission rates proposed by Duke just aren't acceptable under EPA's standards. They should -- excuse me while I get that. CAPE does challenge EPA's preliminary conclusion that the proposed project will not cause a violation of the applicant PSD increments as set forth in the record. As noted the -- we're really worried about the meteorological --

MR. JAWGIEL: Mr. Nelson, I just wanted to let you know this is the four minute mark.

MR. NELSON: Okay. So as Ms. Groot said, using Vandenberg as our meteorological is unacceptable because everybody knows from Point Sal to Point Conception is totally different than here. And I'll turn this over to Mrs. Nelson.

MR. JAWGIEL: Thank you, Mr. Nelson.

MRS. NELSON: My name's Monique Nelson, M-O-N-I-Q-U-E N-E-L-S-O-N. And CAPE has already submitted written comments to your office with

voluminous exhibits. Tonight we have touched on some of the important points made in our comments, but by no means have we covered them all. We trust that the EPA will take the time necessary to read and understand the material we've submitted and, if you have any follow-up questions, to please give us the opportunity to answer them at that time.

So what exactly is CAPE asking you, the EPA, to do?

To summarize, we are asking you to deny the issuance of a PSD permit to the applicant, whether that applicant is Duke Energy, LS Power, or Dynergy. In the alternative, we ask you to delay a decision on the PSD permit until the errors in the applicant's analysis are corrected and the data then reevaluated. More specifically, we're asking the EPA to reject the PM-10 emissions rate proposed by the applicant and to require that they refigure this rate for the proposed new power plant, using EPA-approved methodology and based on nothing less than the emission data supplied by the turbine manufacturer, and this data is further supported by source tests of such turbines in operation.

EPA regulations specify that the baseline period must be for any 24-month consecutive

period within the five-year period immediately proceeding construction of the project. We ask you to reject the inflated baseline proposed by Duke Energy and now supported by LS Power and Dynergy. This baseline is for the period between 1998 and 2000, which was distorted by the energy crisis, a crisis Duke Energy helped create.

We further request that you order the applicant to reevaluate the baseline based on the operation of the existing Morro Bay power plant for a 24-month consecutive period, starting no earlier than five years ago. This period would also be more representative of normal operating conditions. These recalculated results should then be reviewed and adjusted as necessary when construction actually begins.

Although other air pollutants are not being addressed at this hearing, CAPE believes the corrected baseline will show increased levels of CO2 --

MR. JAWGIEL: One minute, Mrs. Nelson.

MRS. NELSON: -- NOX, and VOC, in addition to higher levels of PM-10 emissions, and that all of these will need to be reevaluated. CAPE asks the EPA to require updated information be provided by the applicant in order to analyze best available control

technology, or BACT. We also ask the EPA to mandate measures to improve BACT, for instance, by having applicant install newer, more technologically advanced turbines and eliminate the duct-firing process, which contributes disproportionate amounts of PM-10 and other pollutants in relation to the energy it produces. We also ask the EPA to delay any final decision until the cooling issue is resolved since, in a case where closed-cycle cooling is required, for example, this will impact the outcome of the PSD analysis.

There is more to say, but I'll stop here. Again, CAPE asks you to deny the PSD permit as proposed or at least delay your decision until the issues raised have been addressed and the flaws in applicant's analysis corrected. Thank you.

MR. JAWGIEL: Thank you. And I would like to again thank Ms. Groot, David Nelson, and Monique Nelson for their comments on behalf of CAPE.

I would like to go ahead and proceed with calling individuals to the podium, so I'm going to call the next five individuals. The next person is Joey Racano. If you could please take the first chair there, Mr. Racano. Thank you. Next is Margaret Beetham. David Wiseman. Is Mr. Wiseman in the room? Is Mr. Wiseman here, or maybe he went to the restroom.

What I'll do is I'll put Mr. Wiseman's card back into the stack, and we'll call him at a later time. Next is Marla Bruton. Ms. Bruton, if you could please take the next seat. Next is Bill Martony. And the fifth commentary for this particular section is Melody DeMeritt. Is Melody in the room? She will also be back. What I'll do is, so we can keep moving along, also put her card back into the stack and call the next person, Barry Dorfman. Dr. Dorfman.

Mr. Racano, if you could please take the podium, state and spell your name for the record and, again, please be mindful of the three-minute rule, we'd greatly appreciate that.

MR. RACANO: Absolutely.

MR. JAWGIEL: Thank you.

MR. RACANO: My name is Joey Racano, that's R-A-C-A-N-O. I'm a director with the Orange County Ocean Outfall Group, a statewide 501C3 dedicated to ending all waivers of the Clean Water Act and the Clean Air Act.

The reason that I have come before you today is to question the necessity for a permit or even why are we calling it a permit. Let's call it what it is: It's a waiver. It's a waiver that does not bring a power plant into compliance with the Clean Air Act;

rather, it brings the power plant around compliance with the Clean Air Act. The Clean Air Act of 1973 is -- you're 33-and-a-half years behind at this point.

Also another important point to remember is that Thad Baxley and Janice Peters of our city are running for the Morro Bay City Council, and both voted for a 50-year extension to the outfall lease without yet knowing who had purchased the power plant, and I think that that is a very good reason not to elect either one of them.

Now, I'd like to talk for a minute about PM-10s. PM-10s are very different from 10 p.m. At 10 p.m. you go to sleep. With PM-10's you go to the hospital. Particulate matter less than 10 microns across is not only shown to be damaging, but new studies show that we don't even know how damaging, and it just seems to get worse all the time.

Now, let's say we could separate the water from the air issue. Well, we really couldn't because if you separated the water from the air issue, you'd have to tell that to, say, cormorants who dwell both in the estuary and in the air. Now, if you were to stick a cork in the single-pass cooling intake of this power plant, you'd find that power plant --

MR. JAWGIEL: One minute left, Mr. Racano.

MR. RACANO: Yeah. One minute left. Yeah. That's why I've been holding up the rude sign, because you've been breaking everybody's concentration with that, and it's a public relations ploy. We don't appreciate you coming here asking if you can pollute us, and we don't appreciate your public relations ploys. So every time you hold up a one-minute sign to me and be rude, I'm going to hold up a rude sign, so please don't do it again.

Now, if you stuck a cork in that intake, you'd find that power plant would overheat faster than a 440 in a motor home on the grapevine. They are inextricably connected, and you're killing the estuary and larvae. Now, to concluded, I would say that birds, eco-tourists, the environmentalists, hunters, fisherman, businesses, and children all depend on this power plant's speedy departure from Morro Bay, and the sooner the better. So do us a favor. Get rid of the waiver. No more single-pass cooling intake, no more nitrogen dioxide, no more power plant. Thank you for this opportunity to address you today.

MR. JAWGIEL: Thank you, Mr. Racano.

Our next speaker will be Margaret Beetham. Ms. Beetham, if you could please take the podium and state and spell your name for the record.

We'd greatly appreciate it.

MS. BEETHAM: Yes, I'm Margaret Beetham, B as in boy, E-E-T-H-A-M, San Simeon, California. Oh, do I give the a street address too?

MR. JAWGIEL: Oh, no. Just the name would be sufficient, thank you.

MS. BEETHAM: Oh, okay. Sorry. I'm hearing challenged, so I wasn't hearing everything.

I am definitely opposed to continuation of the plant in any form, such as it is, unless we can do alternate energy, and it seems like there should be no contest between what kind of power plant if we're going to have one. At this particular time in history when we can do alternate energy, we can do something that doesn't pollute, and we're talking about doing something that pollutes, it seems rather insane. And also it seems immoral to have a plant that does all the things that our previous speakers have spoken of. It's -- and even if you say, oh, take it with a grain of salt, you couldn't get that much salt, you know.

It's just -- well, I'm speechless. I didn't prepare something, but I -- I think we have one of the world class pieces of geography here in Morro Bay and not to -- not to use it as perhaps we could say nature intended, not something that kills animals

and eventually people, and eventually unborn people will suffer, consequences that we don't know whether we'll even be able to help. We don't know whether we'll be able to help genetic damage in any feasible and any satisfactory way, so --

MR. JAWGIEL: One minute, Ms. Beetham.

MS. BEETHAM: So I plead for a humanitarian solution here. Thank you.

MR. JAWGIEL: Thank you for your comments tonight.

Next will be Marla Bruton. Ms. Bruton if you could please state and spell your name for the record.

MS. BRUTON: Certainly. Marla Jo Bruton, B as in boy, R-U-T-O-N. I'm a court reporter, so I know how to spell slow.

I'm from north Morro Bay here. I'm also part of the Ocean Outfall Group on the central coast, and we are, as Mr. Racano mentioned, we are dedicated to stopping waivers of the Clean Water Act and the Clean Air Act. So I see this plant as being integral between the two. There's no separation. I attended the region -- I mean the State Water Quality Board scoping meeting earlier this year, and we were discussing the once-through cooling, and I see the

future of that not being viable no longer, and I believe that there are several experts and people in position in the EPA who would agree with that.

The companies coming in here that are private companies that are causing danger to the public health. Using public resources to do that is a thing that should be of the past. Also it was interesting, it was brought up this evening that the timeframe for the studies on the air emission was '98 to 2000. Well, that was the energy crisis, and Duke Energy was found to have been one of those eight corporations to have manipulated the energy crisis in this state and rip off the public. Now, sometime we just have to stand up here and say no more, no more.

I also was up at Ocean Protection council meeting, and we were having the energy crisis this summer and, you know --

MR. JAWGIEL: One minute left.

MS. BRUTON: -- people dying in the Central Valley because of heat. This plant wasn't running. There was barely a little energy field coming out the top, clear. It wasn't running. They are manipulating again. This is profit born. They are hoping to enshrine the once-through cooling, and it is not acceptable.

Also, I spoke with John Lyons, the chair at the EPA, last week and was telling him about everything that was going around here, and he was just shaking his head going there must be some kind of politics, some kind of something going on, and so the people here are asking you -- also, I raised my children here, 23 years I've lived here, having soot on the windows, on the car in the morning. Someday we thought it would stop, and that someday should be now. Thank you.

MS. BRUTON: Thank you, Ms. Bruton.

Next is Bill Martony. Mr. Martony if you could please state and spell your name for the record.

MR. MARTONY: Bill Martony, M-A-R-T-O-N-Y. And, you know, I think I'll bring up one plus factor of the power plant before I kind of chew into it. Came here in 1970, and it was really nice surfing out in front, warm water. That's when wet suits were just coming in. But at the same time I asked myself why did they build a power plant right in the center of town? And, of course, I thought, well, this was in the 50s, you know. Back then people didn't realize what was going on. I knew it was economics, but now we're here in 2006, and we're talking about duplicating what I

felt was probably -- not that we don't need a power plant, but built in the wrong location. I know originally it was -- I think Via Creek (phonetic) was one of the locations they were talking about up the coast a little further away from the population visually.

But I think with this new power plant, one of the points as far as the design, I know people talked about short stacks, tall stacks. We've been sold that tall stacks are visually ugly and short stacks would be much more compatible or acceptable. When -- we own a ranch behind Cayucos. When I come down the hill in the summertime and it's foggy in Morro Bay, the existing stacks go up above the fog line, and I don't think this has been addressed, or maybe it has and I haven't heard it, but the reason the stacks were 450 foot tall was it goes above the fog line to disburse the pollutants. You can actually see the yellow plumes going into San Luis, or you get offshore and you can see it going out or above Cayucos. And so it really disburses in a wide area, and you're going to end up with -- the short stacks, you're going to end up with like the black fog of London where when the fog sets in the summertime, the pollutant won't actually get through the fog and it will condense it and hold it

down --

MR. JAWGIEL: One minute, Mr. Martony.

MR. MARTONY: Sure. And secondly, the other thing is when you have a rock like Morro Rock, you'll actually get a downdraft on the back side of the rock. And so I think to actually have the power plant with short stacks on the back side of the rock when you actually have a downdraft that actually -- it's like your fireplace when you have the wind blowing and it blows the smoke back down and out the fireplace, I think you're going to have that effect with the short stacks. Thank you.

MR. JAWGIEL: Thank you, Mr. Martony.

Dr. Dorfman. If you could please take the podium and please state and spell your name for the record.

MR. DORFMAN: Berry Dorfman, B-A-R-R-Y D as in David, O-R-F as in Frank, M-A-N. Thank you for holding this hearing. I want to just endorse the many comments that have been made about the flaws in the database and methodologies for the air -- for the permit.

As a bit of background, I'm currently a psychiatrist, but prior to that I was in public health for 20 years. And back when I started training in

public health in the late 1960s, there were many studies beginning to emerge that it was bad for your health to breath polluted air. During that time the evidence has become incontrovertible. That's why we have agencies such as yours. And there has been progress, although it had to get a lot worse before it began to get better. We don't want that to happen again.

I think that not only do we have to understand the update -- the need to update the database, but in the time since the permit was -- since the initial database was laid down, there's been a great increase to the understanding in terms of biological mechanisms as to how the air pollution and especially PM-10s do their damage. And they do their damage not only physically, but they do their damage because of what they do to the immune system in the way they present either inorganic or organic particulate matter to the immune system cells that send the signals out. And I ask that any permitting process update itself with the current science.

I think everyone understands the idea that if you take a group of people and they smoke more than compared with a group that doesn't, more of them will die of cancer or have various other problems. If

you configure it out, it's called attributable risk -- I see the one minute -- it's called attributable risk. However, I can't say you're the person or you're the person that's going to have the problem from it, but I guarantee you that if this permit goes forward as is, with its certain increase in PM-10s, someone will do their Ph.D. on the increase death and morbidity in this area. There will be neonates, children, and adults who will die, and it needn't be, who will have untold misery, putting aside the economic impact. And it needn't be.

The thing we want to avoid, which is an old medical maxim, at least do no harm. It will be doing harm to have this permit with its -- as currently envisioned, because of the morbidity and mortality it is demonstrably certain to cause. Unfortunately, it would be after the fact and to late. Thank you.

MR. JAWGIEL: Thank you, Dr. Dorfman.

I would like to call our next five speakers. The next speaker -- I have to apologize. I'm having a little bit of difficulty reading the name. I believe it's Roy Eiyowat, it looks like R-O-Y E-I-Y-O-W-A-T.

MR. CINOWALT: Sorry about that.

MR. JAWGIEL: That's okay, apologize for not

pronouncing your name correctly.

Next person is Kathy Wells. Is Ms. Wells in the audience? I will go ahead and set aside Ms. Wells' card -- I'll go ahead and set aside Ms. Wells' card and call her at a later time. Next is, is it Sandra Brazil? Sandra Brazil? And I'll go ahead and set this card aside. Next is David Wiseman. I believe we called Mr. Wiseman previously. Melody DeMeritt. Well, since none of these people are present, why don't we go ahead -- oh, okay. I'm sorry. Are you Melody DeMeritt? Thank you, Ms. DeMeritt. We'll go ahead with you two and see if these people return after you're finished.

Sir, if you could please take the podium and state and spell your name for the record, we'd greatly appreciate it.

MR. CINOWALT: Good evening. Roy, R-O-Y, Cinowalt, C-I-N-O-W-A-L-T.

MR. JAWGIEL: Thank you.

MR. CINOWALT: I live on the east side of the Salinas Valley. I own some acreage out in an area that nobody wants to live in, relative to the desirability of this area. Rattle snakes, coyotes, mountain lions, bobcats, and the deer will eat anything you plant; however, I chose to move there. I live there with

these limitations and facts of life.

I notice the power plant's been here since 1955. I wonder how many people were there when they built the plant.

In this light, I would like to tell you a story of one of the places I lived in my life. I lived in about 10 different cities, some not even in this country. I worked 43 years in construction. I would like to see the plant under the right conditions built.

The little story in the scenario is I lived in the Los Angeles area near the Los Angeles airport. They call it LAX. I lived and played in L.A. down near the end of the runway. In the 50s they built some, what I considered, fantastic homes on the sand dunes above the beach, between the beach and the end of the runway. To me they were beautiful, beautiful homes, and I lived just north of there in an old 50s type home; however, when I lived there, a lot of people got together and formed a homeowners association and said the jets are too noisy, the airplanes are too noisy, and they made a lot of noise. That is the homeowners group did, and a study was conducted. Some homeowners were given some insulation for their homes to reduce the sound impact. The homeowners insisted

that it's still too noisy. To make a long story less long, the airport did a study and they said, you know what? You're right. It is too noisy, and they condemned all the homes. And while I lived there I watched every single one towed away, relocated to places like Watts, Gardena, whatever. There were hundreds of homes tore out, and today what was a beautiful place where people could have lived are now wind-blown sand dunes. Thank you for your time.

MR. JAWGIEL: Thank you, Mr. Cinowalt.

Ms. DeMeritt, if you could please state and spell your name for the record. I'd greatly appreciate it.

MS. DEMERITT: My name is Melody, that's spelled M-E-L-O-D-Y, DeMeritt, D-e-M-E-R-I-T-T. I'm a member of the city council, but I'm speaking in four capacities. First one is as a resident of Morro Bay who lives on a hillside. I'm disturbed that the power plant stacks are going to come down and emit 60 percent more PM-10s because since the age of about 10, I've been asthmatic, and the asthma doesn't get any better with age, and it doesn't get any better with PM-10s. And I know you've had this article referred to you tonight that was published on October 17th about the asthma rate in this county. I'm kind of waiting to go

home, actually, and get to my inhaler.

The second hat I wear is as a proud former member of CAPE. I didn't know any better about this power plant until CAPE was telling me things. I was all for it. But in 1998 when Duke first came here, that first power company, I didn't know any better, and I think some people don't. And as I got more information, I became more aware of the danger that this new plant would pose.

After being on CAPE for five years, I became a member of the city council, was elected in 2004. One of the sad parts of being on the city council is you don't always win. I fought vigorously against the lease that we signed with this power plant company for their outfall. I absolutely hate the deal. I'm opposed to it. You will hear some people say that Morro Bay wants a power plant. I'd give you about 40 percent of us by now because we're getting smarter.

On the city council, we were lucky enough to have enough people on our council to form a committee called New Futures Committee. It is a council-appointed body that is appointed to look at alternative uses of the power plant property. It's been very active. We meet twice a month. And we've had very good cooperation from LS Power, by the way,

very helpful in providing us with zoning maps, site maps, looking at the lot, giving us tours of the plant, helping us out with the recent community workshop that generated over a 100 people coming in and talking about the possibilities of different uses.

I think that the idea of what a future vision for a beautiful place like this that has already suffered 50 years of pollution and damage to the estuary is a PowerPoint show that I wanted to bring you tonight, but I will e-mail it to you. I see the one minute sign. This is a power plant in London that is planned to be on the Thames River. It has actually incorporated a power plant that will be in this green space. This is a power plant that is planned -- sorry. It is built in Baltimore. Notice these are all water dependent along the ocean and near urban places where people don't like PM-10s, so they build shopping malls instead, for big revenue.

This is one that is planned for Hampton, Virginia, a nice ritzy part they decided they're so ritz and we should too, that they're going to build nice big shopping malls and hotels instead of power plants. These don't emit PM-10s by the way. This power plant is planned for Austin Texas near their river, another water intake plant. They decided --

Seaholm Power, by the way, is cooperating with them in building this redevelopment property. So I would just hope that -- I'll send this all to you, and I'll referring you tonight to our great website that is newfutures.morro-bay.org, and it lists all of these possibilities. Thank you.

MR. JAWGIEL: Thank you, Ms. DeMeritt.

I'm going to go ahead and try these individuals again. Is David Wiseman in the room? Sandra Brazil or Kathy Wells?

Ladies and gentlemen, as you know this hearing is actually scheduled to last until 9:00. It's approximately 10 minutes to 8. What I would like to do is why don't we take a 10- to 15-minute break. Why don't we take 15 minutes, and we'll come back at five minutes after 8, and if any of you would like to make additional comments, why don't we go ahead and -- well, I don't think it's necessary to resubmit -- if you would like to make additional comments, why don't you talk to me, give me your name, I'll pull your cards out, and we'll make a new stack. And we'll go ahead and we'll do three-minute increments until the time expires. So, you know, we'll just go ahead if you would like to make another round of comments for as long as we can.

So why don't we go ahead and take a 15-minute break, and any of those of you who would like to make additional comments, why don't you talk to me and we'll go ahead and make a new stack of cards.

(A BREAK WAS TAKEN.)

MR. JAWGIEL: Before we call the commenters up, I also just want to make a little bit of an announcement here. The gentlemen who are recording this hearing wanted me to let you know that the DVD for this meeting will be available through AGP Video, and their website is called slospan, S-L-O-S-P-A-N, that's one word, slospan.org. And then when you get to that website, you click into "special meetings." So I just wanted to let you know that the videotape of this hearing will be available through that website.

We have two more speakers, David and Monique Nelson, both of who you previously heard from the organization CAPE. We'd like to give them a little extra time since they are the only two speakers who requested the extra time. So I'd like to give them four minutes apiece, and we'll let you know when you're at three-minute mark so you'll have indication when you have one minute left.

Mr. Nelson, since you requested additional time -- Mrs. Nelson would you like to come

up first? That is fine. However you'd like to do it. And, again, Mrs. Nelson you don't need to state your name for the record, and you'll have an additional four minutes.

MRS. NELSON: Thank you. I didn't hear whether I should or shouldn't, so my name is Monique Nelson, and I really don't need four minutes. I won't go into more of CAPE. I'll leave that to my husband David, but I do have more of a question for the EPA.

The Morro Bay power site is home to several endangered species of plants and animals, and from what I saw on the EPA record for the PSD permit, I didn't see anything one way or another specifically addressing the effects of PM-10 on these endangered species. So I'm wondering how the Fish and Game and the EPA could sign off and say there are no impacts when it looks like no studies have ever been made. So I guess my question to the EPA is have any studies been done specifically for the purpose of studying the effects of PM-10 on these endangered species and, if so, where are they in the record? Thanks. That's it.

MR. JAWGIEL: Thank you again, Mrs. Nelson. We appreciate you taking your time tonight.

Mr. David Nelson.

MR. NELSON: Thank you for the extra time.

I've been doing this for seven years, and it's just impossible to bring this much stuff and be able to focus well enough to hit the best points.

One of the big points I'd like to make is the absence of our city officials here as city officials. We've heard from Ms. DeMeritt, who is a city official, but she was speaking as herself. The reason for that is that early in this process, our city signed a document waiving any right to come to these meetings and fight for higher standards. Their job in writing by contract is to go along with the power company and the decisions that this board makes.

Now, one thing I figured out over seven years of doing this is when you do this to people, like you that are working on all kinds of projects, it leaves these big cracks, and the crack is, like I started pointing out earlier, data that's being supplied to you is less than what it should be for your purposes. It was approved by CEC, but it doesn't really apply if you take into consideration your mandate and what is expected from you. So that's what we're expecting from you, and we really are here to work with you and make your job as easy as we can, and that's why we've done all this background search for you, showing you where maybe what the power company's

told you might be a little bit tilted and maybe out of whack, and this is our view and our work over years in doing this.

The thing that I need to point out, again, with our council is that they sold a bill of goods to our city that this was going to be a cleaner power plant, and they had a vote on it saying that it was going to be a smaller, cleaner power plant. And here we are six years later, and I'm reading in your own -- the air impact reports here that your significant emission rate per year is significant at the rate of 15 tons.

Now, what we have here is a power plant that's being looked at in light of a 50-year record. I mean, when they figured out the existing power plant, they got to use oil licenses that would never, ever be able to be used today, but because it was grandfathered, they believed for the CEC purposes they could do that, and maybe the could. But for your purposes, this is a total redo of a power plant, and I would hope that you could come up with better numbers than that.

I understand that these credits are shifted around, both as a person who lives under these, we should know that, oh, by the way, before we make

this a cleaner plant, we get to take all the dirt that we have here, all the emissions that we've put out for 50 years, including oil, then buy credits from another area to bring them in here to make it fit. So what we're talking about here is significant emissions of 15 tons, and they're asking with their own numbers for a 76-ton increase.

People have to know that this is really dangerous. This is a serious thing. You know and I know how many studies are done on particulate matter and what a big thing it is at a statewide level for the air. So we're asking you to come back and go through these and calculate these numbers right, and when you do, the whole scale will tip because not only are particulates going to go up, but so will greenhouse gases like SOs, which they're already 13 tons over on SOs. So we're just asking you to work with us here and make this process work, because I've seen the process when it works. It really can work, but it takes a lot of effort by people, and there's a lot of people that you don't see in CAPE that do a lot of work here, and we have the facts here, and please give it the time that it needs to look at it, because there's no way I can even brief you on what we've put in here. But I hope that you give it validity and start just from the

premise that their calculations are off, their methods are off, according to the EPA standards, and make them hold up to EPA standards.

MR. JAWGIEL: Mr. Nelson, thank you for your comments tonight. And, again, I'm aware that CAPE has submitted a very extensive written comment, and we appreciate the time and effort that was put into that. And we'll obviously consider those very closely.

MR. NELSON: Good. Thank you. We look forward to your replies.

MR. JAWGIEL: Thank you. What I'd like to do is I just want to make one more attempt at calling some of the individuals who we called previously who were not in attendance. David Wiseman -- I don't know if David Wiseman has returned -- Sandra Brazil and Kathy Wells. Since no one is here, none of those individuals are here, I'm going to go ahead and conclude this hearing. Again, any information that you would need to submit written comments either through fax, e-mail, or through the regular mail can be found in the lobby.

I want to thank everyone for taking time out tonight to come here and provide us with comments. It was a pleasure working with you, and I understand that this is a very serious -- very serious issue that is very important to the residents of Morro Bay, and

that's why we're here. We really appreciate all of you taking the time out to inform us of your thoughts about this project. So I'm going to go ahead and formally concluded this hearing. Thank you and good night.

(Hearing concluded at 8:15 p.m.)

STATE OF CALIFORNIA)
) SS.
COUNTY OF SAN LUIS OBISPO)

I, Allyson C. Whitendale, Certified Shorthand Reporter, holding California CSR license No. 12996, do hereby certify:

The aforementioned public comments verbatim-reported by me by the use of computer shorthand at the time and place therein stated and thereafter transcribed into writing under my direction.

I certify that I am not of counsel nor attorney for nor related to any of the parties hereto, nor am I in any way interested in the outcome of this action.

In compliance with Section 8016 of the Business and Professions Code, I certify under penalty of perjury that I am a Certified Shorthand Reporter with License No. 12996 in full force and effect.

Witness my hand this _____ day of _____, 2006.

_____

ALLYSON C. WHITENDALE, CSR No. 12996

EPA United States Environmental Protection Agency

Public Comment Form

(Please Print)

Name H. Leabah Winter

Address 155 Sienna St

Morro Bay CA 93442

Affiliation

Telephone 805-772-3370

Email hlwinter@charter.net

Would you like to be added to our mailing list? ☐ Yes ☐ No

Comments: I have asthma and a heart condition. I moved to Morro Bay for better air. The new plant will put out particulate matter of smaller size + in greater amounts than the old plant. This will be detrimental to my health and all others in the my health problems. SLO county has a higher asthma rate already than other counties in California.

If a permit must be issued the plant must be made to ~~to~~ meet much more stringent pollution standards in order to operate than is currently proposed.

Thank you.

Joseph Lapka/R9/USEPA/US
10/31/2006 08:06 AM

To Anita Lee/R9/USEPA/US@EPA, Mark Sims/R9/USEPA/US@EPA
cc
bcc
Subject Fw: Objection to Morro Bay Power Plant PSD Permit

from the air permits box

****

Joseph Lapka
Region 9 Air Permits Office
United States Environmental Protection Agency

phone: 415-947-4226
fax: 415-947-3579
e-mail: Lapka.Joseph@epa.gov

mailing address:
U.S. Environmental Protection Agency
Air Permits Office (AIR-3)
75 Hawthorne Street
San Francisco, CA 94105

----- Forwarded by Joseph Lapka/R9/USEPA/US on 10/31/2006 07:06 AM -----

Catherine Purcell <cpmcpurr@yahoo .com>
10/30/2006 11:26 AM

To R9AirPermits@EPA
cc
Subject Objection to Morro Bay Power Plant PSD Permit

I live next door to the Morro Bay Power Plant, and I wish to record my objection to the EPA proposal to grant a "Prevention of Significant Deterioration" (PSD) permit to Dynegy, the new owner of the power plant, because I believe that toxic emissions from the smokestacks of a proposed new plant will increase when compared to the existing 50-year-old plant as it currently operates (on a very limited basis). The U.S. Code requires the EPA "to protect public health and welfare from any actual or potential adverse effect" from air pollution or from exposures to pollutants, even in the event of "attainment and maintenance of all national ambient air quality standards" by the plant in question. Federal law also requires the EPA "to preserve, protect, and enhance the air quality" in national areas of special natural, recreational or scenic value. Morro Bay is a nationally-protected estuary.

Ground-level concentrations of particulate matter, a potentially lethal toxic emission that EPA considers a significant health risk, would rise 60% in Morro Bay, partly as a result of an increase in the proposed plant's operating capacity by 20% and plans to operate it more than the existing plant is operated.

With regard to emission rates for the new plant, I object to the issuance of the PSD permit for the following reasons: (1) levels of pollutant emissions are understated by the applicant, (2) air modeling for particulate matter was inappropriate under EPA standards, (3) that levels of emissions from the existing plant have been overstated to make those of the new plant appear to

be lower, (4) that the baseline used to determine emissions levels for the existing plant has been inflated, and (5) and the baseline years used for the permit are not in compliance with what the PSD requires for normal source emissions.

Thank you,

Catherine Purcell-McWilliams
1254 Scott Street
Morro Bay, CA 93442

Coastal Alliance

ON PLANT EXPANSION

10/24/06

ISSUES OF CONCERN RE PROPOSED EPA "PREVENTION OF SIGNIFICANT DETERIORATION" (PSD) PERMIT

Regarding EPA hearing on air quality permit for proposed new Morro Bay power plant on Tuesday, Oct. 24 between 6 and 9 p.m. in the Veterans Memorial Hall, 209 Surf Street, Morro Bay.

The points are based on facts compiled by the Coastal Alliance on Plant Expansion (CAPE) and drawn from government documents.

Background

The U.S. Environmental Protection Agency proposes to grant a “Prevention of Significant Deterioration” (PSD) permit to Dynegy, the new owner of the Morro Bay Power Plant (MBPP), that would ensure that toxic emissions from the smokestacks of a proposed new plant would not increase, compared to the existing 50-year-old plant, and would meet EPA and U.S. Clean Air Act standards. The permit is required for operation of a new plant, as proposed by the owner.

The U.S. Code requires the EPA “to protect public health and welfare from any actual or potential adverse effect” from air pollution or from exposures to pollutants, even in the event of “attainment and maintenance of all national ambient air quality standards” by the facility in question. That federal law also requires the EPA “to preserve, protect, and enhance the air quality” in national areas of special natural, recreational or scenic value. Morro Bay is a nationally-protected estuary.

The central and uncontested fact is that ground-level concentrations of particulate matter (PM, both 2.5 and 10 micrometers in diameter), a potentially lethal toxic emission that EPA considers a significant health risk, would rise 60% in Morro Bay, partly as a result of an increase in the proposed plant’s operating capacity by 20% to 1200 megawatts and stated plans to operate it more than the existing plant has been operated.

Another reason PM levels would rise in Morro Bay is because the height of the plant smokestacks would be reduced from 450 feet to 145 feet, which would make it less feasible for prevailing winds to blow as much of the PM away from the community closest to the plant.

PM are fine particles “that are easily inhaled into the lungs,” EPA says, and scientific studies have linked PM to “significant health problems,” including decreased lung function, aggravated asthma, chronic bronchitis, irregular heartbeat, heart attacks and premature death in people with heart or lung disease. There is no known safe level of PM.

“Even relatively low levels of the miniscule air pollutant known as particulates raise the risk of death and serious illness,” according to the National Morbidity Mortality and Air Pollution study, as reported in USA Today.

The American Lung Assn. has described PM as “the most serious threat to our lungs” among power plant pollutants.
(Information on PM is available at
http://www.epa.gov/oar/particlepollution/fastfacts.html)

The EPA Ambient Air Quality Impact Report (AAQIR) states (Page 3) that PM is “a pollutant for which the proposed emission change (to a new plant) exceeds the significance threshold” under EPA regulations.

The PM, produced by fuel sulfur, inert trace contaminants and incomplete combustion of hydrocarbons in smokestack emissions, would be controlled by a “combination of good combustion practices and low or zero ash fuel (i.e. natural gas),” the EPA report says. It does not state to what levels the PM would be reduced, or whether those levels are considered safe and by whom. The levels of PM would be determined by limits contained in guarantees by manufacturers of the new electricity-producing turbines that a new plant would use, according to an EPA official, but either the AAQIR or the permit describes or specifies those limits and do not contain any information about whether the manufacturer’s standards have been reviewed or approved by any governmental agency.

The report further states that carbon monoxide, nitrogen dioxide and sulfur dioxide would be reduced by a new plant while ozone, although it would increase, would be below standards. But even if this were true, the plant would still release more than 1,500 tons of emissions per year, including PM.
The PSD permit and the AAQIR report are available at
http://www.epa.gov/region9/air/permit/r9-permits-issued.html.

The California Energy Commission Final Staff Assessment, Part 1, Part 3, page 4-12, dated April 2002, concluded:
… the actual air quality impacts of the new facility (impacts are the estimated concentrations on the ground, where they would affect people) are expected to be greater than the existing facility in nearly all cases. This is primarily due to the much greater stack height of the existing plant…

OTHER TALKING POINTS

1. **Summary:** The local air quality permit, on which the proposed PSD is partly based, has expired, and newer state and federal emissions control standards may invalidate the PSD.
   Background: The San Luis Obispo County Air Pollution Control District (APCD) conducted the first in a series of reviews of the emissions that a new Morro Bay Power Plant would release into the air, followed by a California Energy Commission (CEC) review and now the EPA PSD process. It is called a Best Available Control Technology (BACT) analysis, as required by state and federal law, and was part of the original application by then-plant owner Duke Energy to the APCD for what is called a Final Determination of Compliance (FDOC) with state and federal air quality standards–in effect, an air quality permit to operate the plant under prescribed conditions. Much of that analysis was the basis for the subsequent reviews and findings, including the proposed PSD permit. But the APCD's 2001 FDOC was valid for only 2-1/2 years, which has long since expired. There may be intervening changes in BACT and/or specific APCD rules and regulations relating to BACT for the proposed project before the APCD is required to conduct a subsequent final analysis and reevaluation, given the time lapse. Therefore, it is premature for the EPA to state that the APCD has given final approval to the permit for the project. This is a major flaw in the proposed PSD permit, rendering it inadequate for consideration at this time.

2. **Summary:** Emission rates for a new plant are contradictory and inconsistent, levels are understated by the applicant, air modeling for PM was inappropriate under EPA standards, the levels of emissions from the existing plant have been overstated to make those of the new plant appear to be lower, the baseline used to determine emissions levels for the existing plant has been inflated and the baseline years are the opposite of what the PSD requires for normal source emissions.
   Background: PM10 emissions levels for the new turbines proposed by the applicant are understated by at least 100%, based on the following points:
   1. The emission rates proposed by Duke for the new plant, and as accepted by the EPA, are not supported by the facts. Duke in its CEC application initially claimed that it utilized the emission rates "provided" by the manufacturer (GE), but later provided contradictory and inconsistent testimony during the CEC hearings.
   2. The methodology used by Duke's hired "expert," Gary Rubenstein, in modeling the PM10 emissions for the plant was totally inappropriate under EPA standards.
   3. The levels of emissions for all pollutants from the existing plant shown, and, therefore used as a baseline for comparison with emission levels predicted for a new plant to determine if they would increase or

decrease and by how much, are overstated by a factor of at least four because an inappropriate baseline period was used.

4. This baseline reflects a highly-inflated period of operations of the existing plant that was chosen by Duke to provide the highest level for previous emissions for comparison to make the emissions from the new plant appear to be lower. It is not the least bit representative of normal operations of the existing plant as required by federal regulations.
5. The baseline years selected by Duke in its original CEC application reflect the absolute opposite of normal source emissions. Duke operated the MBPP at unusually high rates during its selected baseline period, which was during the so-called state "energy crisis." Subsequent investigations have proven that Duke and many other energy suppliers artificially manipulated the availability of electricity. The price charged to California for electricity during this period (perpetrating a fraud on the State of California and its ratepayers) resulted in artificially-reduced supplies and inflated demands and prices for electricity, which led to Duke paying more than $200 million to settle charges of illegal practices. The applicant, Dynegy, as a successor in interest, should not be allowed to benefit from this massive fraud of Duke by utilizing the "energy crisis" years as a baseline for the existing MBPP emissions for purposes of the PSD analysis. If the EPA requires the applicant to provide an historic context for operations over the most recent 10 to 20 years, the selected baseline will be shown to be a total anomaly.

3. **Summary:** Current Best Available Control Technology may not allow use of duct burning, which contributes disproportionately to higher emissions, and more advanced and less-polluting turbines are commercially available, which EPA should review and consider as a requirement for the PSD permit. **Background:** Current BACT for greenhouse gases would prevent use of duct burning, a process that Duke Energy adamantly insisted on being allowed to use, which produces slightly more energy but a disproportionate increase in PM by a new plant, according to Gary Willey, an APCD staff member. Current BACT could be met by using other turbines that would not produce these greenhouse gases, as well as the excess PM10 emissions resulting from duct burning, and they are currently commercially available, although at an increased up-front capital cost to the owner/operator. Overall, duct burning contributes disproportionately to the significant unmitigated air quality and public health impacts from the MBPP relating to PM. This is an area where the EPA should closely investigate BACT at this point in time. Because commercially available technology exists in terms of more advanced turbines that emit less PM10 per megawatt (MW) of electricity

produced in the absence of duct burning, the proposed use of that process is not BACT.

4. **Summary:** Closed-cycle cooling and related PM emissions were not reviewed by EPA, even though it has not been ruled as for use by the proposed new plant.
   Background: The BACT analysis in the AAQIR noted that PM10 emissions from cooling towers were not analyzed since the facility will use seawater, not cooling towers (or any form of closed-cycle cooling, such as dry cooling, which most state agencies have supported), for plant cooling. It is critical to note, however, that there has been no final approval by the appropriate state governmental authorities of continuing use of seawater cooling. Any future determination that mandates cooling towers or dry cooling will acquire a new analysis by the EPA of the overall PM10 emissions from the project.

5. **Summary:** An appropriate baseline of emissions from the existing plant may show that emissions from a new plant would violate PSD requirements, preventing issuance of the permit–leading to the applicant having to build a smaller, less polluting plant or no plant at all.
   Background: Use of an appropriate baseline for existing emissions and proper PM10 emissions calculations for the new turbines will dramatically influence the permit analysis for all of these pollutants. It may well show that such emissions from the proposed project will cause a violation of the applicable PSD increments, that would prevent issuance of the PSD permit and, as a practical matter, would require the owner/operator to elect to pursue a smaller, less polluting plant or forego the modification of the existing MBPP altogether.

6. **Summary:** The meteorological data used to calculate ground-level emissions are not from Morro Bay, and no evidence has been presented to show that it is relevant to Morro Bay meteorological conditions.
   Background: The upper air meteorological data collected for the MBPP site was collected from Vandenburg Air Force Base, which is 45 miles southeast of the plant site. The owner/operator has never provided adequate evidence that this remote site has similar upper air conditions as the MBPP site, nor has it established any upper air meteorological data for the MBPP site itself since the original application was filed in 2000. The remote site data is inadequate for air modeling purposes to predict ground-level emission levels.

7. **Summary:** Out-of-date national standards were used in determining permit compliance, and under newer ones, the proposed plant would not comply, if emissions were calculated correctly.

Background: The current applicable National Ambient Air Quality Standards (NAAQS), cited in the AAQIR, regarding PM in particular, are far out of date compared to the overwhelming bulk of scientific investigations of the lethal impacts of this pollutant. The new NAAQS for PM10, adopted on Sept. 16, 1997, should be implemented immediately. Under these new standards, the project would not comply with NAAQS if PM10 emissions were calculated correctly.

8. **Summary:** Data analysis for PM 10 was inadequate to determine actual PM10 levels, exposing the public to significantly higher than allowable emissions and at farther distances from the plant.
   Background: Air quality data analysis for PM10 in Morro Bay is totally inadequate to determine the actual emissions of that pollutant from the MBPP since current technology does not allow for continuous in-stack monitoring of PM10, and ambient PM10 measurement cannot be attributed to any particular source at any given time. CAPE believes this leaves the public susceptible to significantly higher than allowable emissions that may spread for miles beyond Morro Bay itself.

9. **Summary:** Duke analysis assumed no distribution of PM beyond a six-mile radius of the plant, even though scientific literature indicates particulates are regional by nature, and the analysis failed to consider extreme meteorological conditions.
   Background: The Industrial Source Complex (ISC) modeling used by Duke is not nearly conservative enough because it assumes no distribution of particulates beyond a six-mile radius of the MBPP, whereas all of the scientific literature indicates that particulate emissions are regional pollutants by nature. For example, CEC staff noted that fine particulates may have long lifetimes in the atmosphere and travel hundreds to thousands of kilometers. In addition, the modeling assumed no severe meteorological conditions that do in fact and rather commonly occur, such as El Nino or La Nina years. In addition, the modeling ignored Duke's own worst case operating scenario, as set forth in its CEC application, and did not include any multi-hour effects or any account of recirculation of accumulated particulate concentrations resulting from continuous operations.

10. **Summary:** The PSD permit fails to consider Emission Reduction Credits, which are "offsets" that were used to find the new plant in compliance with local and state air quality standards, despite the fact emissions would still increase and the fact that the PSD is based in part on this compliance finding, serving to hide the real amount of emissions that the public would be exposed to.
    Background: The PSD permit fails to account for the key role that Emission Reduction Credits (ERCs) have played in allowing the new plant to meet air

quality standards, despite across-the-board increases in the amount of emissions it will produce and the fact that ERCs do nothing to reduce the actual amounts that fall to earth. Ground-level concentrations of PM were not taken into account by the APCD, which only measures emissions from the plant's smokestacks. (CAPE urged the APCD to require better emission controls under the California Environmental Quality Act, which does not allow these credits.) Although ERCs are primarily relevant in the APCD permitting process that is tied to state standards, they also are relevant to the PSD permit, which, it states, is predicated on that federal permit meeting "all other applicable federal, state, and local air quality regulations." CAPE believes the ERCs hide the real amount of emissions that the public will be exposed to and, therefore, this invalidates the permit's claim that emission levels will be reduced. The APCD allowed ERCs to be used by Duke Energy to reach compliance with its air quality regulations, even though the APCD data show that three of the five pollutants from the plant's smokestacks will increase. More importantly, ground-level concentrations (as contrasted with smokestack emissions) of all five of the pollutants coming from the plant will increase in and around Morro Bay due primarily to the lower smokestacks. Compliance was possible because ERCs can be bought to "offset" these actual increases, under calculations that state and federal laws allow. Duke Energy bought ERCs through the APCD that have been credited to Chevron for the shutdown of its facility in north Morro Bay. Duke also received ERCs stemming from PG&E, which sold the plant to Duke in 1998, halting the burning of oil at the plant, which causes greater pollution than natural gas. Ironically, the credits that Duke received via PG&E for lowering emissions are now being used to allow increases in emissions by a new, supposedly "more efficient" plant.

11. **Summary:** The AAQIR says the existing plant has operated since the 1950s "without incident" involving agricultural uses, even though many complaints have been made over the years by residents about emissions fallout from the plant, which damaged personal property and local vegetation.

Background: The AAQIR states that the "MBPP has operated and coexisted without incident in proximity to agricultural uses since operations began in the 1950s." To test this claim, the EPA should require the plant owner to provide copies of all complaints received from local residents as to fallout from the plant which damaged personal property (such as vehicles) and local vegetation, as well as the relevant portions of the transcripts of CEC hearings on Duke Energy's application for a license for a new plant and evidence relating to such complaints made at the hearings regarding this issue. It also is premature to conclude that the new plant–with significantly higher emissions for all pollutants, and especially PM, when an appropriate baseline is used–will not result in significant impacts to soils and vegetation.

CONCLUSION:

For all of the reasons discussed above, CAPE strongly urges the EPA to conclude that PSD analysis must be provided for all pollutants based on an appropriate baseline emissions period and that PM10 emissions will clearly cause an exceedance of PM10 PSD increments. Such conclusions would not allow issuance of a permit for the MBPP project as currently proposed.

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September 28, 2006

Mr. Mark Sims
U.S. EPA Region 9
Air Permits Office (AIR-3)
75 Hawthorne Street
San Francisco, CA 94105

Re: Written Comments on Proposed PSD Permit dated May 2006 ("Proposed Permit") and Ambient Air Quality Impact Report (AAQIR) re LSP Morro Bay LLC (SCC 2005-01)

Dear Mr. Sims:

The Coastal Alliance on Plant Expansion ("CAPE") hereby provides the following comments on the above-referenced Proposed Permit and AAQIR. All capitalized terms used herein are as defined in the Proposed Permit, AAQIR, or specifically defined herein. The purpose of this letter is to provide public comments on the PSD Proposed Permit and AAQIR pursuant to the relevant federal regulations, including 40 CFR § 52.21. For the convenience of the EPA Region 9, the comments are organized in the order of the issues presented first in the AAQIR and then the Proposed Permit.

AAQIR Comments

I. Section III (page 2, ¶4). The Title V Permit issued to Duke Energy Morro Bay LLC ("Duke") by the San Luis Obispo County Air Quality Pollution Control District ("APCD") requires a reevaluation of BACT once all other permits and approvals of the project have been obtained, i.e., BACT analysis in the original application to the APCD was valid for only 2-1/2 years, which has long since expired. There may be intervening changes in BACT and/or specific APCD rules and regulations relating to BACT for the proposed project before this final analysis and reevaluation occurs, making it premature to note that the APCD has given final approval to the Permit for the project.

II. Section IV (page 3 – Table 1). There are very serious, highly material issues relating to the appropriateness of the emission comparisons set forth in Table 1 of the AAQIR, both as to the existing boilers' emissions and as to the new turbines' emissions.

A. The PM_{10} emissions levels for the new turbines proposed by the applicant (originally Duke) are **understated by at least 100%.** As CAPE raised before the CEC, the following issues should be addressed in the public hearing and reconsidered by the EPA before issuing the proposed EPA PSD permit as to PM_{10} emissions:

1. The emission rates proposed by Duke for the MBPP, and as accepted by the EPA (see Proposed PSD Permit, p. 4, §IX.B) are not supported by the facts.

a. Duke in its CEC Application initially claimed that it utilized the emission rates "provided" by the manufacturer (GE), but later provided contradictory and inconsistent testimony during the CEC hearings. The Application indicates the specs were provided by the vendor (see, Application page 6.2-42, Table 6.2-26, Table 6.2-26, footnote 3[1]), which on its face suggests warranted rates that can give a comfort level because the vendor may be liable if it knowingly gives false emission rates.

b. On behalf of Duke, Mr. Gary Rubenstein thereafter testified that the emission rates of the turbines were based on the combined filterable and condensable particulate emissions measured "using EPA-approved methods" and further testified that vendor guarantees were irrelevant. The vendor guaranteed emissions were at least twice the levels provided by Duke. See, Exhibit A - CAPE's CEC Opening Brief, pp. 4-6, as well as the exhibits referenced therein which are attached as Exhibits F (pp. 14-15) and N to this comment letter.[2]

c. As discussed in greater detail below, Mr. Rubenstein again changed his testimony on cross-examination by CAPE to indicate that the proposed MBPP's PM_{10} emissions were **not** based on data provided by GE (the vendor) [contrary to the statements of Duke in its Application §6.2.6.2.2, Tables 6.2-25 and 26, p. 6.2-42]. The vendor data for these turbines range from 18 to well over 20 lb/hr for the same model turbines without duct firing. Mr. Rubenstein then claimed that Duke estimated the turbines would produce 11 lb/hr without duct firing and 13.3 lb/hr with duct firing, based on Mr. Rubenstein's own "professional judgment."

2. The methodology used by Duke's hired "expert," Mr. Rubenstein,[3] in modeling the PM_{10} emissions for the MBPP was totally inappropriate under EPA standards.

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[1] The Application submitted to the EPA for the project is identical, on air quality issues, to that submitted to the California Energy Commission ("CEC"). Numerous corrections and changes to the data provided in the CEC Application were submitted to the CEC, but apparently have not been provided to the EPA for its evaluation of the project.

[2] The October 1990 USEPA draft New Source Review Workshop Manual strongly suggests that vendor guarantees be obtained for BACT control systems, and that even such guarantees might not be sufficient. See, CAPE's CEC Opening Brief re Group II Topics (pp. 4-5) as well as the exhibits referenced therein which are attached as Exhibits G (p. 120) and L (¶20, p. 9) to this comment letter, addressing air quality and public health impacts of the project ("CAPE's CEC Opening Brief"), a copy of which is provided to the EPA with these comments as Exhibit A and is otherwise available on the CEC web site for this project.

[3] Mr. Rubenstein apparently represents primarily if not exclusively power companies and is thus susceptible to significant personal/professional/financial bias. See, Exhibit J to this comment letter, pages 117-118.

a. On cross-examination by CAPE in the CEC proceedings, Mr. Rubenstein testified that the emission rates were actually based on his "own professional judgment, rather than on the GE numbers" and/or his proposed source test methodology for PM emissions in which **he combined EPA Method 201A (for filterable particulate emissions) and EPA Method 8 (for condensable particulate emissions).** See, Exhibit A - CAPE's CEC Opening Brief, pp. 4-5, as well as the exhibits referenced therein which are attached as Exhibits G (p. 120) and L (¶20, p. 9) to this comment letter, as well as Exhibit M to this comment letter. Not coincidentally, the emission rates based on Duke's expert's opinion are substantially lower than (i.e., half of) the vendor data rate,[4] the PM_{10} source test results on these same model turbines in operation elsewhere (including Duke Energy plants in Texas),[5] and emission rates established using the proper EPA approved PM_{10} source test methodology, which is EPA Methods 201A (now Method 5) and 202.[6] **It is important to note that the Proposed Permit itself requires use of EPA Methods 5 and 202 (see, §IX.A.2 (p.3)), not Method 8.**[7]

b. Mr. Rubenstein's calculation based on EPA Method 8 is clearly inappropriate because this method is approved only for Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources (not condensable particulates).

c. All of the data from the vendor and the source tests using the actual EPA-approved Method 202 for condensable particulates are all quite consistent at 18 lb/hr without duct burning, which is twice as high as the base emission rate proposed by Duke of 9 lb/hr for these turbines. Establishment of lower rate caps as a permit condition is totally ineffectual and unenforceable, given that current technology is unable to provide continuous in-stack monitoring of PM_{10} emissions, as discussed further below.[8]

d. As set forth in Exhibit A - CAPE's CEC Opening Brief, given the above concerns, the weight of the evidence supports actual emission rates with SCR and without duct firing of 22 lb/hr and with duct burning of 26.6 lb/hr, for a total of 406.4 tons per year of particulate emissions, not the 203.2 tons per year modeled by Duke and accepted by the EPA in its AAQIR (§IV, p. 3, Table 1). Accordingly, the proposed permit is based on faulty factual premises. An appropriately conservative estimate of PM_{10} emissions from the proposed project is at least 406.4 tpy (and actual emissions may well exceed such estimates).

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[4] See, pp. 5-6 of Exhibit A - CAPE's CEC Opening Brief as well as the exhibits referenced therein which are attached as Exhibits H, L [as well as exhibit 1 thereto], and N filed with these comments.

[5] See, pp. 6-7 of Exhibit A - CAPE's CEC Opening Brief as well as the exhibit referenced therein which is attached as Exhibit O filed with these comments.

[6] See, Exhibit A - CAPE's CEC Opening Brief, pp. 7-10, as well as Exhibits F (pp. 12, 14-15, 17-19, 24-26), G (pp. 16-17, 21-22, 130), K (p. 124), L (exhibit 1, table 1 on pp. 207 and 210), and M (pp. 12, 23, 25).

[7] As set forth in Exhibit A - CAPE's CEC Opening Brief (p. 10) and Exhibit F (p. 19), Mr. Rubenstein testified that "... we [the applicant] have told the [APCD] that we will be requesting the use of a method like this [201A/8] ... And by the time we do testing from this plant, that new method may actually be an approved EPA method, and we may switch to that." See, Exhibits F and M filed with these comments. That "new" method (Method 8 for condensable particulates) has not been approved by the EPA for PM emissions to date.

[8] See, Exhibit A - CAPE's CEC Opening Brief, pp. 10-12 and all exhibits referenced therein, including Exhibits F (pp. 240-241), G (pp. 21, 51-53, 171-174), and L (¶29) and exhibit 2 thereof (pp. 241-242).

B. The levels of emissions for **all pollutants** from the baseline for the existing MBPP shown in the Application (Table 6.2-31) and Table 1 of the AAQIR are overstated by a factor of at least **four** because an inappropriate baseline period was used.

1. The figures referenced in Table 1, as supplied by Duke, are based on the average 24-month emissions for all four steam generating units at the existing MBPP for the period of mid-1998 through July 2000. This baseline reflects a highly inflated period of operations of the existing MBPP chosen by Duke to provide the highest available credits for previous emissions for state law purposes in anticipation of its revised AFC filing with the CEC.[9] It is not the least bit representative of normal operations of the MBPP as required by CFR §52.21 (b)(3)(i)(b) and §52.21 (b)(48). The latter regulations (part of the definitions section) provides in relevant part as follows: "(48) Baseline actual emissions means the rate of emissions, in tons per year, of a regulated NSR pollutant [including PM_{10}] as determined in accordance with paragraphs (b)(48)(i) through (iv) of this section."

Of most relevance here are the provisions of CFR §52.21 (b)(48)(i) that address existing electric utility steam generating units, as to which the "baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner and operator **within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The Administrator shall allow the use of a different time period upon a determination that it is more representative of normal source operation.**" [Emphasis added] This is critical to the analysis of the proposed MBPP for PSD purposes.

2. The baseline years selected by Duke in its original application reflect the absolute opposite of normal source emissions. Duke operated the MBPP at unusually high rates during its selected baseline period and subsequent investigations have proven that Duke and many other energy suppliers artificially manipulated the availability of electricity and the price charged to California for electricity during this period (perpetrating a fraud on the State of California and its ratepayers) resulting in artificially reduced supplies and inflated demands and prices for electricity.[10] The applicant, as a successor in interest, should not be allowed to benefit from this massive fraud of Duke by utilizing the "energy crisis" years as a baseline for the existing MBPP emissions for purposes of the PSD analysis. If the EPA requires the applicant to provide an historic context for operations over the most recent 10 to 20 years, the selected baseline will be shown to be a total anomaly. CAPE strongly urges that the EPA require the owner/operator to provide this 10 to 20 year history of emissions for the existing MBPP, which CAPE believes will amply demonstrate the inappropriateness of the baseline used by the applicant.

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[9] See, Exhibit A - CAPE's CEC Opening Brief, pp. 38-45 and Exhibit B - CAPE's Reply Brief on Group III Topics Other Than Soil and Water ["CAPE's CEC Reply Brief"].

[10] See, e.g., the report in the Los Angeles Times, dated September 14, 2005, entitled "Duke to Close California Plants," which states in relevant part: "In July 2004, Duke reached a $207.5 million settlement with California and several utilities in the state to resolve allegations that the company overcharged for power in the summer of 2000." Note the summer of 2000 is included in the applicant's baseline emissions period in its application to the EPA. A copy of this article is attached to these comments as Exhibit P.

3. The regulations expressly require that the baseline emissions be based on a continuous 24-month average within 5 years prior to actual construction. The baseline used by the owner/operator is not within that time period. As of July 2006, all of the necessary permits and approvals for the project have not yet been obtained by the owner/operator so construction has not yet begun.[11]

4. Although actual emission figures from the MBPP in the last 5 years have not been made public (to CAPE's knowledge) by the owner/operator, CAPE believes that **at most** the MBPP has operated on average at a maximum of 1 boiler full time per year in the past 5 years,[12] which belief is based on various local news reports from different sources[13] and observations by local residents. Applying this estimated maximum of the equivalent of 1 boiler

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[11] Demolition of the tank farm is separate and apart from the construction of the project, as Duke conceded in its CEC Petition for an Order Authorizing Demolitions of the Morro Bay Tank Farm, dated April 18, 2005, and the CEC confirmed this in its Commission Amended Order No. 05-062201 Authorizing Demolition of the Morro Bay Tank Farm, dated June 22, 2005. See, p. 5 of Appendix A to such order. Copies of these filings are attached to these comments as Exhibits C and D, respectively.

[12] In CAPE's view, the estimate of one boiler unit operating full time per year at the MBPP is likely to be much higher than actual operating data would show because for periods of time none of the boilers have been in operation, at times one unit has been operating off and on, and on occasion at peak periods, perhaps two units have been operating on a part-time basis. Actual emissions for the MBPP in the past five years are thus likely to be substantially less than the baseline figures provided by Duke which included all four units operating on essentially a full-time basis. Because CAPE has no access to the actual emissions data for the appropriate 5-year time period, it is therefore incumbent upon the applicant to provide the EPA with actual emissions data for that time period.

[13] For example, the New Times (San Luis Obispo County) reported in its February12-19, 2004 edition in an article entitled "Duke Energy Hushed Earthquake Damage," that all four generating units at the MBPP were out of operation from December 22, 2003 until February 6, 2004, as a result of earthquake damage. This article further quotes Duke's representative as follows: "We had some maintenance work on the two generators [otherwise operable prior to the earthquake] scheduled for March and April, anyway...We didn't expect to be running them because of low demand this time of year. ..." A copy of this article is attached to these comments as Exhibit Q. In addition, various articles in the San Luis Obispo Tribune in early 2004 and 2005 noted the limited operations of the MBPP. On February 20, 2004, in an article entitled "Duke to Cut Morro Staff," the Tribune reported that the MBPP (as quoted from a Duke representative) "has not been operating at a substantial level. ... As a result [Duke is] having to further reduce costs, which includes a reduction in personnel." At that time only two of the plant's generators remained available for use. On March 16, 2004, in an article entitled "Duke May Shutter Morro Plant," the Tribune reported that Duke may shutter the MBPP, i.e., mothball the plant starting in October 2004 if the demand for electricity over the summer was low" and again confirmed that only 2 of the 4 generators were even available. More specifically, the article indicates that "two of the plant's four generating units were put into 'cold shutdown.' In that state, the units can't be easily restarted, requiring about 30 days to gear back up. The other two are on stand-by, but are not producing." A Duke employee representative of the local union was quoted in this article as follows: "With Diablo running, there is very little power needed out of Morro Bay." Duke's spokesman, Pat Mullen was further quoted as follows: "We recognize that the plant has not been operating." On February 11, 2005, the Tribune reported in an article entitled "PG&E Offer May Keep Plant on Line" that: "Over the last two years, the plant has been losing money and Duke has mothballed two of the plant's four generators." The article notes that Mullen, the Duke spokesman, "said a power-purchase contract with PG&E, and possibly other buyers, would stop these losses. ... For up to three years, Duke is offering up to 650 megawatts of power from the plant's remaining two generators." This is significantly less than the maximum MWs per hour produced from the MBPP during the applicant's proposed baseline period. See Appendix 6.2 to the Application – Attachment 6.2-1.1. Copies of these articles are attached to these comments as Exhibit R. The fact that much of the MBPP was not operating and that Duke did not vigorously pursue its modification plans for the MBPP during this extended period (2001 to date) clearly illustrates that the most representative period of operations of the MBPP should be within the last 5 years, not the anomaly years of 1998-2000.

(full-time) by using figures equal to one-fourth of those set forth in Table 1 for actual emissions based on 4 boilers, an appropriately revised Table 1 would be closer to the following:

Revised Table 1. Comparison of Emissions from New Turbines and Existing Boilers

	EMISSIONS (tons per year)				
	NO_x	CO	VOC	SO_2	PM_{10}
New Turbines	292.3	917.4	77.6	23.0	203.2 (a) 406.4 (b)
Existing Boilers (c)	213.3	359.0	23.0	2.5	31.8 31.8
Net Change	79.0	558.4	54.6	20.5	171.4 374.6

(a) This figure is the PM_{10} emissions provided by Duke in its initial application, which is grossly understated. See, the discussion above in Paragraph II.A.

(b) CAPE believes this figures is the minimum estimate of actual PM_{10} emissions from the new turbines for the reasons stated above in Paragraph II.A.

(c) The figures for the existing boilers, as a reasonable estimate subject to confirmation by the owner/operator with actual data during a 24-month baseline in the 5-year period prior to commencement of construction of the project, are ¼ of the figures of emissions supplied by Duke in its original application representative of 4 boilers operating full time, to derive the equivalent of 1 boiler operating full time over the appropriate baseline period.

Use of an appropriate baseline reflecting representative levels of operation of the existing MBPP clearly results in significant increases in all criteria pollutants, except SO_2.

5. Based on the revised Table 1 set forth above (albeit an estimate), the proposed project is subject to PSD requirements (including pre-construction monitoring of such pollutants) for CO (increase of 558.4 tpy vs. PSD significant emission rate of 100 tpy), NO_x (increase of 79.0 tpy vs. PSD significant emission rate of 40 tpy), and VOC/ozone (increase of 54.6 tpy vs. PSD significant emission rate of 40 tpy), as well as PM_{10}. Only SO_2 would be exempt from further PSD analysis based on appropriate baseline emissions (less than the PSD significant emission rate of 40 tpy).

6. The AAQIR therefore is materially incorrect in that PSD increment analysis is required for CO, NO_x and VOC, as well as PM_{10}, and no such analysis has been performed by the owner/operator or the EPA for CO, NO_x and VOC.

III. Section V (p. 4 of the AAQIR). The BACT analysis should require updated information by the owner/operator (given the extended delay since submission of the application) to address current BACT generally for CO, NO_x, VOC and PM_{10}, and specifically as to the duct burning component of the project. In recent statements by Mr. Gary Willey of the APCD, Mr. Willey suggested that current BACT for greenhouse gases (including ammonia)[14] would prevent duct burning because other turbines which would not produce these greenhouse gases, as well as the

[14] Mr. Willey has indicated that the APCD will consider any then applicable APCD required emissions limitations on greenhouse gases in connection with the APCD's final BACT review, as well as BACT for excessive PM_{10} emissions resulting from duct burning.

excess PM_{10} emissions resulting from duct burning, are currently commercially available, albeit at an increased up-front capital cost to the owner/operator. Duct burning contributes disproportionately to the significant unmitigated air quality and public health impacts from the MBPP relating to particulate emissions. This is an area where the EPA should closely investigate BACT. Because commercially available technology exists in terms of more advanced turbines that emit less PM_{10} per MW produced in the absence of duct burning, the proposed use of duct burning for the MBPP modernization project is not BACT.

At the CEC hearings, Duke denied that duct burning at the MBPP will result in any significant unmitigated air quality impacts, relying on the smoke and mirrors of flawed arguments (i.e., Duke's reliance on emissions on a mmBtu/hr basis). As addressed in Exhibit A - CAPE's CEC Opening Brief (pp. 46-49)[15] and Exhibit B - CEC Reply Brief (pp. 20-23),[16] duct burning results in a disproportionately higher amount of PM_{10} emissions, as agreed by the APCD. The relevant point for air quality considerations is not how much PM results per unit of fuel burned, but the level of pollutants per MW produced. Duct firing is less fuel efficient and uses more natural gas, thus, producing more PM emissions per MW of capacity.

The BACT analysis in the AAQIR noted that PM_{10} emissions from cooling towers were not analyzed since the facility will use seawater, not cooling towers, for process cooling. It is critical to note, however, that there has been no final approval by the appropriate state governmental authorities of continuing use of seawater cooling. Any future determination that mandates cooling towers or dry cooling will acquire a new analysis by the EPA of the overall PM_{10} emissions from the project.

IV. Section VI (pp. 4-7 of the AAQIR). CAPE challenges the EPA's preliminary conclusion that the proposed project will not cause a violation of the applicable PSD increments, as set forth in greater detail below.[17]

A. As demonstrated in the discussion in paragraph II above, no conclusions can be made regarding the compliance of the project with NO_x, CO, VOC, and PM_{10} emissions because there has been no submission of a preliminary analysis for any pollutant other than PM_{10} and the analysis for PM_{10} is fundamentally flawed. Use of an appropriate baseline for existing emissions and proper PM_{10} emissions calculations for the new turbines will dramatically influence this analysis for all of these pollutants. It may well show that such emissions from the proposed project will cause a violation of the applicable PSD increments, that would prevent issuance of the PSD permit (and as a practical matter would require the owner/operator to elect

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15 See, Exhibit A (pp. 46-49) as well as Exhibits L (¶30), G (pp. 30-32, 134), K (pp. 124-125), E (pp. 168-171), F (pp. 32-37), and I (Duke's Response to Data Request No. 6).

16 See, Exhibit B (pp. 20-23) as well as Exhibits K (p. 125), L (¶30), E (p. 11), G (pp. 7, 30-31, 60-61), F (p. 67) and Application §6.2.6.2.2, Tables 6.2-25 and -26, p. 6.2-42.

17 CAPE believes the current applicable NAAQS regarding $PM_{10/2.5}$ in particular are far out of date compared to the overwhelming bulk of scientific investigations of the lethal impacts of this pollutant and further believes the now delayed new NAAQS for PM_{10} adopted on September 16, 1997 should be implemented immediately. Under these new standards, the project would not comply with NAAQS if PM_{10} emissions were calculated correctly. However, given the current applicable standards, for the purposes of these comments, CAPE concedes that the old NAAQS, although inadequate to protect public health, are satisfied by the project.

to pursue a smaller, less polluting plant or forego the modification of the existing MBPP altogether).

B. As noted in Section VI.A of the AAQIR, the upper air meteorological data collected for the MBPP site was collected from Vandenburg Air Force Base, which is 45 miles southeast of the plant site. The owner/operator has never provided adequate evidence that this remote site has similar upper air conditions as the MBPP site, nor has it established any upper air meteorological data for the MBPP site itself since the original application was filed. The remote site data is inadequate for modeling purposes. Moreover, the applicant used surface meteorological data collected at the MBPP site during 1994-1996, precisely because it did not include any "unusual weather conditions." See, Exhibit A – CAPE's CEC Opening Brief, p. 25 and footnote 97, as well as the Exhibit referenced therein and attached as Exhibit J to this comment letter. Given the increasing occurrences and impacts of El Nino and La Nina and changing weather patterns in the past ten years in general, the period used by the applicant is not representative for modeling purposes.

Although CAPE supports multiple site ambient air quality data analysis for PM_{10} in Morro Bay, this is totally inadequate to determine the actual emissions of that pollutant from the MBPP, in that current technology does not allow for continuous in-stack monitoring of PM_{10} and ambient PM_{10} measurement cannot be attributed to any particular source at any given time. CAPE believes this leaves the public susceptible to significantly higher than allowable emissions that may spread for miles beyond Morro Bay itself.

C. As to Section VI.B of the AAQIR, CAPE strongly urges reassessment of emissions with a model that acknowledges that PM_{10} emissions are understated by at least 100%, as explained in more detail above in Paragraph II above. The ISC modeling used by Duke is not nearly conservative enough in that it assumes no distribution of particulates beyond a 6 mile radius of the MBPP, whereas all of the scientific literature indicates that particulate emissions are regional pollutants by nature. For example, CEC staff noted that fine particulates may have long lifetimes in the atmosphere and travel hundreds to thousands of kilometers.[18] In addition, the modeling assumed no severe meteorological conditions that do in fact and rather commonly occur such as El Nino or La Nina years. See, Exhibit A - CAPE's CEC Opening Brief, p. 25 and footnote 97. In addition, the modeling ignored Duke's own worst case operating scenario (as set forth in its application – Appendix 6.2-2, Table 6.2-2.2),[19] and did not include any multi-hour effects or any account of recirculation of accumulated particulate concentrations resulting from continuous operations.[20]

D. Section VI.C provides in Table 2 an analysis of worst case ground level concentrations of applicable pollutants. This analysis is based on false data and assumptions as

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[18] See also, Exhibit B - CAPE's CEC Reply Brief, p. 7 and note 19 as well as Appendix A, p. 3-4-17 (3rd ¶) of the CEC Final Staff Assessment, Part 1, dated December 11, 2001, which CAPE has been advised is already in the EPA administrative record in this matter.

[19] See also, Exhibit A - CAPE's CEC Opening Brief, p. 26, as well as the exhibits referenced therein and attached as Exhibit E (pp. 159-160, 218-219) to this comment letter, and Application Appendix 6.2-2, Table 6.2-2.2.

[20] See, Exhibit A - CAPE's CEC Opening Brief (pp. 25-28), as well as the exhibits referenced therein and attached as Exhibit E (pp. 210-211, 217-28, 239-240) and the Final Staff Assessment, Part 1 (p. 34) and attached FDOC, p. 6, §V and p. 13, §VIII E and Appendix E.

to emissions data. For example, in contrast to footnote 2 on page 6 of the AAQIR, NO_x, CO and VOC should be subject to PSD review for this project. No conclusions as to PSD increment analysis can be made at this point without accurate data. However, if the PM_{10} emissions are in fact being understated by half as described above, presumably the 24-hr average would be at least 48.4 μ/m^3, which significantly exceeds the PSD Class II Increment of 30 μ/m^3. This would require a significant downsizing of the project in terms of particulate emissions.

V. Section VII.A of the AAQIR. This section addresses the visibility analysis provided by the applicant which the EPA has accepted as presented, concluding the maximum visibility impact is within the allowable level of acceptable change to extinction. However, this conclusion is premature because the modeling used by the applicant included the inappropriate PM_{10} emission rates. The application (pp. 6.2-60 to 6.2-71, as well as Tables 6.2-49 and 6.2-50) indicates that turbine emissions used in the ISCST3 modeling analysis of visibility impacts were identical to those used in modeling the other impacts from the Project. As made clear in Paragraph II.A above, the PM_{10} emissions rate for this project is understated by at least 100%. Table 6.2-50 of the application show a calculation based on the dramatically understated PM_{10} emissions with a percent change in extinction of 4.07 compared to the level of acceptable change of 5 percent for the Class I area. A proper calculation of PM emission rates may well result in a percent change in extinction that exceeds the acceptable change level.

VI. Section VII.B of the AAQIR. It is untrue that the "MBPP has operated and coexisted without incident in proximity to agricultural uses since operations began in the 1950s." The EPA should require the owner/operator to provide copies of all complaints received from local residents as to fallout from the plant which damaged personal property (such as vehicles) and local vegetation, as well as the relevant portions of the CEC transcripts and evidence relating to such complaints made at the CEC hearings regarding this issue. It is also premature to conclude that the new operations (with significantly higher emissions of all pollutants, and especially PM_{10}, when an appropriate baseline is utilized) will not result in significant impacts to soils and vegetation.

VII. Conclusion. For all of the reasons discussed above, CAPE strongly urges the EPA to conclude that PSD analysis must be provided for all pollutants based on an appropriate baseline emissions period and that PM_{10} emissions will clearly cause an exceedance of PM_{10} PSD increments. Such conclusions would not allow issuance of a permit for the MBPP project as currently proposed.

Proposed PSD Permit Conditions Comments

In Section IX.A.2, the EPA appropriately requires performance tests in accordance with the test methods for PM_{10} using EPA Methods 5 and 202. As noted above, this should raise a red flag for the EPA when the testimony of Duke's expert (Gary Rubenstein) is taken into account, inasmuch as the emissions figure for the condensable particulates of the new turbines was based on his use of EPA Method 8, rather than the approved EPA Method 202. See also, Exhibits L and N to this comment letter.

Within CAPE's budget limitations, we are happy to provide further information, should the EPA deem it helpful. Enclosed for your convenience are copies of CAPE's CEC Opening Brief and CAPE's CEC Reply Brief, as well as the specific pages of transcripts cited in

those briefs and CEC Exhibits cited therein to the extent relevant to the EPA proceeding. Also enclosed are copies of the other relevant CEC filings and newspaper articles cited herein. Please refer to the enclosed "CAPE's EPA Comment Letter Exhibit List" and the Exhibits attached thereto. It is respectfully requested that this letter, as well as all of the enclosed Exhibits to this letter, be entered into the administrative record of this matter for consideration by the EPA in its final determination of PSD compliance. To the extent that the EPA allows or demands that the applicant (MBPP owner/operator) provide further relevant information, CAPE requests that such information be made available to it for further comment before the EPA makes its final determination of PSD compliance for the proposed MBPP project.

Sincerely,

The Coastal Alliance on Plant Expansion

David Nelson, Co-President

Enclosures (Exhibit List and Exhibits)

CAPE'S EPA COMMENT LETTER EXHIBIT LIST
(SCC 2005 -01)

CEC Filings

Exhibit A: Opening Brief of Intervenor The Coastal Alliance on Plant Expansion ("CAPE") re Group III Topics dated April 19,2002 In the Matter of Application for Certification for Morro Bay Power Plant Project, State of California State Energy Resources Conservation and Development Commission, Docket No. OO-AFC-12 (the "MBPP CEC Matter").

Exhibit B: Reply Brief of Intervenor CAPE re Group III Topics Other Than Soil and Water dated May 3, 2002 in the MBPP CEC Matter.

Exhibit C: Applicant's Petition for an Order Authorizing Demolition of the Morro Bay Tank Farm dated April 15, 2005 in the MBPP CEC Matter.

Exhibit D: Commission Amended Order Authorizing Demolition of the Morro Bay Tank Farm dated June 22, 2005 in the MBPP CEC Matter.

CEC Transcripts

Exhibit E: Reporter's Transcript of the MBPP CEC Matter Hearings on February 5, 2002 (pp. 11, 159-160, 168-171, 240-241).

Exhibit F: Reporter's Transcript of the MBPP CEC Matter Hearings on February 6, 2002 (pp. 11-19, 24-26; 30-38, 67).

Exhibit G: Reporter's Transcript of the MBPP CEC Matter Hearings on March 12, 2002 (pp. 7, 16-17; 21-22; 30-32; 60-61; 119-134; 171-174; 194-197).

Other CEC Exhibits

Exhibit H: Exhibit 12 in the MBPP CEC Matter Hearings: Letter from Sierra Research to Gary Willey, SLOAPCD, Re: Additional Information to Address Permit Data Adequacy Issues, dated November 21, 2000.

Exhibit I: Exhibit 34 in the MBPP CEC Matter Hearings: Applicant's responses to Intervenor CAPE's March 9, 2001 Data Requests Related to Air Quality, only.

Exhibit J: Exhibit 44 in the MBPP CEC Matter Hearings: Applicant's responses to March 9, 2001 Intervenor CAPE Data Requests (Air Quality Data Requests 67-108, only), dated May 3, 2001.

Exhibit K: Exhibit 134 in the MBPP CEC Matter Hearings: Applicant's Testimony on Group II Issues dated January 15, 2002, pp. 117-142 related to Air Quality Issues, only.

Exhibit L: Exhibit 139 in the MBPP CEC Matter Hearings: Prefiled Testimony on Traffic and Transportation, Air Quality and Public Health, offered by Intervenor CAPE on Group II Topics, (only those portions relating to air quality, and related exhibits to air quality).

Exhibit M: Exhibit 147 in the MBPP CEC Matter Hearings: Document entitled "Sources of Uncertainty When Measuring Particulate Emissions from Natural Gas-Fired Turbines," authored by Gary Rubenstein, Sierra Research, and presented to the Air and Waste Management Association on March 30, 2001.

Exhibit N: Exhibit 179 in the MBPP CEC Matter Hearings: CAPE Compendium of AFC's Western, Midway, Sunset, Elk Hills, and Sunrise Cogeneration Power Projects.

Exhibit O: Exhibit 180 in the MBPP CEC Matter Hearings: Emission Test Report for Emission Compliance of 2 General Electric Frame 7EA Turbines at the Frontera Generation Facility in Hildago, Texas.

Referenced Newspaper Articles

Exhibit P: Los Angeles Times article entitled "Duke to Close California Plants" dated September 14, 2005.

Exhibit Q: New Times article entitled "Duke Energy Hushed Earthquake Damage" in the February 12-19, 2004 issue.

Exhibit R: San Luis Obispo Tribune articles entitled "Duke to Cut Morro Staff" dated February 20, 2004, "Duke May Shutter Morro Plant" dated March 16, 2004, and "PG&E Offer May Keep Plant on Line" dated February 11, 2005.

California Electricity Market Crisis: Causes, Remedies and Prevention

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1. Introduction

The competitive electric power market of the State of California began operation on March 31, 1998 with the California Independent System Operator (California ISO) and the now bankrupt Power Exchange (PX) as the main operationally independent market facilitators. The market took off smoothly and the prices were seemingly just and reasonable until May 2000 when the first signs of market crisis emerged. This marked the beginning of the California power crisis that continued until about May 2001. During that period, California was confronted with an unprecedented electricity crisis, which threatened to undermine the reliability of its electricity system, weaken its economy and impact energy markets throughout the western part of the United States.

2. Root Causes of the California Power Crisis

The initial causes of the high wholesale market prices reflect a complex mixture of drought conditions that reduced hydroelectric power production (particularly in the northwest region) and corresponding low power import levels, a growing economy that fueled demand for power,, dramatically higher and volatile natural gas prices, lack of sufficient generating capacity in California and throughout the US western region, inadequate transmission infrastructure, inadequate demand responsiveness or lack of demand elasticity, lack of forward contracting, forward scheduling that resulted in the huge reliance on the spot market, and the Federal Energy Regulatory Commission's (FERC) "hands off" approach in regulating wholesale markets. The above-mentioned anomalies, among others, culminated into a "perfect storm" and consequently, led to the significant market power abuses in California. The problems were further compounded by the potential financial insolvency of the investor-owned utilities (IOUs). The increasing deterioration of the financial solvency of California's three investor-owned utilities (IOUs) further shattered all vestiges of a "normal" deregulated electricity market. Effectively, the California ISO, IOUs and state government

overseers had to resort to desperate measures in keeping the lights on in California with the limited available resources.

The crisis had its origins in the unintentional mistakes and miscalculations adopted at the time the electricity sector was restructured in California through the Assembly Bill 1890 (AB 1890) in 1996. Two mistakes stand out as critical. First, California required utilities to make nearly all their electricity purchases on a volatile spot basis, divest a substantial portion of their generation without allowing them to enter into long-term contracts to ensure stable and "reasonable" prices during the transition period following deregulation. The lack of demand responsiveness to hourly prices were partly due to technical capability limitation for real time price responsiveness, ambiguous accountability for the acquisition of reasonably-priced power for retail consumers, and lack of adequate forward contracting for energy. Transition contracts are found in every successful electricity market, as well as in other unregulated commodity markets, and are particularly important where the utilities divest generation, but have obligations to serve remaining customers. Secondly, California froze retail rates at 'low levels' and banked on low wholesale prices to support a profit margin high enough to enable the utilities to pay off historical, uneconomic investments including stranded costs. Although frozen at 10% below 1996 levels, the rates were supposedly high at the time, compared to what a competitive market would presumably have produced The fixed retail level price discouraged end users from undertaking normal market responses: to conserve and/or to take advantage of the allowed customer choice, and opt for an alternative retail supplier. Those responses would have helped restrain prices.

However, in May 2000, wholesale market prices soared due to rising demand, dramatically fixed retail prices blocked conservation efforts by insulating consumers from market realities and reduced consumer incentives to turn to competitive retailers. The heavy reliance on spot market purchases, combined with demand that was unresponsive to prices, helped drove prices higher.

3. Impact of Stakeholders and Creditworthiness

The energy prices were low to moderate in the first couple of years. However, the IOUs managed to sell a good portion of their generation assets at attractive prices, expediting the recovery of stranded costs, presumably due to the Reliability Must-Run (RMR) contracts that most of the divested units had, that afforded them to sell above book value. Unfortunately, the utilities had already divested most of their generation plants without being allowed by the California Public Utility Commission (CPUC) to secure contracts that would have ensured their right to buy back the power at some fixed backstop price. The CPUC felt that such contracts would add unnecessary costs to consumers' electricity bill and were concerned about "self-dealing" by the utilities. The divestitures of generation assets by the utilities that were encouraged and sanctioned by the CPUC, exposed the utilities to the financial costs associated with high wholesale (purchase) prices and low fixed retail (sale) prices. Meanwhile, the IOUs were losing money on the electricity they were buying for re-sale to their customers. The inversion of the typical wholesale-retail price relationship brought these utilities to the brink of bankruptcy. The perceived risk of "non-payment" in turn caused generators to be reluctant suppliers, even at dramatically elevated wholesale prices. The natural reluctance of suppliers to supply voluntarily when they did not expect to

get paid was a substantial contributor to the rising prices and rolling blackouts that was seen in California in the early months of 2001.

The destruction of the utilities' credit worthiness and the resulting responses by suppliers shattered all vestiges of a normal market. Consequently, California had to deal with both a financial crisis and an electricity supply crisis. With the utilities' credit quality destroyed, suppliers fearful of not being paid for their supplies, became reluctant to sell into the California market. In effect, the utilities and their state government overseers had to resort to desperate measures to keep the lights on with the available limited resources– with only limited success. Figure 1 shows some employees of the California ISO in the energy control center from where the California ISO worked diligently to keep the lights on – a task that was on-going until FERC ordered a market mitigation framework in collaboration with the California ISO in December 2001 to ensure stability, and "just and reasonable" prices in the California ISO electricity markets. However, this framework which was ordered by FERC to stop the "bleeding" expires on September 30, 2002.

Figure 1. A Section of the California ISO Control Room
L-R: Dr. Anjali Sheffrin, Director, Department of Market Analysis, Dr. Chris Mensah-Bonsu, Market Design Engineer, Market Operations, Mr. Mark Rothleder, Manager, Market Integration

4. Pedagogical Interests and Conclusions

The California power crisis was so unprecedented that it stimulated nation-wide educational debates and discussions, as well as learning experience among industry practitioners, regulatory policy makers, academicians and market participants. In order to fully understand the causes, potential remedies and how to prevent similar crisis in other parts of the world, there was the need to understand the policy issues, economic as well as the operations perspective of the situation. The impact of such a national crisis prompted the Power Engineering Society of the Institute of Electrical and Electronic Engineers (IEEE PES) to investigate the issues involved, and to avail itself with those complex experiences of the California Electricity Market Crisis. Hence, Dr. Chris Mensah-Bonsu of the California ISO's

Market Operations group, together with Dr. Shmuel Oren of the University of California, Berkeley were appointed by the IEEE PES Society to organize and chair a panel session under the auspices of the PES System Economics Subcommittee on the above subject. Figure 2 shows a photograph of the distinguished panel session participants.

Figure 2. Participants of the "California Electricity Market Crisis: …" Panel at the IEEE PES 2001 Summer Meeting in Vancouver, Canada

L-R: Mr. Gary B. Ackerman (standing), Dr. Shmuel Oren (panel co-chair), Dr. Chris Mensah-Bonsu (panel chair), Dr. Dejan J. Sobajic, Dr. Anjali Sheffrin, Mr. Vikram S. Budhraja, Dr. Edward Kahn

The goal of the panel session was to bring together individuals who had first-hand experience with various aspects of the California electricity market crisis, either through analysis of its underlying cause, or involvement in mitigation efforts to deliberate on the issues involving Californa. The panel speakers who are experts in their fields addressed the session on a variety of issues including, the California ISO operations, electricity supply, demand side responsiveness, abuse and exercise of market power and its mitigation, long term contracting, regulation and the underlying policies in their quest to recommend solutions that are pertinent to the complex California electricity market.

The panel session took place at the IEEE PES 2001 Summer Meeting in Vancouver, British Columbia, Canada on July 16, 2001. The following were the distinguished panel speakers and their presentation topics:

- California Electricity Market Crisis: Viewpoint of the System Operator
  Dr. Anjali Sheffrin, Director-Department of Market Analysis, California ISO, California
- A Quantitative Analysis of Pricing Behavior In California's Wholesale Electricity Market During Summer 2000
  Dr. Edward Kahn, Vice President-Analysis Group/Economics, California

- Western States Power Crisis – EPRI White Paper – An Overview
  Dr. Dejan J. Sobajic, Director-Grid Reliability/Power Markets, EPRI, California
- California's Electricity Crisis
  Mr. Vikram. S. Budhraja, President, Electric Power Group, California
- Reinventing the Grid: The Western Gambit
  Mr. Gary. B. Ackerman, *Executive Director-Western Power Trading Forum, CA*

Biographies

Chris Mensah-Bonsu (aka "*Dr. CMB*") holds the Ph.D. (2000) and Masters (1997) degrees in Electrical Engineering from Arizona State University (ASU), Arizona and Cleveland State University (CSU), Ohio respectively. Dr. Mensah-Bonsu also received his "Ing.-Dipl." (1994) degree in Electrical Engineering from the Higher Institute of Mechanical and Electrical Engineering in Varna, Bulgaria. He was a Part-Time Lecturer and Graduate Research Assistant at CSU from 1996-1997, and a Graduate Research Associate and Teaching Associate at ASU from 1997-2000, all in the Department of Electrical Engineering.

At the California ISO, Chris is actively involved in the technical design, implementation, integration, testing, documentation, support and coordination of CA ISO market applications and protocols to ensure efficient markets, system reliability, and FERC compliance. He was involved in the Comprehensive Market Redesign and Market Stabilization Plan special projects. His research interests are in the areas of power grid congestion management, system reliability issues pertaining to competitive electricity markets, network modeling and market design. He has authored journal papers in the area of Global Positioning Satellite (GPS) system applications in power systems, and dynamic line ratings. Dr. Mensah-Bonsu holds membership to several professional institutions, including the National Society of Black Engineers (NSBE), Institute of Electrical and Electronics Engineers (IEEE), Power Engineering Society (PES) and IEEE PES System Economics Technical Subcommittee. He is also a Fellow of the Preparing Future Faculty (PFF) Program. Dr. Mensah-Bonsu has organized and chaired a number of IEEE panel sessions and authored technical peer-reviewed journal papers.

Shmuel S. Oren is Professor of Industrial Engineering and Operations Research at the University of California at Berkeley and former Chairman of that department. Dr. Oren is also the Berkeley site director of PSerc – a multi-university Power Systems Research Center sponsored by the National Science Foundation and industry members.

His research and consulting activities over the last two decades have focused on the development of analytical models and tools and on the design and economic analysis of market mechanisms for the electric power industry. Dr. Oren has served as a consultant to private and public organization, most recently to the Brazilian Electricity Regulatory Agency (ANEEL) and to the Texas Public Utility Commission on issues related to the design of competitive electricity markets. His extensive publications include topics such as pricing of demand side contracts, auction design, transmission pricing, electricity market restructuring and other related topics. Dr. Oren holds B.Sc and M.Sc degrees in Mechanical Engineering from the Technion in Israel and M.S. and Ph.D degrees in Engineering Economic Systems from Stanford University. He is an IEEE Fellow.

BACT Determination Detail

Category

Source Category:	Gas Turbine: Combined Cycle >= 50 MW
SIC Code	
NAICS Code	

Emission Unit Informaiton

Manufacturer:	
Type:	
Model:	GE 7FA
Equipment Description:	
Capacity / Dimentions	1611 MMBTU/HR
Fuel Type	Natural Gas
Multiple Fuel Types	
Operating Schedule (hours/day)/(days/week)/ (weeks/year)e	Variable (/ /)
Function of Equipment	Produce electricity

Bact Information

NOx Limit	2
NOx Limit Units	ppmvd@15%O2
NOx Average Time	1 hr
NOx Control Method	Add-on
NOx Control Method Desc	SCR
CO Limit	4
CO Limit Units	ppmvd@15%O2
CO Average Time	3-hr
CO Control Method	Add-on
CO Control Method Desc	
VOC Limit	1.4
VOC Limit Units	ppmvd@15%O2
VOC Average Time	3 hr
VOC Control Method	Add-on
VOC Control Method Desc	
PM10 Limit	9
PM10 Limit Units	lb/hr
PM10 Average Time	
PM10 Control Method	Add-on

PM10 Control Method Desc	

SOx Limit	1
SOx Limit Units	g/100 scf
SOx Average Time	
SOx Control Method	Add-on
SOx Control Method Desc	low sulfur natural gas

Project / Permit Information

Application/Permit No.:	16006
New Construction/Modification:	Modification
ATC Date:	
PTO Date:	
Startup Date:	
Technology Status:	BACT Determination
Source Test Available:	Yes
Source Test Results:	

Facility / District Information

Facility Name:	SMUD, Clay Station, CA
Facility Zip Code:	
Facility County:	Sacramento
District Name:	Sacramento Metropolitan AQMD
District Contact:	Brian Krebs
Contact Phone No.:	
Contact E-Mail:	

Notes

Notes:	

Report Error In Determination

BACT Determination Detail

Category

Source Category:	Gas Turbine: Combined Cycle >= 50 MW
SIC Code	3511
NAICS Code	333611

Emission Unit Informaiton

Manufacturer:	Westinghouse
Type:	Combined cycle
Model:	501F
Equipment Description:	Two gas turbines and two duct burners
Capacity / Dimentions	170 MW per turbine and 160 MW steam turbine
Fuel Type	Natural Gas
Multiple Fuel Types	
Operating Schedule (hour/day)/(days/week)/(week/year)e	Continuous (24/7/52)
Function of Equipment	Power generation

Bact Information

NOx Limit	2.5
NOx Limit Units	ppmvd @ 15% O2
NOx Average Time	1 hr
NOx Control Method	
NOx Control Method Desc	Dry low-NOx combustors, SCR and oxidation catalyst
CO Limit	4
CO Limit Units	ppmvd @ 15% O2
CO Average Time	24 hr
CO Control Method	
CO Control Method Desc	SCR system, and oxidation catalyst
VOC Limit	1
VOC Limit Units	ppmvd @ 15% O2
VOC Average Time	24 hr
VOC Control Method	
VOC Control Method Desc	SCR system, and oxidation catalyst
PM10 Limit	11.5
PM10 Limit Units	lbs/hr
PM10 Average Time	
PM10 Control Method	

PM10 Control Method Desc	

SOx Limit	1
SOx Limit Units	ppmvd
SOx Average Time	24 hr
SOx Control Method	
SOx Control Method Desc	

Other Limit	10
Other Limit Units	
Other Average Time	
Other Control Method	
Other Control Method Desc	

Project / Permit Information

Application/Permit No.:	97-AFC-2
New Construction/Modification:	New Construction
ATC Date:	12-01-2000
PTO Date:	
Startup Date:	12-01-2000
Technology Status:	BACT Determination
Source Test Available:	No
Source Test Results:	

Facility / District Information

Facility Name:	Calpine Corporation
Facility Zip Code:	
Facility County:	
District Name:	Feather River AQMD
District Contact:	Kenneth Corbin
Contact Phone No.:	(530) 634-7659
Contact E-Mail:	

Notes

Notes:	The limits exclude up to 3 hours per starup and 1 hour per shutdown.

Report Error In Determination

BACT Determination Detail

Category

Source Category:	Gas Turbine: Combined Cycle >= 50 MW
SIC Code	3511
NAICS Code	333611

Emission Unit Informaiton

Manufacturer:	ABB
Type:	Combined cycle
Model:	GT-24
Equipment Description:	
Capacity / Dimentions	262 MW
Fuel Type	Other
Multiple Fuel Types	
Operating Schedule (hours/day)/(days/week)/ (weeks/year)e	Continuous (24/7/52)
Function of Equipment	Power generation

Bact Information

NOx Limit	2.5
NOx Limit Units	ppmvd @ 15% O2
NOx Average Time	1 hr rolling
NOx Control Method	
NOx Control Method Desc	SCONOx with SCR as an alternative

CO Limit	6
CO Limit Units	ppmvd @ 15% O2
CO Average Time	3 hr
CO Control Method	
CO Control Method Desc	

VOC Limit	0.7
VOC Limit Units	ppmvd @ 15% O2
VOC Average Time	3 hr
VOC Control Method	
VOC Control Method Desc	

PM10 Limit	17.2
PM10 Limit Units	lbs/hr
PM10 Average Time	3 hr
PM10 Control Method	

PM10 Control Method Desc	

SOx Limit	3.73
SOx Limit Units	lbs/hr
SOx Average Time	3 hr
SOx Control Method	
SOx Control Method Desc	

Project / Permit Information

Application/Permit No.:	98-AFC-2
New Construction/Modification:	New Construction
ATC Date:	12-01-2000
PTO Date:	
Startup Date:	12-01-2000
Technology Status:	BACT Determination
Source Test Available:	No
Source Test Results:	

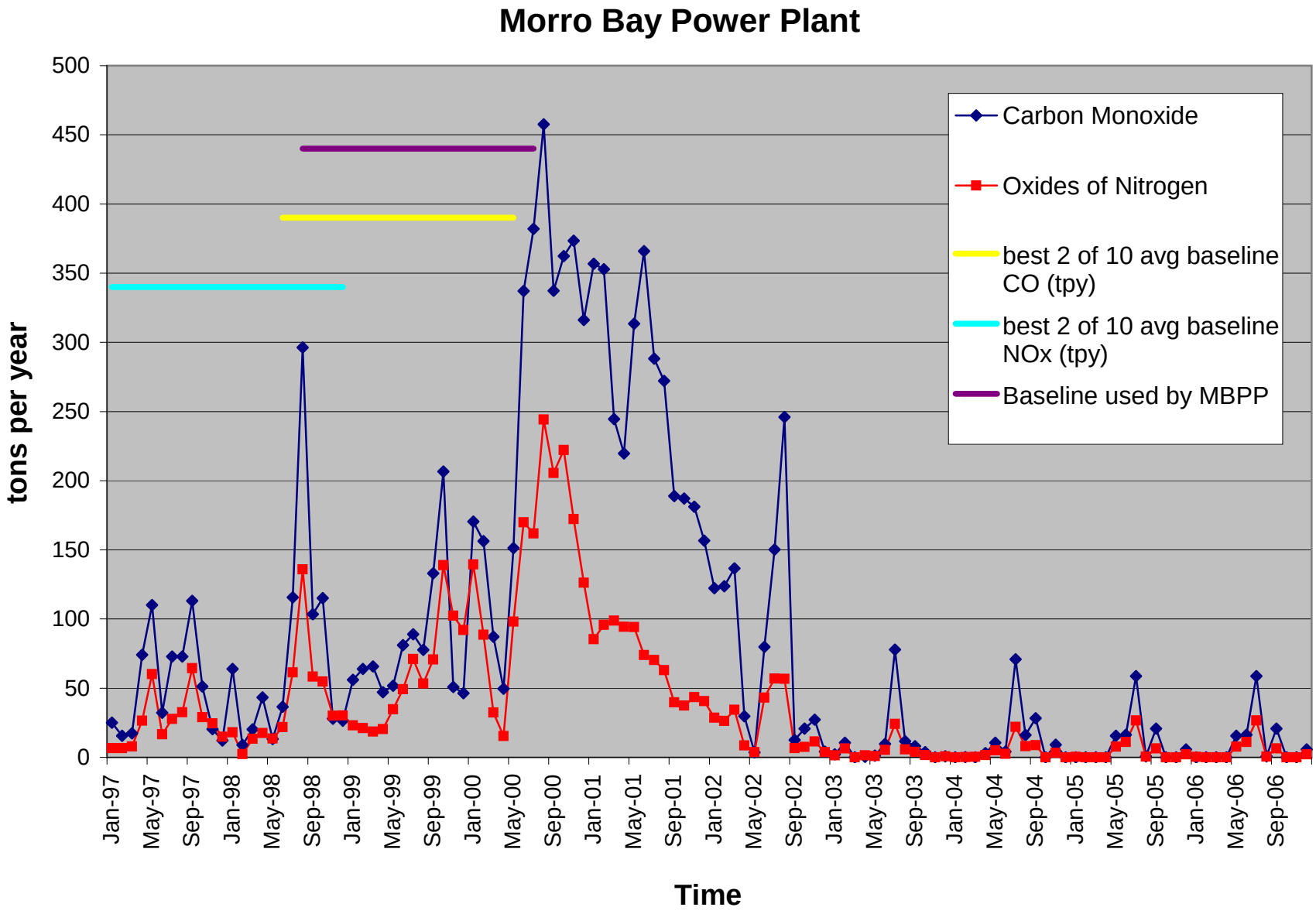
Facility / District Information

Facility Name:	La Paloma Generating Co. LLC
Facility Zip Code:	
Facility County:	
District Name:	San Joaquin Valley APCD
District Contact:	Sayed Sadredin
Contact Phone No.:	(661) 326-6900
Contact E-Mail:	

Notes

Notes:	The total project consists 4 combined cycle gas turbines, with a combined output of 1048 MW. Three units the permittee will install a SCR and oxidation catalyst. The fourth one described above , the permittee intends to install a SCONOX. Starup limit: within 2 hr, 21 ppmvd NOx , and 200 ppm CO (15%O2) Max.EMISSIONS CAPS (lbs/year): PM10=140,160, SO2=29,959,NOx=144,093,VOC=24,865,CO=209,029 Sulfur content: 0.75 grains/100 dry scf NH3:10 ppmvd (24- hr aveg.)

Report Error In Determination


Morro Bay Power Plant
tons per year
500
450
400
350
300
250
200
150
100
50
0
Jan-97
May-97
Sep-97
Jan-98
May-98
Sep-98
Jan-99
May-99
Sep-99
Jan-00
May-00
Sep-00
Jan-01
May-01
Sep-01
Jan-02
May-02
Sep-02
Jan-03
May-03
Sep-03
Jan-04
May-04
Sep-04
Jan-05
May-05
Sep-05
Jan-06
May-06
Sep-06
Time
Carbon Monoxide
Oxides of Nitrogen
best 2 of 10 avg baseline CO (tpy)
best 2 of 10 avg baseline NOx (tpy)
Baseline used by MBPP

3/26/2007

October 23, 1997

MEMORANDUM

SUBJECT: Interim Implementation of New Source Review Requirements for PM2.5

FROM: John S. Seitz, Director Office of Air Quality Planning & Standards (MD-10)

TO: See Addressees

This memorandum addresses the interim use of PM10 as a surrogate for PM2.5 in meeting new source review (NSR) requirements under the Clean Air Act (Act), including the permit programs for prevention of significant deterioration of air quality (PSD). The revised national ambient air quality standards (NAAQS) for particulate matter, which include the revised NAAQS for PM10 and new NAAQS for PM2.5, became effective on September 16, 1997. In view of the significant technical difficulties that now exist with respect to PM2.5 monitoring, emissions estimation, and modeling (described below), EPA believes that PM10 may properly be used as a surrogate for PM2.5 in meeting NSR requirements until these difficulties are resolved. The EPA's views on implementing the ozone and PM10 NAAQS during the interim period following the effective date of the new 8-hour ozone and revised PM10 NAAQS will be set forth in a separate EPA memorandum.

Section 165(a)(1) of the Act provides that no new or modified major source may be constructed without a PSD permit. Moreover, section 165(a)(3) provides that the emissions from any such source may not cause or contribute to a violation of any NAAQS. Also, section 165(a)(4) requires best available control technology for each pollutant subject to regulation under the Act. The EPA's recent promulgation of the primary and secondary standards for PM2.5 marks the first time that EPA has specifically regulated fine particles--less than 2.5 microns in diameter--as a discrete indicator for particulate matter. Hence, this memorandum addresses how to implement PSD for PM2.5 in light of significant technical difficulties which presently exist.

Of specific concern is the lack of necessary tools to calculate emissions of PM2.5 and related precursors and project ambient air quality impacts so that sources and permitting authorities can adequately meet the NSR requirements for PM2.5. Any comprehensive system for regulating PM2.5 must take into account not only the fine particles emitted directly by stationary sources but also the various precursors, emitted by certain sources, which result in secondarily-formed fine particles through chemical reactions in the atmosphere. Recent studies suggest that secondary particulate matter may account for over half of total ambient PM2.5 nationwide. Emissions factors for the fine particles emitted directly by stationary sources, and for some important precursors (e.g., ammonia), are largely unavailable at the present time.

The EPA is in the process of developing a comprehensive modeling system which will be designed to include precursor emissions and account for secondary fine particle formation. The modeling system will also incorporate a method for nesting small local impacts from individual point sources within a greater modeling domain. Before this can be completed, it will be necessary to collect sufficient monitoring data to verify and validate protocol modeling results.

Ambient monitoring for PSD purposes must be collected from appropriately designed monitors. Sufficient quantities of such monitors will not be available specifically for PSD monitoring purposes in the near future. Initially, as these monitors become available, they will be needed to establish the new monitoring stations for the national network of PM2.5 sites, including the required core PM2.5 State and local air monitoring stations. A high priority has been placed on the establishment of the necessary PM2.5 monitoring sites nationwide so that the information from these sites can be analyzed and evaluated in order to establish plans and priorities for implementing the PM2.5 NAAQS, including the promulgation of section 107 designations.

For the reasons stated above, EPA believes that it is administratively impracticable at this time to require sources and State permitting authorities to attempt to implement PSD permitting for PM2.5. The EPA has projects underway that will address the current technical and informational deficiencies, but it will take 3-5 years to complete these projects. Until these deficiencies are corrected, EPA believes that sources should continue to meet PSD and NSR program requirements for controlling PM10 emissions (and, in the case of PM10 nonattainment areas, offsetting emissions) and for analyzing impacts on PM10 air quality. Meeting these measures in the interim will serve as a surrogate approach for reducing PM2.5 emissions and protecting air quality.

This memorandum presents EPA's views on the issues associated with implementation of the new PM2.5 NAAQS under Federal, State and local NSR programs. The statements do not bind State and local governments and the public as a matter of law. When the technical difficulties are resolved, EPA will amend the PSD regulations under 40 CFR 51.166 and 52.21 to establish a PM2.5 significant emissions rate, and EPA will also promulgate other appropriate regulatory measures pertinent to PM2.5 and its precursors. Because the earliest date on which PM2.5 nonattainment areas will be designated is in 2002, and nonattainment NSR does not apply until after

nonattainment designations are made, implementation of the nonattainment NSR requirements under part D of title I of the Act need not be addressed at this time.

If you have any questions concerning this memorandum or wish to address any issues raised herein, please contact Dan deRoeck at (919) 541-5593.

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Average Annual Emissions based on 24-month period								
	97-99 BAE	**Aug 98-Jul 00 BAE**	BAE to trigger PSD	Δ based on 97-99 BAE	Δ based on Aug 98 - Jul 00 BAE	**PTE**	Jun 98 - May 00	Δ based on new BAE
CO	744.1	1436.0	817.4	173.3	-518.6	917.4	1152.6	-235.2
PM	71.5	127.2	188.2	131.7	**76.0**	203.2	122.2	**81.0**
NOx	387.5	855.4	252.3	-95.2	-563.1	292.3	731.1	-438.8
VOC	51.716	92.1	37.6	25.9	-14.5	77.6	83.7	-6.1

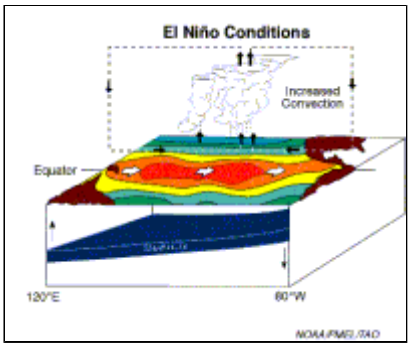
	CO (tons)	NOx (tons)		CO Average annual emissions (tpy) 24-month rolling avg	NOx Average annual emissions (tpy) 24 month rolling average	24-month baseline period
Jan-97	25.10	6.67		744.15	387.50	Jan 97 to Dec 98
Feb-97	15.58	6.61		759.59	395.73	Feb 97 - Jan 99
Mar-97	17.45	7.80		783.76	402.97	Mar 97 - Feb 99
Apr-97	74.06	26.52		807.88	408.38	Apr 97 - Mar 99
May-97	110.03	60.09		794.37	405.34	
Jun-97	32.17	16.59		765.20	392.69	
Jul-97	72.83	27.75		789.66	409.01	
Aug-97	72.94	32.62		797.73	430.69	
Sep-97	113.20	64.37		800.07	441.08	
Oct-97	51.20	29.01		809.96	444.26	
Nov-97	20.41	24.53		887.66	**499.19**	Nov 97 - Oct 99
Dec-97	12.15	14.77		902.84	538.10	
Jan-98	63.90	18.15		919.93	576.73	Jan 98 - Dec 99
Feb-98	8.90	2.39		973.23	637.36	
Mar-98	20.27	13.47		1046.90	680.50	
Apr-98	43.30	17.56		1080.40	689.93	
May-98	13.23	13.68		1083.52	688.86	
Jun-98	36.56	21.81		**1152.56**	731.09	Jun 98 - May 00
Jul-98	115.64	61.42		1302.84	805.15	
Aug-98	296.34	135.81		**1436.01**	**855.39**	**Aug 98 - Jul 00**
Sep-98	103.51	58.31		1516.64	909.53	Sep 98 - Aug 00
Oct-98	115.18	54.74		1633.54	983.13	
Nov-98	27.87	30.11		1757.15	1066.81	
Dec-98	26.49	30.23		1929.96	1137.91	
Jan-99	55.98	23.13		2074.82	1185.89	
Feb-99	63.92	21.08		2225.18	1217.02	
Mar-99	65.70	18.61		2369.67	1254.38	
Apr-99	47.03	20.45		2459.12	1294.53	
May-99	51.70	34.80		2545.46	1331.51	
Jun-99	81.10	49.24		2676.31	1361.21	
Jul-99	88.95	71.12		2818.76	1373.54	
Aug-99	77.63	53.39		2918.44	1373.18	
Sep-99	132.98	70.74		3015.67	1378.04	
Oct-99	206.59	138.86		3043.63	1362.57	
Nov-99	50.78	102.35		3033.84	1311.89	
Dec-99	46.32	92.02		3099.05	1282.46	
Jan-00	170.50	139.40		3154.19	1256.80	
Feb-00	156.25	88.69		3130.05	1201.41	
Mar-00	87.26	32.33		3113.74	1170.25	
Apr-00	49.54	15.41		3138.41	1171.28	
May-00	151.31	98.14		3128.48	1167.88	
Jun-00	337.13	169.94		3054.65	1120.66	
Jul-00	381.99	161.90		2926.02	1057.25	
Aug-00	457.60	244.10		2810.09	1004.77	
Sep-00	337.30	205.50		2704.29	911.06	
Oct-00	362.40	222.10		2541.95	811.61	
Nov-00	373.50	172.30		2371.11	704.30	
Dec-00	316.20	126.20		2197.99	623.89	
Jan-01	356.70	85.40		2041.99	562.64	Jan 01 -Dec 02
Feb-01	352.90	95.80		1864.73	520.66	
Mar-01	244.60	98.90		1693.53	475.99	

Apr-01	219.70	94.40		1571.23	426.54	
May-01	313.40	94.20		1461.53	380.02	
Jun-01	366.00	73.90		1305.46	333.33	
Jul-01	288.30	70.40		1127.33	299.06	Jul 01 - Jun 03
Aug-01	272.10	63.10		1022.14	275.90	
Sep-01	188.90	39.80		891.95	247.23	
Oct-01	187.00	37.50		801.55	229.27	
Nov-01	181.20	43.50		709.89	211.37	
Dec-01	156.60	40.70		619.29	189.62	
Jan-02	122.22	28.61		541.31	169.59	
Feb-02	123.63	26.38		480.20	155.28	
Mar-02	136.61	34.38		**418.49**	**142.22**	Mar 02 - Feb 04
Apr-02	29.68	8.62		350.22	125.22	
May-02	3.64	3.69		336.91	121.67	
Jun-02	79.88	43.13		340.39	122.30	
Jul-02	150.11	56.93		302.55	101.97	
Aug-02	246.01	56.67		262.96	84.52	
Sep-02	12.62	6.60		148.04	60.17	
Oct-02	20.71	7.49		155.90	61.25	
Nov-02	27.27	11.47		145.54	57.50	
Dec-02	4.19	3.70		136.48	53.36	
Jan-03	2.19	1.44		134.38	51.51	
Feb-03	10.50	6.46		133.31	50.96	
Mar-03	0.00	0.00		128.06	47.73	
Apr-03	0.29	1.36		128.06	47.73	
May-03	1.27	0.83		127.92	47.05	
Jun-03	9.73	5.36		135.07	50.45	
Jul-03	77.92	24.08		138.39	53.33	
Aug-03	11.72	5.75		128.79	54.61	
Sep-03	8.10	3.89		123.28	51.97	
Oct-03	3.68	1.70		129.64	53.24	
Nov-03	0.00	0.00		127.80	52.39	
Dec-03	0.65	0.63		127.80	52.39	
Jan-04	0.00	0.00		130.32	53.18	
Feb-04	0.21	0.26		130.34	53.35	
Mar-04	0.06	0.37		130.24	53.22	
Apr-04	3.06	1.53		130.21	53.03	
May-04	10.61	4.94		128.68	52.27	
Jun-04	4.20	2.48		131.16	53.61	
Jul-04	70.93	22.03		137.25	57.93	
Aug-04	16.17	7.97		131.14	60.23	
Sep-04	28.33	8.75		123.41	56.49	
Oct-04	0.00	0.00		119.65	55.32	
Nov-04	9.14	3.19		119.65	55.32	
Dec-04	0.00	0.00		115.08	53.73	
Jan-05	0.05	0.34		117.92	54.83	Jan 05 - Dec 06
Feb-05	0.00	0.00				
Mar-05	0.00	0.00	**AVG (10)**	**1174.88**	**511.10**	
Apr-05	0.00	0.00				
May-05	15.57	7.63				
Jun-05	16.38	11.12				
Jul-05	58.72	26.63				
Aug-05	0.70	0.48	AVG (5)	447.70	137.40	
Sep-05	20.82	6.42				
Oct-05	0.00	0.00				

Nov-05	0.00	0.00				
Dec-05	5.68	2.21				
Jan-06	0.05	0.34				
Feb-06	0.00	0.00				
Mar-06	0.00	0.00				
Apr-06	0.00	0.00				
May-06	15.57	7.63				
Jun-06	16.38	11.12				
Jul-06	58.72	26.63				
Aug-06	0.70	0.48				
Sep-06	20.82	6.42				
Oct-06	0.00	0.00				
Nov-06	0.00	0.00				
Dec-06	5.68	2.21				

What is an El Niño?

Illustrated with realtime graphics from the TAO array of moored buoys in the Equatorial Pacific Ocean. For more information and links to widely distributed information about El Niño and La Niña, please see What is La Niña?, the El Niño Theme Page, and What's happening now? *Updated daily!*



El Niño conditions

El Niño is an oscillation of the ocean-atmosphere system in the tropical Pacific having important consequences for weather around the globe.

Among these consequences are increased rainfall across the southern tier of the US and in Peru, which has caused destructive flooding, and drought in the West Pacific, sometimes associated with devastating brush fires in Australia. Observations of conditions in the tropical Pacific are considered essential for the prediction of short term (a few months to 1 year) climate variations. To provide necessary data, NOAA operates a network of buoys which measure temperature, currents and winds in the equatorial band. These buoys daily transmit data which are available to researchers and forecasters around the world in real time.

Read more on

Recognizing an El Niño

El Niño animations

Recent El Niños

Selected references

Related sites

What is La Niña?

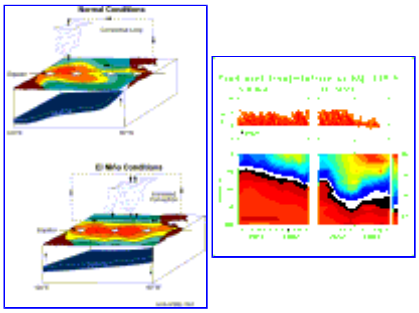
Children of the Tropics: El Niño and La Niña.

Today's El Niño and La Niña information *Updated daily!*

Sites in Spanish and Portuguese language

In normal, non-El Niño conditions (top panel of schematic diagram), the trade winds blow towards the west across the tropical Pacific. These winds pile up warm surface water in the west Pacific, so that the sea surface is about 1/2 meter higher at Indonesia than at Ecuador.

Click for full size image
(will open a new browser window)



(a) **(b)**

(a) Schematic diagram of normal El Niño conditions in the Pacific Ocean, and (b) temperature on the Equator at 110W

The sea surface temperature is about 8 degrees C higher in the west, with cool temperatures off South America, due to an upwelling of cold water from deeper levels. This cold water is nutrient-rich, supporting high levels of primary productivity, diverse marine ecosystems, and major fisheries. Rainfall is found in rising air over the warmest water, and the east Pacific is relatively dry. The observations at 110 W (left diagram of 110 W conditions) show that the cool water (below about 17 degrees C, the black band in these plots) is within 50m of the surface.

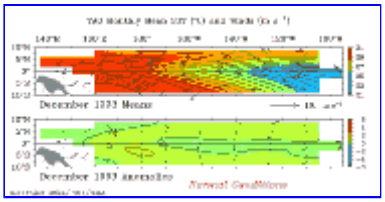
During El Niño (bottom panel of the schematic diagram), the trade winds relax in the central and western Pacific leading to a depression of the thermocline in the eastern Pacific, and an elevation of the thermocline in the west. The observations at 110W show, for example, that during 1982-1983, the 17-degree isotherm dropped to about 150m depth. This reduced the efficiency of upwelling to cool the suface and cut off the supply of nutrient rich thermocline water

to the euphotic zone. The result was a rise in sea surface temperature and a drastic decline in primary productivity, the latter of which adversely affected higher trophic levels of the food chain, including commercial fisheries in this region. The weakening of easterly tradewinds during El Niño is evident in this figure as well. Rainfall follows the warm water eastward, with associated flooding in Peru and drought in Indonesia and Australia. The eastward displacement of the atmospheric heat source overlaying the warmest water results in large changes in the global atmospheric circulation, which in turn force changes in weather in regions far removed from the tropical Pacific.

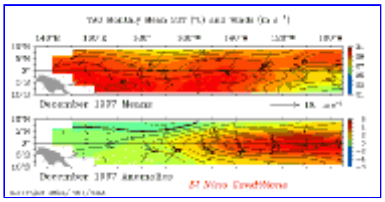
Recognizing El Niño

El Niño can be seen in Sea Surface Temperature in the Equatorial Pacific Ocean

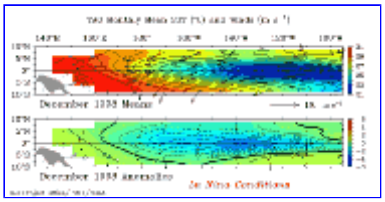
El Niño can be seen in measurements of the sea surface temperature, such as those shown above, which were made from the TAO Array of moored buoys. In December 1993, the sea surface temperatures and the winds were near normal, with warm water in the Western Pacfic Ocean (in red on the top panel of December 1993 plot), and cool water, called the "cold tongue" in the Eastern Pacific Ocean (in green on the top panel of the December 1993 plot). The winds in the Western Pacific are very weak (see the arrows pointing in the direction the wind is blowing towards), and the winds in the Eastern Pacific are blowing towards the west (towards Indonesia). The bottom panel of the December 1993 plot shows anomalies, the way the sea surface temperature and wind differs from a normal December. In this plot, the anomalies are very small (yellow/green), indicating a normal December. December 1997 was near the peak of a strong El Niño year. In December 1997, the warm water (red in the top panel of the December 1997 plot) has spread from the western Pacific Ocean towards the east (in the direction of South America), the "cold tongue" (green color in the top panel of the December 1997 plot) has weakened, and the winds in the western Pacific, usually weak, are blowing strongly towards the east, pushing the warm water eastward. The anomalies show clearly that the water in the center of Pacific Ocean is much warmer (red) than in a normal December.



Normal Conditions - December 1993



El Niño (warm) Conditions - December 1997



La Niña (cold) Conditions - December 1998

Also see the entire Pacific Ocean

December 1998 was a strong La Niña (cold) event. The cold tongue (blue) is cooler than usual by about 3° Centigrade. The cold La Niña events sometimes (but not always) follow El Niño events.

Animation of El Niño

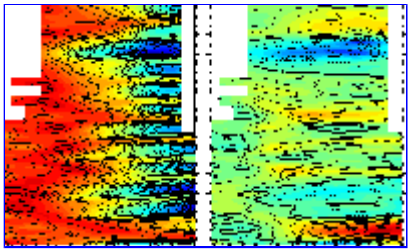
Animation of physical processes allow scientists to better understand El Niño

If you have an MPEG animation viewer, and sufficient memory, you can view an animation of El Niño which shows the changes in monthly sea surface temperature in the tropical Pacific Ocean. The animation is about 1 Megabyte in size. As you view this animation, you will see the warm water spreading from the western Pacific to the eastern Pacific during 1997. The bottom panel in the animation, labeled anomalies, shows how much the sea surface temperature for each month is different from the long term average for that month. The red color in the anomalies plot indicates that the temperature of the water is much warmer than is normal for that month. Blue color indicates that the water is much cooler than is normal for that month

Recent El Niños

Several recent El Niños can be seen in Pacific Sea Surface Temperature representations

Click for full size image (will open a new browser window)



Mean and anomalies of sea surface temperature from 1986 to the present, showing El Niños in 1986-1987, 1991-1992, 1993, 1994 and 1997

In the left hand panel, you see the sea surface temperature at the Equator in the Pacific Ocean (Indonesia is towards the left, South America is towards the right). Time is increasing downwards from 1986 at the top of the plot, to the present, at the bottom of the plot. The first thing to note is the blue "scallops" on the right of the plot, in the eastern Pacific. These indicate the cool water typically observed in the Eastern Pacific (called the "cold tongue"). Cold tongue temperatures vary seasonally, being warmest in the northern hemisphere springtime and coolest in the northern hemisphere fall. The red color on the left is the warm pool of water typically observed in the western Pacific Ocean. El Niño is an exaggeration of the usual seasonal cycle. During the El Niño in 1986-1987, you can see the warm water (red) penetrating eastward in the Spring of 1987. There is another El Niño in 1991-1992, and you can see the warm water penetrating towards the east in the northern hemisphere spring of 1992. The El Niño in 1997-1998 is a very strong El Niño. El Niño years are easier to see in the anomalies on the right hand panel. The anomalies show how much the sea surface temperature is different from the usual value for each month. Water temperatures significantly warmer than the norm are shown in red, and water temperatures cooler than the norm are shown in blue.

In the right-hand plot of sea surface temperature anomalies, it is very easy to see El Niños, with water warmer than usual (red) in the eastern Pacific, during in 1986-1987, 1991-1992, 1993, 1994 and 1997-1998. Notice the very cool water (blue), in the Eastern Pacific, in 1988-1989. This is a strong La Niña, which occurs after some (but not all) El Niño years. 1995-1996 was a weaker La Niña year. It is unusual for El Niños to occur in such rapid succession, as has been the case during 1990-1994.

Information on the names El Niño and La Niña

El Niño was originally recognized by fisherman off the coast of South America as the appearance of unusually warm water in the Pacific ocean, occurring near the beginning of the year. El Niño means The Little Boy or Christ child in Spanish. This name was used for the tendency of the phenomenon to arrive around Christmas.

La Niña means The Little Girl. La Niña is sometimes called El Viejo, anti-El Niño, or simply "a cold event" or "a cold episode". El Niño is often called "a warm event".

There has been a confusing range of uses for the terms El Niño, La Niña and ENSO by both the scientific community and the general public, which is clarified in this web page on definitions of the terms ENSO, Southern Oscillation Index, El Niño and La Niña. Also interesting is the Web page: Where did the name El Niño come from?

Selected references

Selected papers on El Niño and La Niña

National Academy of Sciences El Niño web site

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McPhaden, M.J., 1993: TOGA-TAO and the 1991-93 El Niño-Southern Oscillation Event. Oceanography, 6, 36-44. (entire paper available)

El Niño references: TAO refereed journal articles and other TAO papers. Reports to the Nation - El Niño and Climate Prediction

El Niño Theme Page - Central access to widely distributed El Niño data and information.

Credits and Acknowledgements | TAO Diagrams

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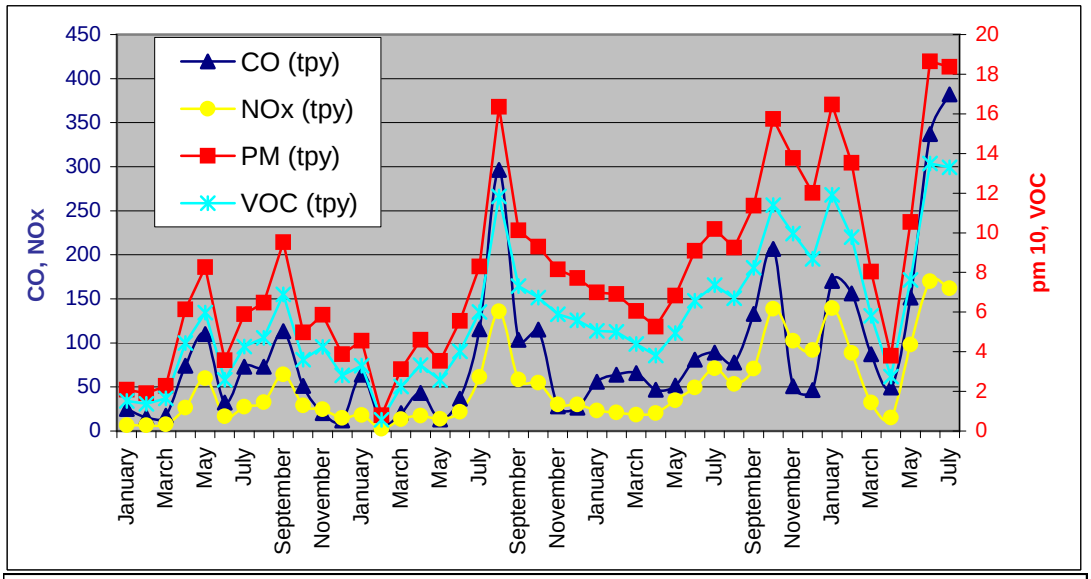
CO (tpy)
NOx (tpy)
PM (tpy)
VOC (tpy)
CO, NOx
pm 10, VOC
450
400
350
300
250
200
150
100
50
0
20
18
16
14
12
10
8
6
4
2
0
January
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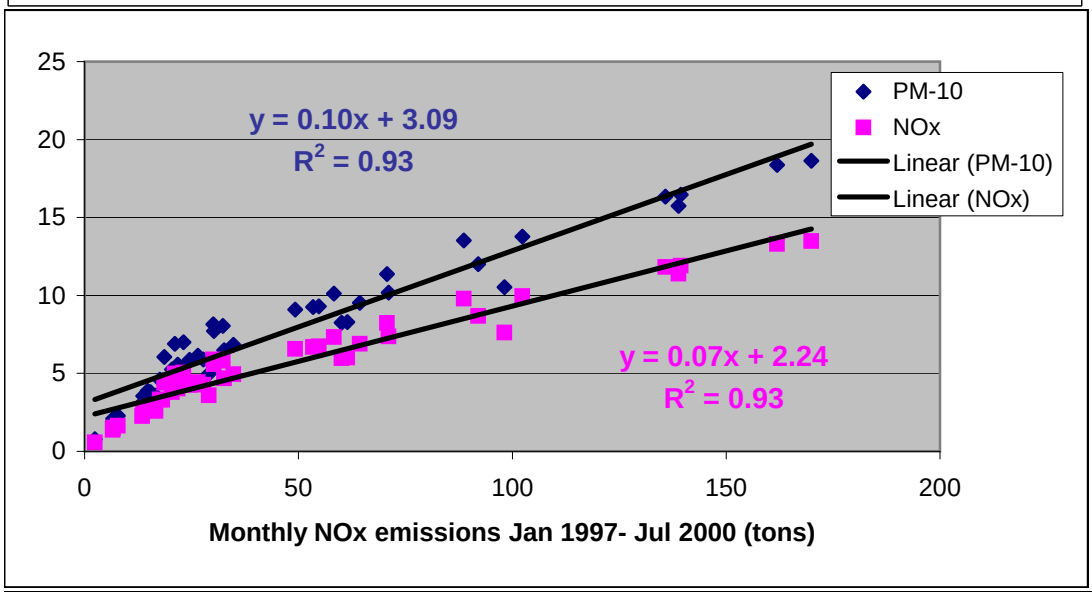
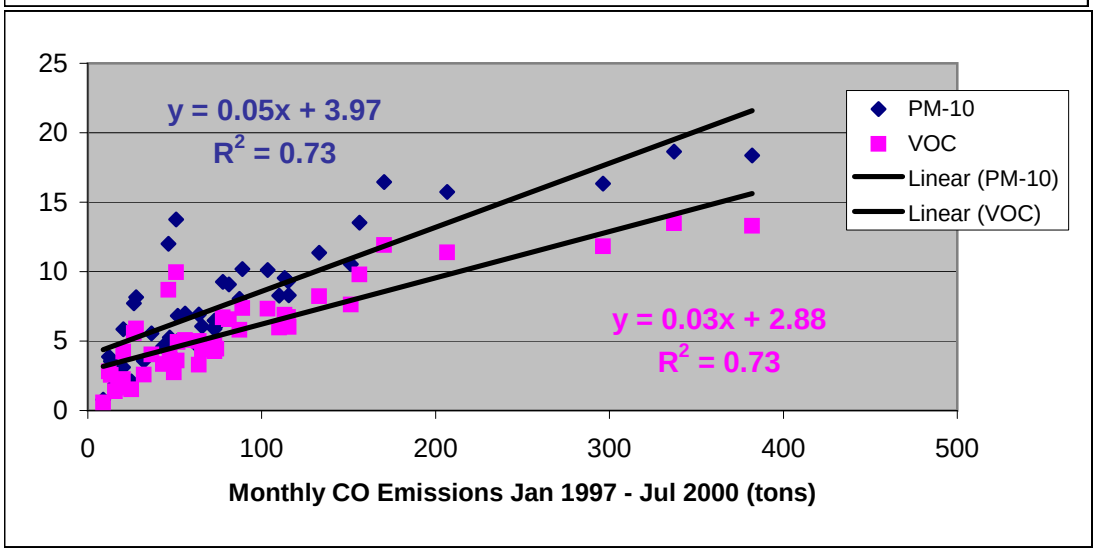

y = 0.10x + 3.09
R2 = 0.93
y = 0.07x + 2.24
R2 = 0.93
PM-10
NOx
Linear (PM-10)
Linear (NOx)
25
20
15
10
5
0
0
50
100
150
200
Monthly NOx emissions Jan 1997- Jul 2000 (tons)


y = 0.05x + 3.97
R2 = 0.73
y = 0.03x + 2.88
R2 = 0.73
PM-10
VOC
Linear (PM-10)
Linear (VOC)
25
20
15
10
5
0
0
100
200
300
400
500
Monthly CO Emissions Jan 1997 - Jul 2000 (tons)

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Best Available Control Technology (BACT) Guideline

Source Category

Source:	**Gas Turbine**	Revision:	**2**
		Document #:	**89.1.6**
Class:	**Combined Cycle (≥ 40 Megawatts)**	Date:	**07/18/03**

Determination

POLLUTANT	BACT 1. Technologically Feasible/ Cost Effective 2. Achieved in Practice	TYPICAL TECHNOLOGY
POC	1. *n/d* 2. *2.0 ppm, Dry @ 15%O_2* [a,b,e,f,i]	1. *n/d* 2. *Oxidation Catalyst, or Efficient Dry Low-NOx Combustors* [a,b,e,f,i]
NOx	1. *2.0 ppm, Dry @ 15% O_2* [d,e,i,j,k,l] 2. *2.5 ppm, Dry @ 15% O_2* [a,b,e,g,i] *(2.0 ppm achieved in practice for 50 MW LM6000 combined cycle unit.* [i]*)*	1. *SCR+ Low NOx Combustors, or Water or Steam Injection, or a SCONOX System* [d,e,i,j,k,l] 2. *SCR+ Dry Low-NOx Combustors* [a,b,e,g,i]
SO_2	1. *n/d* 2. *Natural Gas Fuel (sulfur content not to exceed 1.0 grain/100 scf)* [e]	1. *n/d* 2. *Exclusive use of PUC-regulated grade natural gas* [e]
CO	1. *n/d* 2. *4.0 ppm, Dry @15% O_2* [g,i]	1. *n/d* 2. *Oxidation Catalyst* [g,i]
PM_{10}	1. *n/d* 2. *Natural Gas Fuel (sulfur content not to exceed 1.0 grain/100 scf)* [a,b,c,e,h,j,k,l]	1. *n/d* 2. *Exclusive use of PUC-regulated grade natural gas* [a,b,c,e,h,j,k,l]
NPOC	1. *n/a* 2. *n/a*	1. *n/a* 2. *n/a*

References

a. Application #18595, Los Medanos Energy Center (formerly Pittsburg District Energy Facility)
b. Application #19414, Delta Energy Center.
c. Application #27215, Metcalf Energy Center
d. EPA LAER Determination letter dated 3/24/2000.
e. CARB "Guidance for Power Plant Siting and Best Available Control Technology", Stationary Source Division, June 1999
f. Application #8658, Crockett Cogeneration
g. Sacramento Power Authority (Campbell Soup) in Sacramento County, California. The unit is a 103 MW nominal output Siemens V84 combustion turbine with DLN combustion, SCR, and oxidation catalyst.
h. Application #1000, Contra Costa Power Plant Unit 8 Project
i. Application #2488 & 2695 Valero Cogeneration Project (Achieved in practice for LM6000 2.0 ppm NOx, 4.0 ppm CO, 2.0 ppm POC)
j. Application #2589, East Altamont Energy Center
k. Application #3506, Tesla Power Project

l. Application #6481, Pico Power Project

EVIDENTIARY HEARING

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

In the Matter of:	)	
	)	
Application for Certification	)	Docket No.
for the Morro Bay Power Plant	)	00-AFC-12
Project	)	
_____	)	

1055 MORRO AVENUE

MORRO BAY, CALIFORNIA

WEDNESDAY, FEBRUARY 6, 2002

9:07 a.m.

Reported by:
James A. Ramos
Contract No. 170-01-001

COMMITTEE MEMBERS PRESENT

Michal Moore, Commissioner, Presiding Member

HEARING OFFICER AND ADVISORS PRESENT

Gary Fay, Hearing Officer

Terry O'Brien, Adviser to Chairman Keese

STAFF AND CONSULTANTS PRESENT

Caryn Holmes, Staff Counsel

Kae C. Lewis, Project Manager

Michael Ringer

Magdy Badr

Obed Odoemelam

APPLICANT

Christopher T. Ellison, Attorney
Jeffrey D. Harris, Attorney
Ellison, Schneider and Harris

Andrew L. Trump, Director of Business Development
Western Region
Robert E. Cochran, II, Project Manager
Duke Energy North America

Peter Okurowski, Senior Associate
California Environmental Associates

Eric Walther, Vice President
TRC Customer-Focused Solutions

Gary S. Rubenstein
Sierra Research

INTERVENORS

Robert Schultz, City Attorney
City of Morro Bay

INTERVENORS

Henriette Groot, President
Bonita L. Churney, Attorney
Pamela Soderbeck
Coastal Alliance on Plant Expansion

John Hartman

ALSO PRESENT

Larry R. Allen, Manager, Air Quality Planning
Gary E. Willey, Engineer
San Luis Obispo County Air Pollution Control District

Stephen E. Ziemer, Senior Air Quality Specialist
Science Applications International Corporation

Mr. Zaitz

Leonard Wagner

Robert Freiler

Mandy Davis

I N D E X

I N D E X

P R O C E E D I N G S

9:07 a.m.

PRESIDING MEMBER MOORE: Good morning, we are on the record. We will continue with the cross-examination, and at this point the Intervenor CARE has the floor --

(Off-the-record comments.)

HEARING OFFICER FAY: Let's just say Coastal Alliance.

PRESIDING MEMBER MOORE: Too many cases, I make my point. Counsel, you have the floor.

Whereupon,

GARY RUBENSTEIN and ERIC WALTHER

were recalled as witnesses herein, and having been previously duly sworn, were examined and testified as follows:

CROSS-EXAMINATION - Resumed

BY MS. CHURNEY:

Q Mr. Rubenstein, are you familiar with CARB and the OEHHA, that's OEHHA's, pending recommendations of the California PM10 annual standard be lowered from 30 to 20 micrograms per cubic meter?

MR. RUBENSTEIN: Not specifically. Ms. Churney, as we discussed earlier there were a

couple of clarifying comments I wanted to get on the record to complete responses to questions you'd asked yesterday.

MS. CHURNEY: Sure, go ahead and do that now if you wish.

MR. RUBENSTEIN: First of all, you had asked a question yesterday regarding whether there were any changes in the dispersion modeling analyses that were performed subsequent to preparation of the application for certification.

I neglected to mention one additional revision which was a change to the analysis of the impacts of the project during startup. That was to correct an error that had been identified by both the District Staff and by the Commission Staff.

So, it was an additional revision to the modeling analysis that was submitted after the AFC was filed.

The second question that you asked related to a calculation that was performed in Ms. Soderbeck's paper, exhibit A to her declaration at page 9. And the question there related to concentrations of PM10 that were modeled excluding any receptors on Morro Rock, and using the highest

modeled concentrations rather than the highest second-high, which is a distinction that we need to make for regulatory purposes.

The numbers which I provided to Ms. Soderbeck, and just for the record, are as follows: For the existing boilers the annual concentration is 0.149 mcg/cu meter, that's annual average again. And the highest 24-hour average concentration is 4.28 mcg/cu meter.

For the new units the annual average concentration is 0.83 mcg/cu meter; and the highest 24-hour average concentration is 10.01 mcg/cu meter.

Again, just to clarify, those are all concentrations that exclude any impacts on the Rock. And in 24-hour average concentrations of the highest values.

I believe that answered the outstanding question we had from yesterday.

MS. CHURNEY: And these are maximum model concentrations, is that correct?

MR. RUBENSTEIN: That's correct.

MS. CHURNEY: Does your modeling -- how close can you take your model to test for actual or average conditions? Is that possible?

MR. RUBENSTEIN: As I indicated during my testimony yesterday evening, there are many conservative elements of the assumption including meteorology, ambient conditions as they affect operation of the new units, emission rates, and the periods of time when background concentrations are the highest.

One can make less conservative assumptions at any one of those stages, so I'm not quite sure what you mean.

The answer to your question is yes, we could make adjustments to those numbers to reflect what we actually expect to see, depending on how less conservative and more realistic you'd like the information to be.

MS. CHURNEY: Have you done that with your modeling?

MR. RUBENSTEIN: Actually there's -- we've not done that with the modeling for this project, but we did provide a letter to CAPE, I believe it was last year. Let me find it for you, just one second.

It's exhibit 55, and it's a letter dated June 7, 2001, from me to Henriette Groot of CAPE. And it's a comparison of measured and modeled

ambient plume concentrations.

And the letter describes an empirical experiment that we performed at a project location that's actually in Hawaii where we had a monitor that was located downwind of a power generation facility. And there were no significant intervening sources between the monitor and the power plant.

And in that letter to CAPE we indicated that the dispersion models, which are comparable to the models that we're using in this proceeding here, predicted, for example, annual average concentration of roughly 25 mcg/cu meter of nitrogen dioxide, whereas the maximum monitored concentration at the monitor, the same location, was 3 mcg/cu meter, indicating an over-prediction of roughly by a factor of 8.

There were similar comparisons for sulfur dioxide which is the other pollutant monitored at that station. And the over-predictions there ranged from roughly a factor of 4 to roughly a factor of 12.

So that will give you some rough estimate of the difference in the over-conservativeness of the model analyses that we're

talking about for the Morro Bay project, as well.

So it's roughly in that order of magnitude.

MS. CHURNEY: Did that study look at the difference in PM concentrations?

MR. RUBENSTEIN: No, it did not, because being a coastal location there would have simply been too many other sources of PM10 that would have interfered with this type of analysis.

The reason why we looked specifically at nitrogen dioxide and sulfur dioxide is that this particular power plant is a very large source in that area of those two pollutants. Its emissions dominate any other local sources. That would have not been the case for PM10. And so, no, we did not do the analysis for PM10.

However, there's no reason to believe that the conservativeness of the model would be any different for PM10, as compared to these other pollutants. The reason is that the particles, as you know, are so small that they, in fact, behave like a gas.

MS. CHURNEY: Going back to the CARB and OEHHA recommendations for California PM10 annual standards, have you done any analysis to determine

the cumulative impacts of the new plant if the new standards are, in fact, adopted?

MR. RUBENSTEIN: No, we have not. Since there are no new standards we have not speculated as to what they might be, and we've not taken a look at cumulative impacts in that context.

MS. CHURNEY: Was modeling done for the PM2.5 emissions from the new plant as distinct from PM10?

MR. RUBENSTEIN: No. For purposes of our analysis we conservatively assumed that all of the particles, and again I want to emphasize we assumed, that all of the particles emitted from the project would be PM2.5. That was a conservative assumption.

But we did not do any separate modeling for PM2.5.

MS. SODERBECK: Good morning, Gary.

MR. RUBENSTEIN: Good morning, Pam.

MS. SODERBECK: We're going to switch topics here a little bit. Turning to the issue of the ERCs, the interpollutant offsets for a second, I'd like to run through, I think perhaps the best place to do that is table 8, page 3.1-23 of the FSA.

That's table 8, page 3.1-23.

MR. RUBENSTEIN: I have that in front of me.

MS. SODERBECK: This is a summary of the ERCs for the project, and I'd like to focus just on the PM10 right now.

MR. RUBENSTEIN: Certainly.

MS. SODERBECK: As I read that, and correct me if I'm wrong, in terms of credits from direct PM that would include, let's see, 97.05 tons from shutting down the new plant, and 17.23 tons from the cessation of the oil burning, and an additional 1.92 tons from the Chevron ERCs that were purchased, correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And the balance of the 87 tons is from interpollutant trading, which really comes from the SOx as a precursor, correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: The local APCD here allows interpollution trading on a one-for-one basis with no additional discounting beyond the initial 20 percent required to bank the credits to begin with, is that correct?

MR. RUBENSTEIN: I believe that's a

matter of District policy. I don't believe the District's regulations specify a particular ratio.

MS. SODERBECK: Okay. Has the EPA approved the interpollutant offsets for the project yet? Or is there any EPA determination on the air quality of this project yet?

MR. RUBENSTEIN: The EPA reviewed the preliminary determination of compliance which discussed the interpollutant offsets. And they filed written comments with the San Luis Obispo Air District on June 19, 2001. Those comments did not raise any questions at all about the interpollutant trade.

With respect to EPA's review of the project for PSD purposes, the offset requirements are not applicable in that case, and so EPA would have no reason, under their regulations, to review that trade.

So, to sum up, in the context of the Air District's decision, EPA did review the trade and have no comments. And in the context of EPA's own decision, the credits are irrelevant.

MS. SODERBECK: The total of 203.2 tons per year of PM10 from the new plant, does that include any secondary particulates resulting from

the ammonia slip, if there are any -- or if there will be any?

MR. RUBENSTEIN: To a certain extent it does. The test method that's used to measure particulates includes, as you know, something that's referred to as the condensible fraction. A small portion of the exhaust gas is bubbled through impingers, glass containers containing a liquid, generally distilled water or isopropyl alcohol, to condense out any aerosols and to simulate some near-stack formation of secondary particles.

And so to the extent that the test method does, in fact, capture some of these secondary particles, it does.

I have to indicate that in my professional opinion most of the particulates that we're talking about from gas-fired combustion turbines are, in fact, sulfates that form during the combustion process across the catalytic systems and in the stack. And there's not a whole lot of sulfur that's left coming out the stack to participate in subsequent reactions.

MS. SODERBECK: Okay. I'd like to get into the area you were talking about, the front

and back half issue.

In your testimony you address the issue of whether the emissions of the 11 pounds per hour and that's with -- without duct firing, and 13, I think it's 13.3, I think your testimony indicated 13.5? I guess I'm asking for a clarification on that number to start with.

MR. RUBENSTEIN: The correct number, I'm quite certain, is 13.3 pounds per hour with duct firing.

MS. SODERBECK: Okay. To go on, you indicated that the emission limits proposed in your view definitely include both the front and the back half as they are, as you pointed out, required to do by law.

What are the specifications for the emission rates for the GE Frame 7 turbines that are used here from GE, in terms of emission rates?

MS. SODERBECK: I'm not sure what you mean by specifications. What does GE tell its customers?

MS. SODERBECK: Yeah, what does GE tell its customers that the PM emission rates will be?

MR. RUBENSTEIN: GM tells its customers different things depending on who the customers

are, which is why I no longer rely on GE estimates for particulate emissions from their turbines.

I've seen GE estimates that range anywhere from 18 to well over 20 pounds per hour. And I've seen estimates from GE that are as low as 9 pounds per hour for exactly the same turbine models.

That's why I rely on my own professional engineering judgment, rather than on the GE numbers.

MS. SODERBECK: Okay, if we could turn to your testimony, prefiled testimony on page 123.

MR. RUBENSTEIN: I have that in front of me, thank you.

MS. SODERBECK: Unfortunately I don't have it quite there yet. The last paragraph that carries on into the next page, you're discussing the issue of whether there will be new violations or -- I don't want to say merely -- or contributions to existing violations of the PM standard from the new plant's emissions, correct?

MR. HARRIS: Ms. Soderbeck, I think your page numbers might be slightly different, so can you tell us which paragraph --

MS. SODERBECK: The paragraph that

starts: The PM10 emission rates.

MR. HARRIS: That says: The PM10 emission rates analyzed for the Morro Bay project?

MS. SODERBECK: Right.

MR. HARRIS: Okay.

MS. SODERBECK: That paragraph.

MR. HARRIS: Page 123, --

MR. RUBENSTEIN: That was the current paragraph, thank you.

I'm sorry, Pam, I've lost the question now.

MS. SODERBECK: I just wanted to get you focused on what paragraph.

You're addressing basically the issue of the guarantees in one regard, and then also the issue of whether there's a new violation or a contribution to an existing nonattainment.

MR. RUBENSTEIN: Actually I think I was just paraphrasing my understanding of CAPE's position on this. I wasn't reaching any conclusions of my own here in this particular paragraph.

MS. SODERBECK: Okay.

MR. RUBENSTEIN: If you have a specific question I'd be happy to answer it.

MS. SODERBECK: Okay, let me back up to the first sentence of that paragraph. You referred to using EPA approved test methods. And I was wondering which EPA methods you were referring to in this testimony.

MR. RUBENSTEIN: My consistent recommendation for measuring PM10 emissions from gas-fired gas turbines is the use of EPA method 201A for the front half or filterable particulates.

EPA method 8 for the back half or condensible particulates with a minimum sample collection time of four hours.

MS. SODERBECK: And those are the methods that you used in analyzing the emission rates for this project?

MR. RUBENSTEIN: No. The emission rates for this project were established based on engineering judgment. Those recommended test methods independently determined as being the most accurate to truly assess particulate emissions from gas-fired gas turbines.

MS. SODERBECK: Okay.

MR. RUBENSTEIN: But they are -- if your question is are those consistent, the answer is

yes.

MS. SODERBECK: On page 124 you describe the paper that you prepared for the San Diego conference March 2001 on this issue of the source test methodology, correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: I think I have a copy of that, I just want to pass it out and make sure what I obtained off the web is, in fact, what you're referring to here.

Is that, in fact -- do you have a copy in front of you now?

MR. RUBENSTEIN: Yes, I do.

MS. SODERBECK: Is that the paper that you presented that you're referring to?

MR. RUBENSTEIN: Yes. I haven't checked to see if there are any missing pages, but it appears to be the whole paper.

MS. SODERBECK: I hope not. It's inadvertent if there are.

Would it be possible to get this marked as an exhibit for reference purposes?

PRESIDING MEMBER MOORE: Any objection, counsel? She's referring to it in the question.

MR. HARRIS: Actually, no. Let's go

ahead and mark it and have it moved into evidence, as well.

PRESIDING MEMBER MOORE: All right, I'll come back with a number in just a moment.

MS. SODERBECK: Okay.

PRESIDING MEMBER MOORE: I believe it's going to be 147. No objection. All right, entered.

Go ahead.

MS. SODERBECK: In that paper, if I understand it correctly, in essence you're presenting an entirely new methodology of approach to the source testing for particulate matter that you, in essence, created from your experience?

MR. RUBENSTEIN: No, it's a new combination of existing methods, rather than an entirely new method. These are all established EPA methods.

MS. SODERBECK: But the combination of using the 201 and the 8, method 8, is that something that you have come up with? Has this been done before you did this paper?

MR. RUBENSTEIN: It had been done before on a couple of units based on my recommendation, but I believe that I'm the originator of, as I

said, this combination --

MS. SODERBECK: Okay, that's what I was trying to get. I'm sorry, -- my questions.

Now is EPA method 8 designed to measure particulates?

MR. RUBENSTEIN: EPA method 8 is specifically designed to measure sulfates, and in the way that I use the method and recommend that the method be used, you dry out the contents of the first impinger and analyze it graphometrically so that you get all condensibles and not just sulfates.

So the version of method 8 and variation on method 8 that I recommend, and that I've had my clients use, does, in fact, catch all condensible particulates.

MS. SODERBECK: All right, so even though EPA 8 is designed to measure only sulfates, you believe it, in fact, picks up other things like ammonium and other elemental chemical compositions that might be in that back half?

MR. RUBENSTEIN: That's correct. Because the way the impinger is analyzed is identical to the analytical technique that's used for method 202, which is to dry the impinger catch

and analyze it graphometrically.

MS. SODERBECK: Okay. Was this methodology accepted for measuring source tests for PM at Los Medanos?

MR. RUBENSTEIN: Yes, it was.

MS. SODERBECK: And the tests that you referred to in your testimony that confirmed the methodology, or that the emission rates being lower than 11 pounds per hour from Los Medanos were done with this methodology that you described, the 201 for front half and the 8 for the back half?

MR. RUBENSTEIN: Yes, it's method 201A, it's a slight difference.

MS. SODERBECK: I'm sorry, 201A.

MR. RUBENSTEIN: Right. But, yes, that method was used. I might point out that this combination of methods actually has been approved now by EPA for three power plants comparable to this project. That includes the Sutter Energy Center, the Los Medanos Energy Center, and also the Southpoint facility in Arizona.

MS. SODERBECK: Did you request that this methodology be used for the Morro Bay Plant with the APCD here?

MR. RUBENSTEIN: Since we haven't gotten to the point of proposing a test protocol we haven't made a specific request yet, but we have told the District that we will be requesting the use of a method like this.

There is some additional research work that's going on, partially sponsored actually by the Energy Commission, looking at new methods of measuring particulate emissions from gas-fired gas turbines. And by the time we do testing from this plant, that new method may actually be an approved EPA method, and we may switch to that.

MS. SODERBECK: All right. The existing AQ-17 and the condition 17 from the FDOC, and I'm sorry I don't have these pages in front of me -- if I can find them -- if you look at the FSA, it's page 3.1-37.

MR. RUBENSTEIN: I have the corresponding section in the FDOC in front of me.

MS. SODERBECK: Okay. The methods that are specified in those conditions for source testing for PM10, it's specifically 201A and 202, correct?

MR. RUBENSTEIN: Yes, but the lead-in sentence says: Unless otherwise directed by the

APCO. So we do have the opportunity in this condition to request an alternative method. And the APCO has the discretion to approve it.

MS. SODERBECK: Okay. Let me try and ask this question without being argumentative or pejorative in any way.

MR. RUBENSTEIN: I'll take it that way, then.

(Laughter.)

MS. SODERBECK: Of course. I know Mr. Harris will.

(Laughter.)

MS. SODERBECK: Would you agree generally that the emission limits on PM in any particular case are only as effective as the monitoring capability of those limits? In terms of public health effectiveness is, I guess, what I'm getting at.

MR. RUBENSTEIN: No, I wouldn't agree with that as a general statement. It depends very much on the type of emission source.

If, for example, you had an emission source that had a large amount of particulates that had to be controlled using a backhouse or an electrostatic precipitator, then there are various

aspects of maintenance of that equipment that could lead to increases in emissions in between source tests.

And consequently you would want to prescribe more stringent monitoring requirements, and not monitoring of emissions, but monitoring of operation of the equipment.

In the case of a natural-gas fired gas turbine and gas-fired heat recovery steam generators, in my professional opinion there is nothing like that. Those emissions are very stable. They tend to remain stable over time. All of the uncertainty that I've seen, all the variation I've seen in tests are attributable to the kinds of testing errors that identified in my paper that we've just identified as exhibit 147.

So, in the case of particulate emissions from gas-fired gas turbines, frankly I think that the test of requirements that include an initial compliance test and periodic testing every couple of years thereafter would be sufficient. I don't think more frequent testing or monitoring is required.

MS. SODERBECK: Okay, let me ask you a couple more questions on your paper. The only

change I've made to this is I actually numbered the pages.

MR. RUBENSTEIN: Thank you.

MS. SODERBECK: But I don't have time to number some of these other things, but page 9, entitled, other sources of gas turbine PM10 emissions.

The first bullet you say there is limited speciation data, and I'd like you to just explain briefly what the speciation refers to as you're using it here.

MR. RUBENSTEIN: What I'm referring to is the detailed chemical composition of the particulates.

MS. SODERBECK: And then you go on to say carbon's a likely component. Is most of the carbon picked up in the front half as opposed to he back half? The 201A versus the 202, or the method 8 that you're proposing.

MR. RUBENSTEIN: Yes, I believe so.

MS. SODERBECK: And I think you said yesterday that that would include both elemental carbon and organic carbon? Or if you didn't, I'm asking.

MR. RUBENSTEIN: It includes both. I

don't recall the ratio, I believe one of those two is dominant, and I can't recall which one.

There was a paper presented at the same conference where I presented exhibit 147. That paper was presented by someone from General Electric Engineering, Research and Technology out of Irvine.

And his paper included the most detailed speciation analysis to date of particulates from natural gas combustion. It was not from a turbine, however. It was from a boiler and from a refinery heater.

And in answering your questions today i'm trying to remember, perhaps not as well as I should, what was in his paper.

MS. SODERBECK: That's okay. On page 11 is a diagram that you've labeled the method 201A sampling train. And I just want to make sure that I'm clear, on the same page with you so to speak, that the top part of this diagram, in fact, shows both the 201A and what would be the back half 202, or perhaps in this case, your recommended method 8, is that correct?

MR. RUBENSTEIN: Ironically the sampling train includes both the front half and the back

half regardless of whether you call it method 201A or you call it method 5 or anything else.

Method 202 prescribes what goes into the impingers and how you do the analysis of the back half.

To simplify things because we're getting a little esoteric here, what's traditionally referred to as the front half in that diagram would include the probe nozzle, the PM10 sampler, the filter holder, and the front half of the filter holder and the filter, itself. And all of that would be measured and recorded under method 201A.

What's referred to as the back half is the back part of the filter holder, to the extent any particles impact on that, the heated probe to the impinger line and the impingers. So it would be referred to as the back half.

And where methods 202 and 8 differ is in what is included in the impingers, how that material is analyzed, and which impingers are included in the determination of PM10.

MS. SODERBECK: Okay, just a couple more questions on your paper. Page 14, in terms of the test data that you have included in your summary,

as I understand it, there are 92 tests from 36 combustion turbines, and these turbines are from a variety of makes and sizes?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And the test methods that were done for these tests that you're looking at varied and were of different collection times?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And then you in effect took those and normalized them, as you say here, to 180 megawatt turbine, which would be the kind of turbine that we're talking about with the GE Frame 7, correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: Okay, on page 15, again without having heard the lecture, myself, I'm assuming what -- you correct me if I'm wrong -- but I'm assuming under the table where it says mean, and in the last column where it says total pounds per hour, the 17.58 pounds per hour --

MR. RUBENSTEIN: Yes, I see that number.

MS. SODERBECK: Is that for the turbine alone, or would that include any tests with oxidation catalysts for example, or duct firing?

MR. RUBENSTEIN: For the purposes of

this analysis I did not distinguish between projects which included oxidation catalysts or not, whether they had SCR or not.

I attempted, to the extent that I could, to select only test results where there was no duct firing, but in some cases that was not possible and there may have been a small amount of duct firing.

So the 18 pound per hour number that's shown as the mean value includes all of those variables in it.

MS. SODERBECK: I have a couple more potential exhibits I'd like to pass out, and ask you -- these are test results, and I'm just trying to clarify whether these were included in your study.

I think you are very familiar with them.

PRESIDING MEMBER MOORE: These are test results from?

MS. SODERBECK: These are from GE7 turbine tests at other -- I shouldn't say other, at locations that have that same model that's being proposed here.

HEARING OFFICER FAY: You plan to be asking questions regarding these documents?

MS. SODERBECK: Yes, I want to ask Gary whether some of these results were included in his analysis that he's talking about in his paper.

PRESIDING MEMBER MOORE: Well, let's find out whether or not these have actually been seen by anyone before.

Mr. Rubenstein, have you ever seen these documents before? The first one's title, emission test result report for emissions compliance two General Electric Frame 7EA turbines in Hidalgo County, Mission Texas.

And the second is called test report combustion turbine combined cycle compliance demonstration, Gilbert Industrial Corporation.

Have you ever seen either one of those?

MR. HARRIS: Commissioner, before Mr. Rubenstein answers I have not seen these documents. They were not prefiled. And I want to make that point very clear. It may be that my very skilled witness can answer questions out of those, but --

PRESIDING MEMBER MOORE: Right, and it may be that these are reference documents that were cited in some way in his work. But I think we'll have to be careful making sure that there is

already some knowledge of these before we allow this to go forward.

MS. SODERBECK: I agree, and that's exactly my question, whether Mr. Rubenstein included these test results in his review of the 92 tests he's --

PRESIDING MEMBER MOORE: That's a fair question. We can ask him to answer that.

MR. RUBENSTEIN: Without taking too much of the Committee's time, and looking first at the one that's referred to as the Mustang Generating Station -- I don't have these labeled yet, the one has the TRC logo on it.

I included in my analysis results of four tests at that facility in November of 1999 and March of 2000. I suspect that what you handed out, Pam, may be the same results but I'm not certain. I'd have to check and make sure.

But, anyhow, I have four tests from the Mustang facility included in my data set.

MS. SODERBECK: Okay, that's fine.

MR. RUBENSTEIN: The second set of results appear all to be from the Frontera Facility.

MS. SODERBECK: I apologize, I'd submit

them as a stack, but there's two test results from Frontera, May 2000 and July 1999. And then on the back, and again I apologize to everyone, I just ran out of time to get these consecutively numbered, there's a test report on the Occidental Chemical Corporation Cogeneration Facility.

MR. RUBENSTEIN: With respect to Frontera it appears that I included the May 2000 test results in summary form, but I don't see that I had any other results from that facility.

And then lastly, with respect to the Ingleside facility, --

MS. SODERBECK: Yes.

MR. RUBENSTEIN: -- for Occidental Chemical, I had some test results from August of '99, which would appear to be the same as what you handed out.

MS. SODERBECK: Okay, and just for the record to be clear, the Frontera facility, is that a Duke-affiliated facility?

MR. RUBENSTEIN: It says so on the cover page. I don't know whether Duke still owns that facility or not, I'm not certain.

MS. SODERBECK: Okay, that's fine. Could I get these marked for identification for

exhibits?

PRESIDING MEMBER MOORE: All right.

MR. HARRIS: Can I ask, I didn't object to the question because it was related to whether he looked at these studies, --

PRESIDING MEMBER MOORE: Yeah, I'm not sure that that's really the right step at this point. You've asked whether or not he was familiar with these. He's answered the question, but we haven't asked him to analyze it.

So, I think --

MS. SODERBECK: Okay, that's fine.

PRESIDING MEMBER MOORE: -- let's --

HEARING OFFICER FAY: Do you have more questions on these documents?

MS. SODERBECK: Not for Mr. Rubenstein, no.

HEARING OFFICER FAY: Okay, I think they've been adequately identified then for the record. All right.

MR. HARRIS: Can I ask about the qualifier? Do I need to have Eric take a look at the documents?

MS. SODERBECK: No. I may go back to them for rebuttal, but you get me on the stand,

but --

MR. HARRIS: Okay.

MS. SODERBECK: Excuse me, when Ms. Churney gets me on the stand.

MR. HARRIS: Okay, thank you, appreciate the clarification.

MS. SODERBECK: To try and wrap up this issue of your proposed methodology that you discuss in that paper, has any test been performed that compares identical samples taken from the same GE Frame 7 100 megawatt turbine at the same time under the exact same conditions, and then compare the 201, 202 methodology and your 201A method 8 methodology?

MR. RUBENSTEIN: Two weeks ago I would have had to say I'm not aware of any such tests. But the answer is yes, there has been a test like that making the kind of comparison. I did not mention that in my testimony and I'm not at liberty to discuss the results. However, the results will be presented to Air Waste Management Conference this coming June.

I can say in general terms that method that I'm recommending and the new method that's being cosponsored by the Energy Commission showed

very good agreement, and a variation of method 202 showed reasonably good agreement with those methods, as well.

MS. SODERBECK: All right, I guess I have to leave it at that.

Okay, I guess the other issue I'd like to turn to now is on pages 124 and 125 of your testimony.

MR. RUBENSTEIN: Okay, I have that in front of me.

MS. SODERBECK: And I'm referring specifically to your discussion of duct firing.

MR. RUBENSTEIN: Okay.

MS. SODERBECK: Let me see if I can summarize this correctly.

You, in essence, disagree with CAPE's assertion that the PM emissions from duct firing will be disproportionately dirtier than the emissions from the baseload operations. In essence that's your position?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And you refer to incremental calculation effects on page 125.

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And these are based on a

per unit of gas burned, is that correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: What is the effect if you analyze this based on emissions produced from duct firing per megawatt with capacity with 168 megawatts of duct firing at full throttle versus the 1032 megawatts of baseload without duct firing?

MR. HARRIS: I'm not sure this is part of his testimony, so I would object on that basis.

HEARING OFFICER FAY: Can you point to --

MS. SODERBECK: I'm asking --

HEARING OFFICER FAY: -- where in his --

MS. SODERBECK: Well, he -- he analyzed it on this per unit of gas burned. I guess I'm asking him did you do an analysis based on a per megawatt at basically full load with and without duct firing.

HEARING OFFICER FAY: We'll allow the question.

MR. RUBENSTEIN: I'm sorry, I'm hesitating because I'm thinking through all the different data responses we've prepared, and trying to think if we formulated an answer in that

way. I don't believe so. I don't think the question was ever asked in that way.

I can say that the numbers would be different, they would not be dramatically different, and I'd reach the same conclusion.

The reason is that the amount of particulates, in my opinion, that are actually formed during combustion are largely a function of the amount of fuel, and to a lesser extent of the amount of air that's going through. And consequently I wouldn't expect to see any significant different on a pounds per megawatt hour basis between the fired and unfired cases as compared with presenting it here on a pounds per million Btu basis.

Certainly nothing I would characterize as disproportionate.

MS. SODERBECK: Okay. Let me direct you to exhibit 34, Duke's data request response number 6, in which Duke indicates the elimination of duct firing would reduce --

MR. HARRIS: Pam, can you give just a minute to find the documents?

MS. SODERBECK: Oh, sure, I'm sorry.

MR. HARRIS: Thanks.

MR. RUBENSTEIN: This is the response to CAPE data request 6, right?

MS. SODERBECK: Yes.

MR. RUBENSTEIN: Okay, I have that in front of me.

MS. SODERBECK: First let me ask you, were you involved in the preparation of the responses?

MR. RUBENSTEIN: Yes, I was.

MS. SODERBECK: And it's on page -- I won't use -- I won't give page numbers because they vary during these exhibits.

It appears to me that you're saying on an annual basis the PM emissions from duct firing account for 33.6 tons per year of the aggregate 203.2 PM emissions, is that correct?

MR. RUBENSTEIN: No. Actually, that data request asked for and estimate of the increased PM10 emissions attributable to any of the emission control devices. Not due to duct firing.

And the response I gave was that in my estimation the combination of the SCR system and oxidation catalyst contributes approximately two pounds an hour to the allowable PM10 emission

limits. And on an annual basis that was 33.6 tons per year.

I'm afraid this question didn't have anything to do with --

MS. SODERBECK: You're right, I apologize. Do you know what the total emissions of 203.2, the total emissions are if duct firing is eliminated? Or if it's there and never used?

MR. RUBENSTEIN: Yes, that would be 13.8 tons per year out of the 203.2 tons per year.

MS. SODERBECK: 13.8?

MR. RUBENSTEIN: Correct.

MS. SODERBECK: Okay.

MR. RUBENSTEIN: And the way that's derived is it's 2.3 pounds per hour times 4000 hours per year times four units divided by 2000 pounds. I'll make sure, do the math again right here.

Good thing I checked, 18.4 tons per year, sorry.

MS. SODERBECK: Okay. Do you recall at the staff's June 2001 workshop on air quality, I believe you said at that time that modeling -- your air quality modeling could be run with various stack heights as functions?

MR. RUBENSTEIN: I don't recall saying that, but I may well have. That is correct, we could do it with different stack height assumptions.

MS. SODERBECK: Has that been done?

MR. RUBENSTEIN: Yes.

MS. SODERBECK: Is that data available somewhere in these documents and I just haven't found it?

MR. RUBENSTEIN: There is an analysis that is in the record related to cooling system, I can't recall if it's cooling system alternatives now, or visual treatment, the HRSG enclosures. But for one of those two analyses we had concluded that the stack height would need to be higher than 145 feet.

If you want I can check for a minute and tell you exactly which analysis that was. There was also a second analysis that we did after that workshop last summer that looked at a hypothetical stack height of 200 feet which has not been introduced into the record.

MS. SODERBECK: If the stacks were at 200 -- you said 200 feet --

MR. RUBENSTEIN: Yes.

MS. SODERBECK: How does that change the concentrations that were modeled on your ISC model for Morro Bay?

MR. RUBENSTEIN: The maximum concentrations at any location, including Morro Rock, and I'm speaking specifically of PM10, because I assume that's the context of your question?

MS. SODERBECK: Yes, yes, it is.

MR. RUBENSTEIN: Those concentrations, the maximum concentrations, including the Rock, would drop by maybe 10 or 15 percent. The maximum concentrations at locations away from the Rock would drop by roughly that percentage. And under some meteorological conditions the concentrations, and at some locations in the community, the concentrations would actually increase if the stack height was raised from 145 feet to 200 feet.

At most locations it would decrease, but there would be some locations where it would increase. So it's kind of a mixed set of results.

MS. SODERBECK: And do you know off the top of your head where that worst case would be in terms of it increasing?

MR. RUBENSTEIN: I don't have a complete

set of the results in front of me, but the data suggests that at the Hillview tract, using meteorology from 1996, just that one year, there would be an increase in PM10 if the stack height was increased.

And I just mention that by way of example. All of these numbers are very small; in my opinion all of these numbers are insignificant. But, I just wanted to indicate that raising the stack height in this type of terrain with this type of meteorology does not insure that concentrations get lower at all locations under all weather conditions.

MS. SODERBECK: Comparing the existing 450 foot stacks and the new plant's 145 foot stacks, will the concentrations from the new lower stacks principally be higher, I don't want to say always, but will it generally be higher than under the worst case conditions than exist now with the 450 foot stacks?

MR. RUBENSTEIN: Yes, both sets of numbers will, in my opinion, be insignificant and very low. But in most cases the concentrations of PM10 will be higher with the new stacks and the units as compared to the existing units, based

again on the modeling results with all their conservatisms built in.

MS. SODERBECK: All right. Is it feasible to substitute, for example, another smaller gas turbine in lieu of the large duct burner that's proposed for the 168 megawatt peaker portion of the plant?

MR. HARRIS: I'd like to object at this point. We're beyond Mr. Rubenstein's direct testimony, and we've been there for quite awhile. I think I'd like to get us back onto his testimony so I'd object to that as being outside of his direct testimony.

HEARING OFFICER FAY: Counsel, unless you can tie that into his direct testimony I'm going to sustain the objection.

MS. SODERBECK: Well, I'd like to ask Mr. Rubenstein whether he was involved in the recommendation of the equipment for the new plant in connection with its air quality impacts.

HEARING OFFICER FAY: Well, why don't you ask that.

MS. SODERBECK: Would you like me to repeat that?

MR. RUBENSTEIN: No, I heard the

question. I was involved in the recommendations regarding the emission control equipment. I was not involved in the recommendation regarding whether there should be duct firing or how large the duct firing should be.

MS. SODERBECK: Okay. Exhibit 52, let's take a second to get there -- CAPE's data request 290 and Duke's response, were you involved in the preparation of that response at all? It's under air quality/project description/engineering.

MR. RUBENSTEIN: No, I was not, and that's not identified as one of the responses I prepared in my testimony. Number 290, as I'm reading it, is basically an engineering question. And I did not prepare that response.

MS. SODERBECK: All right, fair enough. On page 130 of your prepared testimony --

MR. RUBENSTEIN: I have that in front of me.

MS. SODERBECK: -- you note that the use of a three-year period prior to the application date for the baseline for the APCD purposes -- see if I can direct you to which paragraph, page that is.

MR. RUBENSTEIN: That would be the first

bullet under the heading CEQA baseline.

MS. SODERBECK: Yes, that's what I'm referring to. An earlier application for modernization of the plant had been filed by Duke in 1999, correct?

MR. RUBENSTEIN: Yes.

MS. SODERBECK: And did you participate in the air quality portion of that application?

MR. RUBENSTEIN: Yes, I did.

MS. SODERBECK: When that was withdrawn did you continue to work on the new application air quality portions?

MR. HARRIS: Again, I'm going to object to the discussion being outside the scope of his direct testimony.

HEARING OFFICER FAY: Counsel, where is this going?

MS. SODERBECK: I'm just trying to see whether it was Gary that was continuously involved in the air quality aspects of this, or whether it was anybody else that might have been involved on Duke's behalf.

HEARING OFFICER FAY: Towards what end? We're dealing with this project, not the last -- not the withdrawn project.

MS. SODERBECK: I understand that. I'm trying to get to if there was anybody besides Sierra Research that worked on the air quality for the -- between the withdrawal of the last application and the new application, or the work was all done by Gary.

PRESIDING MEMBER MOORE: Ms. Soderbeck, that's not what's before us. And so what we do have is his direct testimony, and I think I need to bring you back to that to focus.

MS. SODERBECK: Okay. I also have a few questions for Dr. Walther on the public health issues. Just a couple questions on acrolein.

The bulk of the toxics in terms of the aggregate toxics from the project that you looked at in your public health assessment, that came from acrolein, is that correct?

DR. WALTHER: On the chronic, noncarcinogenic and the acute noncarcinogenic potential effects, acrolein contributed to most, even to the insignificant results.

MS. SODERBECK: Okay, that's what I was trying to get to. Does the acrolein emission rates change whether there is duct firing or not duct firing? Is the emission rate the same?

MR. HARRIS: On that, my witnesses are as a panel, it may be more appropriate for Mr. Rubenstein to answer that --

MS. SODERBECK: Oh, sure, that's fine, whichever.

MR. RUBENSTEIN: I haven't seen any data to suggest that the acrolein emission rate during duct firing expressed on a pounds per million Btu basis, the actual rate of emissions, is any different with or without duct firing.

It might be, acrolein is a very difficult compound to measure because the concentrations are just so low and the compound is not very stable.

So there's not a lot of data but I haven't -- and so the answer is I haven't seen anything to indicate that duct firing would be higher. From an engineering perspective and a combustion perspective, I have no reason for believing that it would be any higher. I would expect it to be exactly the same.

In the case of this particular project, which uses an oxidation catalyst, I think that any differences between the turbine and duct burner emission rates of acrolein would be overwhelmed by

the reduction in acrolein associated with the oxidation catalyst, because it's a very reactive compound.

So I don't anticipate that there would be, if I can anticipate where you were going with this, I don't anticipate there'd be any significant change in the acrolein emission rate or the risk assessment if duct firing were eliminated, except by the proportionate amount associated with the reduction in fuel consumption.

MS. SODERBECK: Okay. The tests at Pasadena, Texas, which I believe are the ones that were used to establish the emission rate, or the emission factor used for acrolein in this case. Let me ask first, were those the tests that were used to establish the factor? As opposed to 430 guidelines?

Again, I'm talking about acrolein.

MR. RUBENSTEIN: I understand. I was puzzled by the reference to 430 guidelines. You're referring to ARB method 430?

MS. SODERBECK: Yes.

MR. RUBENSTEIN: No, there were no ARB method 430 results that were used. What I'm uncertain of is during the last 12 to 18 months

EPA has published some updated emission factors for acrolein, and I need to confirm whether for this particular project we used the Pasadena test results. I know we did that initially. Or whether we used the updated EPA factors, which are generally fairly close. They're not that different.

But if you want I can research the answer to that and get back to you after a break. Or it will take me a minute or two to figure out exactly which factors we used.

PRESIDING MEMBER MOORE: Why don't you come back after the break with that --

MS. SODERBECK: That's fine. In fact, where I was headed was to see whether there had been any further testing or any updates from what those initial Pasadena results showed.

PRESIDING MEMBER MOORE: The answer appears to be that there has.

MR. RUBENSTEIN: Yeah, they're not more recent results. It's a more recent analysis of older results. The Pasadena results are the most recent ones I'm aware of.

MS. SODERBECK: All right, just one quick clarification on those results. Those are

on a Westinghouse turbine, and those were without oxidation catalyst, is that correct? Or with?

MR. RUBENSTEIN: The tests in Pasadena, Texas for acrolein were performed on a Westinghouse turbine which did not include an oxidation catalyst, and consequently for both reasons of the different turbine and the difference in the catalytic controls I would expect those numbers to be very conservatively high compared to what we will see at Morro Bay.

MS. SODERBECK: Are there cumulative effects of acute exposures over time?

DR. WALTHER: What was the, I think it was the third word you used, you said commutative?

MS. SODERBECK: Cumulative.

DR. WALTHER: Cumulative, okay. Are there cumulative effects. Acrolein has both a chronic and an acute potential health risk. And so the referenced exposure levels are on both the short-term one hour and long-term annual basis for the purposes of calculations.

MS. SODERBECK: Okay, let me try and get at it another way. I believe for formaldehyde, for example, which is somewhat in the same family as the acrolein, that an acute exposure can

actually sensitize somebody who would then remain sensitive to even slight increases in formaldehyde exposure.

And I'm wondering whether the same thing happens with acrolein.

DR. WALTHER: As far as sensitizing goes, that's not dealt with exclusively in the analysis. And so the analysis is constrained to simply look at these reference exposure levels regardless of the detailed toxicological evidence that's underneath.

The health authorities, mostly at the federal level, but also at the California level, then choose these reference exposure levels, keeping in mind sensitization and various impacts like that.

MS. SODERBECK: Okay, and then one last question on that. If I understand the REL assessment process, it does not -- does it take into account any existing ambient or background concentrations of any of these toxics?

DR. WALTHER: It's not derived on a basis that would do so. The whole basis of reference exposure levels is to especially go to toxicological kind of clinical tests, and similar

information on laboratory animals. And to determine at what concentration one would expect to see either chronic long-term effects or acute short-term effects.

So that particular question of what already exists is only in the work implicitly. Because when you perform a test, whether it be on a human, a rat or a rabbit, that animal has already been breathing whatever the ambient is at the laboratory.

And so it's implicitly included in the results, but not explicitly tested, that I know of.

MS. SODERBECK: Thank you. Looking at Dr. Walther's testimony on page 140. The penultimate paragraph with the bullets. If my page numbering is the same as yours.

DR. WALTHER: I see three paragraphs with bullets, but keep going.

MS. SODERBECK: The next-to-last paragraph on the page.

DR. WALTHER: Okay.

MS. SODERBECK: Where it starts: Responses to CAPE data requests?

DR. WALTHER: Go ahead.

MS. SODERBECK: The third bullet there, are you -- if I'm reading this correctly you're agreeing that various combinations of the stack height, exit velocity and exit temperature will lead to varying groundlevel ambient concentrations, depending what combination of those factors you choose?

DR. WALTHER: Go ahead, they -- definitely each of the combinations that are possible will lead to slightly different numbers, right.

MS. SODERBECK: Okay, I just wanted to confirm that I was understanding that you were agreeing that that was the case, that you can vary these factors and you will get different groundlevel concentrations.

DR. WALTHER: That is correct.

MS. SODERBECK: Okay. I think we're finally done with these witnesses.

MR. RUBENSTEIN: I have the answer to Ms. Soderbeck's question.

MS. SODERBECK: Without taking a break.

MR. RUBENSTEIN: Without taking a break. The answer is is that neither of those sources is what was used.

If you refer to exhibit 5 which is a letter dated November 1, 2000, from Sierra Research to the Air Pollution Control District, on the second page it discusses the acrolein emission factor, and indicates that it comes from the California Air Resources Board CATEF database, CATEF, C-A-T-E-F, stands for California Air Toxics Emission Factors. And that's where that emission factor came from.

MS. SODERBECK: Thank you.

HEARING OFFICER FAY: Mr. Harris, any redirect?

MR. HARRIS: None.

HEARING OFFICER FAY: All right, at this time we're going to take a ten-minute break.

(Brief recess.)

HEARING OFFICER FAY: We've concluded with the presentation of the applicant's evidence on air quality and public health. And the cross-examination by all parties of their panel.

And now we'll move to the Energy Commission Staff for their presentation on air quality and public health. Ms. Holmes.

MS. HOLMES: Thank you. We have three staff witnesses and two witnesses from the

District. They all need to be sworn.

HEARING OFFICER FAY: Will all the witnesses please stand and be sworn.

Whereupon,

MICHAEL RINGER, MAGDY BADR, OBED ODOEMELAM, GARY WILLEY, and STEPHEN ZIEMER

were called as witnesses herein, and after first having been duly sworn, were examined and testified as follows:

MS. HOLMES: Thank you. I'll take this one-by-one, I think, starting with the staff witnesses.

DIRECT EXAMINATION

BY MS. HOLMES:

Q Mr. Badr, did you prepare the air quality testimony in exhibit 115?

MR. BADR: Yes, I did.

MS. HOLMES: And the errata in air quality that's contained in exhibit 116?

MR. BADR: Yes.

MS. HOLMES: And was a statement of your qualifications included in exhibit 115?

MR. BADR: Yes.

MS. HOLMES: And Dr. Odoemelam, did you

prepare the public health testimony that is contained in exhibit 115?

DR. ODOEMELAM: Yes, I did.

MS. HOLMES: And is a statement of your qualifications included in exhibit 115?

DR. ODOEMELAM: Yes, it is.

MS. HOLMES: And I'll ask the two of you this together. Are the facts contained in those testimonies true and correct to the best of your knowledge?

DR. ODOEMELAM: Yes, they are.

MR. BADR: Yes, they are.

MS. HOLMES: And do the opinions contained in that testimony reflect your best professional judgment?

DR. ODOEMELAM: Yes, they are.

MR. BADR: Yes.

MS. HOLMES: And staff also has Mr. Mike Ringer testifying here. I'd like him -- or available to testify. I'd like him to state what his qualifications and his responsibilities at the Energy Commission are.

MR. RINGER: I currently supervise the air quality and public health unit. I've been in the Siting Division, participating in siting

activities since 1987, in the area of waste management and public health. I've been at the Energy Commission since 1977.

MS. HOLMES: Thank you. Turning to the District, Mr. Willey, are you responsible for preparation of the final determination of compliance?

MR. WILLEY: Yes, I am.

MS. HOLMES: And could you please briefly state what your qualifications and your responsibilities at the District are?

MR. WILLEY: I have a bachelors in science degree from CalPoly, mechanical engineering, in 1988. I've been an air quality engineer or practicing air quality engineering for 13 and a half years. The last 11 and a half have been with the District.

I'm responsible for permitting new projects. And in this case I am the lead for the Duke Energy determination of compliance.

MS. HOLMES: Thank you. Next is Mr. Steve Ziemer, who performed some of the modeling on behalf of the District.

Mr. Ziemer, could you please identify for the record what your qualifications are and

what your responsibilities were with respect to work on this project?

MR. ZIEMER: I'm an air quality specialist with SAIC. I have a master of science degree in environmental engineering. And SAIC was essentially hired by the District to review all of the air quality analysis submitted by Duke.

In particular they wanted me to look at the modeling, all of the modeling that was done by Duke and verify that modeling.

MS. HOLMES: And did you conduct your own modeling as part of that analysis?

MR. ZIEMER: Yes, I did. I independently ran the same types of models using our own inputs and verified the results that Duke had obtained.

MS. HOLMES: Thank you. Mr. Hearing Officer, there's been a good deal of discussion about some modeling results that are contained in CAPE's testimony in attachment A. They're part of the effects of particulate air pollution on children study.

I think it might be appropriate to identify that testimony as an exhibit so that we can reference the SAIC modeling results that are

included.

Specifically I'm referring to three documents, or three pages. The first is --

HEARING OFFICER FAY: Before you go into that, did you mean to identify as separate exhibits those attachments?

MS. HOLMES: That's up to CAPE. I just need some sort of an identification so that we can refer to three pages that are within their testimony that were prepared, in fact, by SAIC, in which Mr. Ziemer is prepared today to testify about.

MS. CHURNEY: I think it's already been marked as exhibit 139, so it would be part of that.

MS. HOLMES: Thank you. And just for informational purposes, what we're going to be looking at or referring to at the end of the children's report is a table that's entitled, maximum impact concentrations in ambient air quality standards.

And on the following two pages are, I guess you'd call them charts or diagrams. One is entitled, existing facility and proposed facility PM10 24-hour impacts. And the other is

identified, existing facility and proposed facility PM10 annual impacts.

Just so that everybody knows what we're talking about today.

I'd like to start with the District. Mr. Willey, could you please summarize the process and the conclusions that you reached in the DOC?

MR. WILLEY: Yes, Gary Willey with the Air District. First part of the process that we do is we review it for adequacy at the initial phase of the project, and we did review that and ask for a number of clarifications of additional information.

We then review for the control technology requirements to insure that they're meeting their best available control requirement levels.

We review the emission levels and calculations to insure that they're representative of what the project is proposed. We then review the ground level air quality modeling impacts, and in this case we additionally hired SAIC to also review that for us.

We insure that the offset requirements that are required for regional pollution effects

were met. We looked at the toxic emission impacts and the control requirements for those.

We then drafted a preliminary determination of compliance based upon our review. This was publicly noticed. We received comments from the federal EPA, the California Energy Commission, the public, staff and the applicant.

And from this process we issued the final determination of compliance. And with the proposed conditions that we issued that final determination of compliance it resulted in best available control technology which are lower than the state-recommended levels for NOx and carbon monoxide, and are equivalent or lower for the other pollutants.

We found the offsets to be real, permanent, enforceable in surplus, and sufficient to meet the requirements of the law. We found that the plant will not contribute to violations of the air quality standards. And we found that the plant will meet all state, local and federal regulations that are delegated to the Air District.

MS. HOLMES: Thank you. Earlier this morning there was a discussion about some proposed

PM10 standards and proposed PM2.5 standards. Are you familiar with those?

MR. WILLEY: Yes.

MS. HOLMES: Can you very briefly explain what they are, what the standards are?

MR. WILLEY: I probably wouldn't be the best person to do that one. From what my understanding is there's going to be a new annual level of 20 mcg/cu meter for PM2.5.

MS. HOLMES: Is there also going to be a 24-hour PM10 standard -- PM2.5 -- I'm sorry --

MR. WILLEY: I'm not aware of a 24-hour PM2.5 standard. A PM10 standard I'm aware of. Okay, yes, they do have one. These are proposed standards -- well, actually Magdy is showing me the federal air quality standards which have not been put into effect yet, as well. I thought we were talking about the state standards, but, yes, I've seen these standards, as well.

MS. HOLMES: Is it your opinion if those standards were to be in effect, that this area would likely to be in attainment for those standards?

MR. WILLEY: Yes, it is.

MS. HOLMES: I'd like to turn to a

discussion of some of the actual PM10 levels that have been measured in the area. It's my understanding that there has been one violation in the past several years. That was in 1977, is that correct?

MR. WILLEY: It's not '77 --

MS. HOLMES: '97, excuse me.

MR. WILLEY: The exact number of violations I'd have to look up. I think that's the only one that has occurred. That was an outlier, pretty much a regional effect that we had elevated levels throughout the whole County.

MS. HOLMES: So the time that there was a violation in 1997 in Morro Bay there were similarly violations in other parts of the Air District?

MR. WILLEY: Yes.

MS. HOLMES: And is that a trend that you would typically expect to see, that is that when PM10 levels are elevated in this area, they are similarly elevated in other areas of the County?

MR. WILLEY: Yes, and that's substantiated by the data we've collected, that when Morro Bay has an air quality problem the rest

of the area does, too. Morro Bay exhibits the cleanest air quality of any of the monitoring stations that we have.

MS. HOLMES: And is there a general trend that the District has identified with respect to PM10 levels? Is there a trend that's going downwards or upwards?

MR. WILLEY: Yeah, it's a general trend downwards.

MS. HOLMES: Thank you.

MR. WILLEY: -- standard.

MS. HOLMES: Thank you. There was a discussion about, I believe it was last night, about the ability of monitoring to pick up certain types of changes. Based on the information that you've seen in this case, is it your opinion that when the old plant ceases operation and the new plant begins to operate, that that change would be something that would be detectable by monitoring?

MR. WILLEY: No. From the indications of the levels that we're expected to see, and the background levels that we have, we're not going to be able to tell the difference if the turn on the plant or turn it off. At least we're not going to be able to measure it, you know, there's not going

to be an indication of whether the plant's running.

MS. HOLMES: Thank you. Finally, I have a question for you about the Energy Commission's proposed condition of certification AQC-3, are you familiar with that condition?

MR. WILLEY: Yes, I am.

MS. HOLMES: And do you support that condition?

MR. WILLEY: Yes, we support that condition. There are a lot of factors involved in construction that aren't -- they're more variable. Equipment can be different; people can operate it differently. And we would fully support having a mobile, being able to mobile, move it around.

In addition, we feel that we can use that to move around other parts of the City after construction has occurred. And that way we would also take care of our other condition as well, for offsite monitoring.

MS. HOLMES: So you have two conditions, or there are two conditions with respect to monitoring. One is for operational purposes and one is for construction purposes?

MR. WILLEY: Correct.

MS. HOLMES: And now you're talking about perhaps using the same monitor to meet AQC-3 that would be used to meet the condition that requires operational monitoring?

MR. WILLEY: Yes.

MS. HOLMES: Now, I'd like to turn a little bit to Mr. Ziemer and the modeling. There was some discussion last night which you had the bad fortune or good fortune, depending upon how you look at it, to miss.

But I'd like you to briefly discuss the modeling that you performed with respect to this project, with the particular emphasis on the types of conservative factors that are incorporated into the modeling.

MR. ZIEMER: Okay, well, what we did as part of our modeling analysis, was to look at all of the variables that go into the modeling process, to verify what Duke had used, and to independently verify those inputs, the input data to the model, how they selected exactly how the model would be run. There's various options that can be turned on or off.

Did they, in fact, use the options that were in compliance with the regulatory guidelines.

The general selection of the methodology that they used; how they placed their receptors. Was the receptor field adequate; did the receptor field actually capture the maximum impact point. What met data did they use; and how they set up their sources for the actual modeling runs.

We took into account all those factors and then built our own model runs, and independently ran the model. And what we did find was that our results compared almost exactly with what Duke had shown in their application.

There was some slight variations just because of slight difference here and there in what we assumed and they assumed, but nothing significant.

Now, I do want to talk about some of the conservativeness that went into the modeling and how the model works. And there's a number of areas, the first being the actual selection of the emission rates that get modeled.

What we did was we were modeling not only the existing facility, but we were modeling the proposed facility, as well.

The emissions for the existing facility were selected based on actual historical fuel use

results. So what that means in terms of annual emissions is that you have actual conditions for a full year at a time. There was actually an average over a two- to three-year period that was selected to give actual emissions from the existing facility.

In comparison, when you look at emissions for the proposed facility, since it hasn't operated yet, what you do is you look at what's the very max that it could possibly generate. You look at the permit conditions, what's the maximum that it's allowed to operate in terms of hours and load and emissions. And that's what gets modeled for the existing facility.

So that right away you have a big difference in how the emissions are looked at between the two runs.

For the existing facility, using actual data, if you really wanted to compare exactly to what we did with the proposed facility you would really use what's the maximum that this facility could operate under its permit conditions. And those emissions would undoubtedly be a lot higher than what we looked at.

Similarly or conversely for the proposed

facility, if you took a snapshot sometime in the future and looked back at the fuel use records for the new facility, I'm sure you would find that we've used emissions that are much higher than the averages that you'll see in the future.

So that's one area of conservativeness in looking at how the proposed facility is modeled.

Another area is in terms of the conditions that we looked at for the new facility, how it's being operated. We considered not only full load, 100 percent operation of the units, but we look at conditions like startup that can generate higher NOx, CO or VOC emissions. And then duct burning. That's potential, so we add that on.

In summary, the conditions for the annual were based, for the existing facility, were based on historical use. For the proposed, it looked at 100 hours of startup, 4000 hours with the duct burners on, and 4000 hours without the duct burners. That's a total of 8400 hours operation during the year. There's actually 8760 hours during a year, but there's obviously going to be some downtime associated with the units.

For short term, for the existing facility, again it was based on maximum hourly fuel use rates. For the proposed facility it was based on maximum firing rates for the one-hour case, and a maximum expected daily fuel consumption for the 24-hour case.

The hourly emission rates for the proposed facility assumed that two of the turbines would be in the startup mode and two of the turbines would be operating at full load with the duct firing.

For the daily emission rates, the assumption for NOx, CO and VOC was that there would be 16 hours at full load with duct firing; four hours in the startup mode; and four hours at full load without the duct firing.

Startup doesn't really affect SO2 and PM10, so for those two pollutants the assumption was that there would be 16 hours with the duct firing and eight hours without.

My understanding is that these are the worst case conditions that can be expected at the facility.

What we saw is that even under the worst case conditions the proposed facility, the

modeling short-term emissions from the existing facility would actually be higher in every case.

(Pause.)

MR. ZIEMER: What I want to get at is that for annual emissions for the existing facility are higher than for the proposed facility in almost every case. The emissions of PM10 are higher for the new facility as well as SO2 would be slightly higher.

And for the short-term emission conditions, the proposed facility emissions would be lower in every case than what is presently occurring from the existing facility.

Another area of conservativeness in the model relates to the use of a full year of met data. I'll confine my remarks to the short-term PM case, because that's the only place that we saw any kind of violation of the standard.

The 24-hour PM10 impact, when added to that high background concentration that Gary referred to, did show an exceedance of the standard. But the exceedance was caused by background, alone. And that background concentration was a single day that was greater than 50, that's the only occurrence in five years

of monitoring. And it did occur in 1997.

The meteorological data, the way it's put into the model is that there's 8760 hours of met conditions, including things like the wind speed, wind direction, the temperature and a measure of the stability of the atmosphere. Each of those is represented for each of those 8760 hours in the year.

The model is then run, and if we're looking at like a one-hour average, you then have 8760 results for every single receptor that you look at. But not only did we use just one year of met data, but three years were used. So you actually have for every single receptor over 26,000 results.

And from those 26,000 results the absolute highest value is picked as your maximum impact.

Similarly with the 24-hour case, you have 365 different 24-hour periods in a year; and with three years of data you have over 1000 different results for every receptor from which the highest value is selected.

So not only are you using worst case conditions as input to the model, but then you're

then combining it with all of these various met conditions so that you ultimately end up selecting a combination that is both the worst case meteorology data and the worst case emissions data. You compound the over-prediction in that way compared to what is generally going to be reality.

Another factor, when you look at PM10 emission concentrations predicted by the model is that there's some conservativeness inherent in the model, itself, in that the model doesn't allow for any deposition. That is particles that would fall out as the plume disperses downwind.

The model conservatively assumes that all of the particles are carried along at every point that you look at. And that's just a fact that's true about models in general. They're designed to be conservative. They're designed to over-predict.

The ISC-ST model that was used in this case, in particular, has been the subject of a number of studies, what they call validation studies, to see how the results of the model compared to actual measured conditions.

Gary referred to a study that was done

in Hawaii where he saw factors greater than 5 over-prediction. I've seen a variety of results from studies like this for the ISC model. Some of the results show that there's under-prediction at times, but by far the vast majority of the results show that the model does over predict, sometimes by very high factors. The general consensus is, though, that the model over predicts by at least a factor of 2.

So what that means is that with this combination of factors, the emission rates, the met conditions, the model, itself, and then the values selected being the very highest value at every receptor in your whole grid over numerous meteorological data points, it means that this value that you're looking at is no doubt going to be much higher than you're likely to see in reality.

MS. HOLMES: Would it be fair, then, to conclude that the modeling that was done does not reflect what the likely impact of the project on the Morro Bay community would be?

MR. ZIEMER: Yes. The modeling that's done is meant to be conservative, meant for permitting purposes, and not really meant to

reflect what you will see.

MS. HOLMES: Just one other question with respect to the modeling that you did for the existing facility. Is it correct that you looked at historical data, but then in addition to that you incorporated into the model NOx emission reductions that would be required at some point in the future?

MR. ZIEMER: Yes, for the NOx modeling, historical data was looked at to get a base emission rate for NOx emissions. But then knowing that there's upcoming regulation that will reduce the amount of NOx allowed from this facility, that reduction is a result of what they call BARCT, best available retrofit control technology, was applied before we did the modeling.

MS. HOLMES: And, Mr. Willey, could I ask you just a couple of questions about the baseline that Mr. Ziemer referred to?

MR. WILLEY: Can I say no?

(Laughter.)

MS. HOLMES: You can, but it wouldn't be a good idea.

You're generally familiar with the generation patterns here at Morro Bay, how much

the plant operates?

MR. WILLEY: Correct.

MS. HOLMES: And I believe you heard testimony that a baseline was used, I think it was 1998, 1999 and part of the year 2000, is that your understanding?

MR. WILLEY: That's correct.

MS. HOLMES: And do you have an opinion about what that baseline would be if all of 2000 and 2001 were included?

MR. WILLEY: If you just use all of 2000 and 2001 as a baseline, the numbers would be higher, substantially higher.

MS. HOLMES: And could you go back and look at the history of the plant and come up with baselines vary quite dramatically based on which three-year period you selected?

MR. WILLEY: Very much so. It can be dramatic if you go back into the '80s and areas where we burned fuel oil and were at high capacity rates.

MS. HOLMES: Thank you. I'd like to turn to the staff, and I think I'll direct my questions to Mr Ringer, since they're sort of broad overview questions. And if he needs to turn

to Dr. Odoemelam or Mr. Badr, he can do so.

First of all, Mr. Ringer, you're familiar with the fact that this proposed facility has a design life of 30 years. Would it change the staff's conclusions about the severity or the significance of impacts or the sufficiency of mitigation were the project to operate in excess of 30 years?

MR. RINGER: No, the conclusions would remain the same.

MS. HOLMES: Thank you. Staff concluded that there was a potential for an air quality and public health impact, and this is prior to the imposition of mitigation, is that correct?

MR. RINGER: That's correct.

MS. HOLMES: And when staff reviewed the modeling results did they conclude that the modeled impacts indicated the impact was, in fact, likely or unlikely?

MR. RINGER: We concluded that impacts were possible, although not likely. The reason that we required mitigation was due to the aforementioned violation in 1997 of the 24-hour PM standards. And although that was only one measure day violation in several years worth of data, our

position is that it would have some possibility of resulting in adverse health effects, although the actual occurrence would not be likely.

MS. HOLMES: Can you explain in a little bit more detail as to why you concluded that the modeled impacts are not likely to represent significant health impacts?

MR. RINGER: There's a number of different reasons. First of all, and we've just heard a discussion about the conservatism of the model, is that we don't expect such levels to actually occur during normal operation of the plant. Those are worst cases, modeled worst cases that we don't expect to see at all.

So that is very conservative, and strictly to bound a worst case, to provide an upper bound just so that we can see what that might be.

Secondly, even if the modeled numbers were to occur, we don't believe that they would be significant because of the existing clean air in Morro Bay and the review that's currently under way to look at proposed new state standards for particulate matter.

As I mentioned, the violation has only

been one measure day in the last several years, so the normal air quality in Morro Bay is well below the state standards on both an annual and a 24-hour basis.

There's now an effort underway at the state level from the California Air Resources Board and the Office of Environmental Health Hazard Assessment, to look at the particulate matter standards and see whether they need to be revised or not.

The report that has come out, the proposed standards would not change for the PM10 on a 24-hour basis; those would remain at 50 mcg. The annual standards would decrease from 30 to 20 mcg and there would be a new PM2.5 annual standard imposed.

Those studies that form the basis for the proposals include most of the studies, if not all of the studies that have been discussed, and that form the basis of CAPE's testimony.

The levels that we see, even the modeled levels, from the proposed operation of the new facility are very low. They're such that we consider them to be insignificant. Whether or not the modeled results would be an increase over the

modeled results of the operation of the existing facility, you have one insignificant number compared to another insignificant number, albeit one may be higher than the other.

There's a number of reasons why we don't think they would result in adverse health impacts. The first being that with the clean air in Morro Bay, Morro Bay would be within the proposed standards, if they were proposed at the levels that are being discussed now. And that is at the new 20 mcg on an annual basis for PM10.

At those low levels we don't expect that any health impacts, any significant health impacts would occur if just a very small addition were made, such that they would still be below the proposed standards.

For another reason we are requiring these emissions to be offset, so that's another reason that they wouldn't result in any health impacts. The emission reduction credits that have been provided or that would be provided would offset the emissions from the plant.

And finally, the emission reduction credits are coming from the same facility at the same location. From staff's viewpoint, that's the

most beneficial, is to have as close a correlation as possible in geographic location between the proposed offsets and the source of the new emissions.

MS. HOLMES: I'd like to go back for a moment to the proposed standards. You talked about reviewing a report that discussed those. Do you know whether or not those proposed standards include a margin of safety?

MR. RINGER: Yes. By state law the criteria of pollutant standards are to provide a margin of safety such that almost everybody in the population is covered. The only exception would be people who are very very sensitive individuals, even moreso than people who are already sick or the young or the elderly.

The standards are meant to protect people with preexisting, for instance, heart disease, lung disease, chronic diseases, things like that, such that if you were actually at the standard, there would still be a margin of safety for the general population.

MS. HOLMES: With respect to the studies that you referred to, do you know whether or not they address the correlation between PM10 exposure

and health impacts when the ambient levels of PM10 were lowered?

MR. RINGER: In general, the study that was relied on, there was two studies that were relied on most by the ARB and OEHHA, and one of them is known is the sick-city study. And they based their new standards primarily on mortality effects.

They believe that if you protect against mortality you're also protecting against illness. Because they didn't see any clear correlation between levels at which either mortality or morbidity occurred.

So they are taking the most extreme health effect, the one that would protect against all others. That being mortality.

The findings are, although within the range of the results that they looked at they could not determine a clear threshold. There was the association that became stronger at the higher levels. In other words, the higher the levels of ambient air the more health effects they tended to see and the stronger the association.

When you go down to the cities that happen to be the cleanest cities in the study,

those data points included what they called a no-value, which includes the -- that means the confidence interval includes that there would be no effects.

Although they didn't find effects, the uncertainty was including the data points that there may not be any health effects at those levels, were below the averages of the studies.

As an example, the two cleanest cities, Topeka, Kansas and Portage, Wisconsin, there was a difference of approximately 8 mcg/cu meter in the ambient air between those two cities. But there was no clear difference in mortality effects on a long-term basis.

That's not to say that there is no difference at all, but there is no clear statistical difference.

The air in Morro Bay, as we've heard, would be within the new standards of 20 mcg on an annual basis. Therefore, since that is the low end of these studies, we feel that adding the very small increment to a number that is below 20 would not result in any significant health effects; and, indeed, would not result in any increase in morbidity or mortality.

MS. HOLMES: Thank you. A few moments ago you referenced the fact that staff and the District both are recommending that mitigation in the form of emission reduction credits be provided.

Does staff have a preference for the type of mitigation that is typically provided for PM10 emissions?

MR. RINGER: We have two preferences. The first is that since particulate matter from combustion processes tend to be PM2.5 and smaller, even PM1, is that we prefer combustion processes to be the ERCs. We prefer that over something, for example, such as road paving, which does provide a range of particulate sizes, but skewed towards the larger end.

So the ERCs that are provided in this case are combustion-based, and therefore they would be matching the size range of the proposed facility.

Secondly, we prefer the offsets to be close in the sense that there can be a clear nexus between the effects of the proposed emissions and the effects of the emissions that would be reduced.

In other words, from an Air District standpoint, frequently since an air district's concern is their entire area, it may not be such that a district would disapprove of an emission reduction credit that may be within the district, but somewhat far afield from the proposed source.

In this case, we have credits that are on the same facility pretty much. So, from staff's viewpoint, that's preferable.

MS. HOLMES: So in other words if this project had come in with a proposal to obtain as offsets from somewhere else within the District that was downwind, staff's recommendation would have been, in fact, to provide the type of local offsets that are currently being proposed?

MR. RINGER: That's correct.

MS. HOLMES: Given that there are local offsets being provided, does staff believe that it's appropriate to model the reductions that are created by the emission reduction credits, and then superimpose those over the increases that would be created by the project to determine some sort of net effect?

MR. RINGER: Staff doesn't think that such modeling would be appropriate for a number of

reasons. As we have heard, the modeling for the new facility is quite conservative, and the modeling for the existing facility took into account historical fuel use. That's just one of he differences.

When we look to the location of offsets we try to make sure that there is some easily discernible nexus between what's offered and what's going to be emitted.

As you mentioned we wouldn't want to see anything downwind. We can do very very specific locational analyses because of the fact that the modeling that's done is always at a particular point in time, and it's always under certain met conditions. So it's fairly arbitrary as to what years are chosen and the conditions that the model is run. Again, those are meant to be conservative.

You can't ever have, because of the vagaries of met conditions always changing, geographical, topographical considerations, you'll never have a one-to-one correspondence between any two sources. The only time you'll get that is if you literally had an identical source being offered up for emission reduction credits for an

identical source that would be proposed. That's not going to happen ever under any circumstances.

Even in this case where you have a difference in stack heights there may be some slight difference, and that shows up in modeling.

But, the entire concept of ERCs is such that over time the air in the basin gets better within a district or within an air basin, gets better over time because as you put new emissions into the area you're taking out emissions at the same time.

And to the extent that there will never be an overlap, if you require there to be an exact match, you'll never get anything permitted, because the current system just isn't designed for that, nor could it actually be done with any degree of consistency.

MS. HOLMES: So if the Energy Commission had a policy that required the profile the emission reductions to match exactly the profile of the emissions created by a proposed project what would the effect of that been on any of the projects that the Commission has reviewed during the past 20 years?

MR. RINGER: Well, not only would you

not be able to license any power plants, I don't believe you'd be able to license anything at all.

The one other thing that I should mention, too, is not only is there not an overlap in the impacts, there's also not an overlap in the benefits.

So if you take a look at particular data points and you see where the new facility may be higher or lower than the old facility, under certain conditions, either could occur -- data point where the old facility had higher modeled impacts than the new facility, under certain conditions.

So, if you just look at those data points where there was differences, where the new facility shows higher impacts, you're ignoring the benefits that occur from shutting down a source that may provide benefits at different areas.

So, what you really want to do is to make sure that on an average basis over time that you have a match, as close a match as you can get, on a qualitative basis.

MS. HOLMES: Thank you. I have one question for Dr. Odoemelam. Were you in the room last night when Dr. Walther testified about the

portion of exhibit 139, which is CAPE's testimony, on - it was an analysis conducted by Mr. Hartman entitled, Morro Bay annual lifetime mortality risks from model concentration increases in ambient PM2.5?

DR. ODOEMELAM: Yes, I was here.

MS. HOLMES: And do you agree with the statement that it's inappropriate to use epidemiological studies to attempt to derive project-specific impacts?

DR. ODOEMELAM: Yes, I do.

MS. HOLMES: Okay, thank you. I'd like to move the exhibits, which I believe is the air quality and public health portions of exhibit 115 in the errata and 116, into evidence at this time. And make the witnesses available for cross-examination.

HEARING OFFICER FAY: And that includes the final DOC that appears in appendix A to the exhibit --

MS. HOLMES: The final DOC is included in exhibit 115.

HEARING OFFICER FAY: Okay. Is there objection? Hearing none, so moved.

The witnesses are now available for

cross-examination. Because the panel is so large, I'd ask that the witnesses please just briefly state their name before they start answering for the assistance of the court reporter.

Mr. Harris.

MR. HARRIS: Yes, actually just one question, or one series of questions for Mr. Willey, if we could.

CROSS-EXAMINATION

BY MR. HARRIS:

Q I want to go back to the discussion of AQC-3, and the monitoring for construction. I think the discussion, and I'm just really seeking a clarification here, in satisfying that condition, looking at paragraph 1, would you support a change that would be something to the effect that the monitoring station shall be a mobile monitoring station, which will be one of the permanent monitoring stations required by AQ-7?

It's a long question, do you want me to break it down?

MR. WILLEY: Yes, yes.

MR. HARRIS: Okay, AQ-7 is the condition that requires monitoring of the operation of the

facility, is that correct?

MR. WILLEY: Yes, it is.

MR. HARRIS: Okay, and I think the concept we were driving at here, because the question is would you support in satisfying AQC-3, would you support the use of a mobile monitor to satisfy that condition? That mobile monitor being one of the two permanent required by AQ-7?

MR. WILLEY: Yes, I would. We would support that. We discussed that previous to this.

MR. HARRIS: Sorry it took me so long to get there, but just wanted that clarification.

No further questions, thank you. I appreciate the other witnesses being available.

HEARING OFFICER FAY: Thank you, Mr. Harris. Does the City have any?

MR. SCHULTZ: Yes, we just have one question.

CROSS-EXAMINATION

BY MR. SCHULTZ:

Q It's along the same line as the testimony question we had yesterday for Duke's experts. Throughout the conditions of certification there are various plans that are listed, reports and tests that need to be

performed.

And the question is do you have any issue, have any problems with the City reviewing those reports, plans and tests, either for informational purposes or for review and comment?

MR. BADR: I don't have any objection to that.

MR. SCHULTZ: No further questions.

HEARING OFFICER FAY: All right. Coastal Alliance?

MS. CHURNEY: Yes.

CROSS-EXAMINATION

BY MS. CHURNEY:

Q Mr. Ringer, did staff look at any mitigation measures other than emission reduction credits?

MR. RINGER: I think I didn't look at those personally, so possible Mr. Badr can address that.

MR. BADR: No, we have not. We prefer the ERCs over any other mitigation measures like paving roads or any other measures, because they illustrate exactly what the power plant would produce, and the products coming out from that power plant compared to what it was in the ERCs,

so there's almost a match between the quality of the emissions and the quality of the ERCs.

MS. CHURNEY: Staff separately analyzed the construction impacts from the ongoing operations, the air impacts, is that correct?

MR. BADR: Yes.

MS. CHURNEY: And as to the construction impacts did staff require Duke to remodel those impacts from what was originally proposed in the AFC?

MR. BADR: Yes, we required them to remodel them again.

MS. CHURNEY: And what did those remodeled results show?

MR. BADR: They show a significant reduction in NOx basically. That's the most one can, I remember exactly. I believe the original modeling was very close to the standard. After that it came down to 61 percent.

MS. CHURNEY: Are you confident there will be no significant adverse PM impacts beyond the borders of the plant site from construction, given the conditions that you're proposing?

MR. BADR: I'm not certain, that's why the conditions are there to guarantee that this is

what will happen. And condition AQC-3, we're really monitor that, that's the requirement, that's the reason for the requirement to monitor the activities. And if there is any additional mitigation needed, definitely it should be provided to the District.

MS. CHURNEY: Well, as currently provided, is staff requiring the use of all feasible mitigation devices such as soot filters for diesel engines used in auguring, for example?

MR. BADR: I believe that's in condition AQC-1 and 2. Yes.

MS. CHURNEY: And are there any other mitigation devices that will be included?

MR. BADR: Well, as the conditions AQC-1 and 2 will state that during, for example, the ideal for the engines running or the earth equipment engines, that they shouldn't be for over certain amount of time, and should be shut down. The maintenance of this equipment.

Also, the watering of the disturbed area to control dust. These are basically typical construction conditions we require.

MS. CHURNEY: And we have heard that the staff performed its own modeling. And I don't

know whether this question is more appropriately directed to Mr. Ziemer, but did the modeling take into account the diesel engines may be running from 7:00 a.m. to 7:00 p.m. for auguring during construction, for example?

MS. HOLMES: I'd like a clarification of which modeling results CAPE counsel is referring to so that we can look at it.

MS. CHURNEY: The construction modeling.

MS. HOLMES: Are you talking about the construction modeling that's in the FSA or some other construction modeling?

MS. CHURNEY: Yes. The FSA.

MR. BADR: We assumed that they are running roughly eight hours a day of operation.

MS. CHURNEY: And that's different -- I mean that's not from 7:00 a.m. to 7:00 p.m., then?

MR. BADR: I don't believe so.

MS. CHURNEY: And did staff do any independent analysis of emissions rates from the particular turbines beyond the information supplied by the applicant?

MR. BADR: The applicant has submit to us a copy electronically, an electronic copy for the files, all the runs, all the modeling

scenarios they have performed.

We did review the assumptions they used, and the switches, the model switches implemented. And we agreed with them. And the mechanics of the model is the same. That mean if I would use the same switches, same assumptions you would come up with the same results basically. And that's what happened when SAIC had done the analysis, or Steve has done the analysis.

MS. CHURNEY: Did you contact, for example, the vendors with respect to their specifications or guarantees for the emissions?

MR. BADR: Who are you referring to?

MS. CHURNEY: The vendors for the turbines.

MR. BADR: No, I did not. But we have done similar analysis to that on similar turbines on different projects.

MS. CHURNEY: Did you look at source tests performed elsewhere on those, the particular turbines that are going to be used in this project?

MR. BADR: Yes. And we looked at them and similar turbines on similar projects, as well.

MS. CHURNEY: Did staff perform any

modeling assessing the differences in emissions that might occur with different stack heights?

MR. BADR: No, we did not.

MS. CHURNEY: Have you taken into account whether PM emissions will be cleanest when the turbines are new, and whether they deteriorate as the turbines operate over time?

MR. BADR: The assumptions here is that the turbine will be maintained for the lifetime of the turbine, itself. The applicant is responsible for meeting the emission factors that were spelled out in the conditions of certification, and they have to be maintained at all times.

There would be a source test to verify these emissions factors and these levels on a regular basis. So we have no reason to believe that in the year 26 would be different than year 1 in the operation, with these emissions of the project become on commissionally operated -- commercially operated.

MS. CHURNEY: Does it make any difference to staff under CEQA that the modeled PM emissions from the new plant would cause a new violation of a state standard or that it merely contributes to an existing exceedance of the

standard?

MR. BADR: Well, obviously the project contribute to existing violations of the standard, and is that 56 level with the background 57 mcg/cu meter happens in 1997. And there was one occurrence over the last seven years. So there is an additional 24 mcg/cu meter will come from the operation of this power plant. So that's adding to existing violation, and that's why ERCs were required.

MS. CHURNEY: Well, for example, would staff require anything different for mitigation if the new emissions caused a violation rather than simply contributed, if that 57 had never happened?

MR. BADR: Can you repeat the question again?

MS. CHURNEY: Sure. Would staff require anything different for mitigation for new emissions caused -- if the new emissions caused a violation, rather than contributed to one, if that, you know, just taking as an example, if that 57 had never occurred?

MR. BADR: Yes, we'll ask ERCs to be provided to mitigate the impact.

MS. CHURNEY: And just to clarify, that

exceedance that we're referring to, actually the measuring device here in Morro Bay only measures once every six days, is that correct?

MR. BADR: That's the procedure for measuring PM10 at the monitoring station, that's correct.

MS. CHURNEY: So it's possible that that exceedance, rather than being one day, could have been six days?

MS. HOLMES: I'm going to object, that calls for speculation.

PRESIDING MEMBER MOORE: Well, I'm going to overrule your objection. It's noted, but, Mr. Badr, if you can answer the question, please do, with an explanation if that's necessary.

MR. BADR: It may or may not, it depends on the circumstances that happens. A reasonable person -- if I look at table 3, air quality table 3 on page 3.1-8, and if you look at the pattern, you have from 1993 to 2000, and you will see that in Morro Bay, that's the one you are concerned with, the highest 24 hours measurements and the number of days above that standard, or above the standard of 50, it happens only once in '97, and twice in 1993. And this is the highest

observation.

You might be correct it could happen within that six days that there's no measurements, or it might not happen. But given the historical that we have before us, I have no reason to believe that there would be six days.

MS. CHURNEY: And while you have the FSA there in front of you, if you could turn to page 3.1-15.

MR. BADR: Yes.

MS. CHURNEY: And specifically the last paragraph under operational impacts. And it states that staff considers PM10 impacts to be significant if left unmitigated. Do you see that?

MR. BADR: Yes.

MS. CHURNEY: I just want to confirm with you that what you are proposing here is regional mitigation, is that correct?

MS. HOLMES: Regional --

MR. BADR: Yes.

MS. CHURNEY: Regional, would you like me to define it?

MS. HOLMES: Yeah, I would --

(Parties speaking simultaneously.)

MS. CHURNEY: I think he understood it,

I think he understood it. Regional meaning in a larger regional area, Countywide, perhaps, as opposed to within local concentrations or locally within the City of Morro Bay.

MR. BADR: Yes, that's correct.

MS. CHURNEY: And moving on to page 3.1-17 of the FSA, table 7B, that compares the modeled maximum concentrations for the existing plant and the new plant, is that correct?

MR. BADR: Yes.

MS. CHURNEY: And could you also set that next to the revised table 7B that was included in Ms. Soderbeck's declaration if you have that there, on page 6. And that's part of exhibit 139.

MR. BADR: I don't have it right now, so give me one minute.

I see the testimony.

MS. CHURNEY: And do you agree that the numbers included in the FSA were taken from the AFC prior to correction of the existing stack heights to 450 feet?

MR. BADR: In my testimony, or in the FSA, based on 145 feet, that's the new facility. And the old facility, as existed.

MS. CHURNEY: Do you have an understanding that the old facility modeling was done at an incorrect height to begin with, and that that was later corrected?

MR. BADR: Yes.

MS. CHURNEY: So that what is shown on table 7B of the FSA on page 3.1-17 was using the incorrect stack height, is that correct?

MR. BADR: I believe that was using the 450 feet height.

MS. CHURNEY: On the FSA page 3.1-18 staff discusses secondary PM10 impacts.

MR. BADR: Yes.

MS. CHURNEY: And indicates its concerns that the project's ammonia emissions have a potential to contribute to the ammonia nitrate particulates downwind from the project, is that correct?

MR. BADR: Yes.

MS. CHURNEY: And staff further notes that in the same paragraph that under the APCD rules Duke must provide offsets for the net increases in SO emissions, is that correct?

MR. BADR: Yes.

MS. CHURNEY: Are any such offsets being

required by staff with respect to the ammonia emissions?

MR. BADR: No. And it's not required because it's not -- ammonia is not a criteria pollutant.

But if you would provide mitigations for the sulfur, for example, and the ammonia, you are lowering this levels down to almost zero. And then the ammonia, by itself, will react with the existing NOx and sulfur.

So if you eliminate the existence or you offset -- eliminating by offsetting basically, the NOx and the SOx out of the -- coming out from the project, you already mitigated for it.

MS. CHURNEY: Has staff ever required more emission reduction credits or more mitigation than what the APCD requires?

MR. BADR: Is that a general question or specific --

MS. CHURNEY: Generally, yes.

MR. BADR: Yes, we have.

MS. CHURNEY: What factors would go into that determination?

MR. BADR: Are you asking when the staff will require such mitigations?

MS. CHURNEY: Right. More than what the APCD would otherwise require.

MR. BADR: If it's contributing to existing violations of the standards, if the project would contribute to the existing violation of the standards.

Or it would cause violation by itself. Or the staff are required, under CEQA, to require complete offsets.

MS. CHURNEY: If a district, for example, requires only a one-for-one offset for interpollutant credits, but other districts might require additional discounts on those types of credits, has staff ever imposed a different emission reduction credit requirement?

MR. BADR: Again, that's a general on any or specifically for this one?

MS. CHURNEY: Generally.

MR. BADR: Generally, yes, we have done that on several occasions actually. That we imposed a higher offset ratio than what was agreed by the district.

MS. CHURNEY: And what factors were taken into account in making that decision?

MR. BADR: The biggest one would be the

offset source and the location of the offsets and the distance between the offset source and the proposed project location.

Sometimes it's within 15 miles or 30 miles or 50 miles from the existing facility, or the proposed facility, and then it would become the distance, will negotiate basically a distance ratio would be acceptable to everybody. And that's the one we will go on with.

In our case, in Morro Bay, most of the offsets are coming out from the same location. So one-to-one is acceptable to us.

MS. CHURNEY: Did staff do any analysis regarding the PM size or composition of the emissions from which the proposed credits were derived, as compared to the emissions from the new plant? And that's in this case.

MR. BADR: I don't understand your question. Can you repeat it again?

MS. CHURNEY: Sure. Did you do any analysis comparing PM size or composition of the PM emissions from where the proposed credits were taken from as compared to the emissions from the new plant?

MR. BADR: Well, the existing facility

is burning natural gas. And the new facility, or the proposed facility, is burning natural gas. It's almost the same quality fuel anyway.

Fossil fuel, when it burns, the PM10 is going to be the same, and the products coming out from the same fuel would be the same. So, I guess there is a match here between the existing facility emissions and the proposed facility emissions.

MS. CHURNEY: Is it fair to say that the discounting that occurs over time with the banking process involvement with emission reduction credits is a regional benefit, and not necessarily a local benefit?

MS. HOLMES: I just want to ask a question of clarification about what she's referring to with the word discounting.

HEARING OFFICER FAY: Counsel?

MS. SODERBECK: I think what we're referring to here is the normal ERC process requires, in terms of the banking process, that there's a 20 percent discount of the emissions that are ceasing operation to not be entered into the bank, so to speak.

And whether there's any other

discounting beyond that, I think is what her question was going to.

MS. HOLMES: I think that question would be most appropriately addressed to the District.

HEARING OFFICER FAY: Is that acceptable?

MS. CHURNEY: Sure.

HEARING OFFICER FAY: Ms. Churney? Okay.

MR. WILLEY: Could you repeat the question one more time?

MS. CHURNEY: A discounting that occurs over time with the banking process for emission reduction credit is a regional benefit and not necessarily a local one, is that correct?

MR. WILLEY: Well, it's designed to be regional, but in this case we see a local effect, as well, because the credits comes from the area.

But, yes, it is. In fact, the PM10 problem is a regional problem, as well.

HEARING OFFICER FAY: Ms. Churney, I'm going to interrupt you at that point. Lunch is here and it's ready. And I understand it's clam chowder, so we don't want it to get cold.

We're going to take a 45-minute break.

And we'll resume with cross-examination of the staff panel by Coastal Alliance at 12:30.

(Whereupon, at 11:43 a.m., the hearing was adjourned, to reconvene at 12:30 p.m., this same day.)

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AFTERNOON SESSION

12:40 p.m.

HEARING OFFICER FAY: We are back on the record now. I'm going to explain, we had a sudden change of plans. Commissioner Moore's term was sort of, at will, and ended in January. And we were relying on the fact that these hearings had been previously scheduled. But we understand that the Governor has made a new appointment as of 1:15 and that we've received a legal opinion that the Commissioner cannot carry on the hearings after that time.

So, I apologize to everybody for the inconvenience, but we have until 1:15 to wrap up today, and there will be no hearing after that. And no hearing tomorrow.

What we're going to do, I've discussed this with a number of the parties, as a convenience to CAPE and Mr. Hartley, who came out from Oklahoma, we will stop right now, CAPE's cross-examination of the staff, and we will pick that up at a later time to be noticed. I can't tell you when that will be, but you will be notified.

We'll now move to Mr. Hartley, who will

submit his testimony and be made available for cross-examination. Is CAPE ready to --

MS. CHURNEY: Yes, it's --

HEARING OFFICER FAY: -- offer their witness?

MS. CHURNEY: -- it's Mr. Hartman, and I'll call --

HEARING OFFICER FAY: Hartman, I'm sorry.

MS. CHURNEY: -- Mr. Hartman as CAPE's witness.

HEARING OFFICER FAY: Okay, will the court reporter please swear the witness.

Whereupon,

JOHN HARTMAN

was called as a witness herein, and after first having been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. CHURNEY:

Q Mr. Hartman, could you please state your name for the record, spelling your last name.

A John Hartman, H-a-r-t-m-a-n.

Q And have you submitted a declaration in this proceeding?

A Yes, I have.

Q And was that declaration prepared by you or at your direction?

A Yes.

Q And do you have any changes, corrections or clarifications to make with respect to that declaration?

A No, I do not.

Q Are the facts stated in that declaration true and correct -- and by declaration I'm including the report that is attached to that declaration?

A Yes.

Q And are the opinions your own?

A Yes.

Q And do you adopt that declaration with the attached report as your testimony?

A Yes.

Q And just quickly by way of background, would you please state your background.

A I have a masters in business administration from the University of Tulsa; also a bachelor of science in business administration, Missouri Center State College in Joplin, Missouri. I have 24 hours of accounting in that degree. I

had six hours advanced accounting and auditing while I was receiving my masters degree.

I own a company called Savvy System Designs, which was founded in 1985 and continues to this day. I have provided a lot of different services including software research, hardware and software integration, and I have several skills that are used in this business, including beta conversions and charting, forecasting and those types of things. And statistical analysis.

I've also been involved throughout my career in forecasting.

HEARING OFFICER FAY: Excuse me, Mr. Hartman, --

MR. HARTMAN: Yes.

HEARING OFFICER FAY: I'm sorry to interrupt you, but we will take notice of all your information --

MR. HARTMAN: Okay.

HEARING OFFICER FAY: -- in your r,sum as filed, --

MR. HARTMAN: Sure.

HEARING OFFICER FAY: -- and we can move on.

MS. CHURNEY: Yes.

MS. HOLMES: Is the witness available for cross-examination?

MS. CHURNEY: The witness is available for cross-examination.

HEARING OFFICER FAY: Mr. Harris, you can begin cross-examination.

MR. HARRIS: Thank you.

CROSS-EXAMINATION

BY MR. HARRIS:

Q Mr. Hartman, did your analysis depend on whether the source of PM10 is that -- does your analysis depend on what the source of PM10 is?

A I'm not sure I understand your question. The source? Where it comes from, or --

Q The composition, the characteristics of the PM10.

A You mean what it's made of? My report is on measured PM10, and I'm using in this report when I was selecting what concentration was going to be coming from the Duke plant, I got the information from several places.

Q Let me be more specific.

A Okay.

Q Does your analysis depend on whether the PM10 is from a gas-fired unit versus a wood stove

or some other source?

A No, it does not. PM10 can come from lots of different sources.

Q And is your analysis linear?

A Yes, I believe that they -- yes. Yeah, linear.

MR. HARRIS: No further questions.

HEARING OFFICER FAY: Great, thank you very much. Does the staff have any questions of Mr. Hartman?

MS. HOLMES: No questions.

HEARING OFFICER FAY: Does the City have any questions of Mr. Hartman?

MR. SCHULTZ: No questions.

MS. CHURNEY: Can I follow up then with allowing him to summarize briefly what's in the report?

HEARING OFFICER FAY: Sure, and if you have any redirect, as well.

MR. HARRIS: Mr. Fay, I want to object to that. We truncated our cross-examination on the understanding that he was going to present his evidence. And now that he's finished quickly, I don't think he should have the opportunity to go back and present the evidence.

HEARING OFFICER FAY: Let's go off the record.

(Off the record.)

HEARING OFFICER FAY: Mr. Hartman, I want to thank you for your testimony --

MS. CHURNEY: Well, we would like to call him now in rebuttal.

HEARING OFFICER FAY: In rebuttal?

MS. CHURNEY: Right, to testimony that's been presented by the applicant.

HEARING OFFICER FAY: This is the first we've heard about this.

MR. HARRIS: Could we be off the record, please?

HEARING OFFICER FAY: Yeah, let's go off the record.

(Off the record.)

HEARING OFFICER FAY: We had an off-the-record discussion and CAPE is going to offer a brief rebuttal by Mr. Hartman, keeping in mind that there may be cross-examination of his rebuttal.

So, we have interrupted CAPE's cross-examination of the staff et al, and we'll have to pick that up at a later date.

Go ahead, Ms. Churney.

DIRECT EXAMINATION

BY MS. CHURNEY:

Q Mr. Hartman, you heard Mr. Rubenstein's testimony here yesterday and earlier today regarding questions they have with respect to the methodology used in your analysis. I'd like to ask a few questions about that.

First of all, they have stated that they feel that your analysis is improper because the cities that you used are overwhelmingly large cities where it is claimed that there's more toxic particulate matter than in Morro Bay. Do you have any comment with respect to that criticism?

A The studies that have been done show this relationship between increased levels of particulate matter, PM10, and premature mortality. And irregardless of whether it's a small town or large town, these relationships hold.

Q And there's also been criticism that the statistical studies relied upon deal with multiple pollutants and different weather and different genetic predispositions by the population. Do you have any comment in that regard?

A Well, in my paper I refer to a study by

John Levy, and they looked at those effects of correlated gaseous pollutants and the only thing that seems to stand out is SO2. But it was not terribly significant and didn't affect my analysis.

Q Another criticism was with respect to the domain, that you cannot take a domain from one study and say that it applies to a different source or a different area. Do you have a comment in that regard?

A Again, as I prepared the study and I was asking questions of the author, one of the authors, John Levy, who's Assistant Professor of Environmental Health and Risk Assessment --

MR. HARRIS: I'm going to object to this not being part of his testimony, or our testimony, either.

HEARING OFFICER FAY: Sustained.

BY MS. CHURNEY:

Q Do you have any other comments with respect to the domain?

A I don't see any reason why this cannot be applied at all.

Q And another criticism was that claimed to be a basic method flaw and that is taking a

maximum concentration that occurs in one place and assuming that it occurs throughout the city. Do you have a comment with respect to that criticism?

A Well, one comment would be that they're required to provide these maximum impacts and review them, and use to analyze the other criteria pollutants. I don't see any reason why we shouldn't use it for PM2.5.

And we have -- the information that we have is a maximum effect. And I think there were several questions of what would be the, you know, the normal effect, what would be the expected increase in -- the ambient increase in PM2.5.

And my point here is that it is perfectly possible to run the simulation to find out what those answers would be.

But even if I cut my estimate in half, say instead of saying .66 mcg/cu meter, if I cut it in half to .33, I would still have a significant effect.

Q And what -- okay.

A I'm sorry, go ahead.

Q And finally, Mr. Ringer had a criticism comparing which he drew upon the sick cities comparison and the comparison between Topeka,

Kansas and Portage, Wisconsin. Do you have a comment in that regard?

A Well, the one in Topeka, Kansas is one of the very few that actually had, there's a negative effects on mortality. But all the other cities, and again that pool, the study by John Levy, discusses that. And he looks at all those studies and the majority of the studies are all show a positive correlation between premature mortality and the increased levels of PM2.5.

MS. CHURNEY: Thank you.

HEARING OFFICER FAY: Okay, cross-examination, based just on the rebuttal.

MR. HARRIS: Can I have just a moment, please?

HEARING OFFICER FAY: Sure. Will you have any, Ms. Holmes?

MS. HOLMES: No.

HEARING OFFICER FAY: Okay. Will the City have any?

MR. SCHULTZ: No.

MR. HARRIS: I do have one question.

CROSS-EXAMINATION

BY MR. HARRIS:

Q Do you know of any peer reviewed

scientific articles that apply epidemiological findings to calculate the potential health impacts of a specific power plant?

A Well, actually I know of a study that's being done.

Q Do you know of any studies is the question. Peer reviewed scientific articles. I think it could be a yes or a no.

A Yes.

Q And what study would that be?

A There's a study by -- well, it's not in press yet. So I'd have to say, I'd have to change my answer. There's an article that's about to be published. So that's the only one I'm aware of.

Q And so the answer is then at this stage no?

A At this stage, no.

MR. HARRIS: That's all, thank you.

HEARING OFFICER FAY: Okay, any other cross-examination of Mr. Hartman?

MS. CHURNEY: I have one follow up question.

HEARING OFFICER FAY: All right.

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REDIRECT EXAMINATION

BY MS. CHURNEY:

Q What is the study that you're aware of that's about to be published?

MR. HARRIS: I'm going to object. That wasn't my question.

HEARING OFFICER FAY: Overruled. Go ahead, answer the question.

MR. HARTMAN: The study is by John Levy and John Spengler of the Department of Environmental Health -- School of Public Health, and they're modeling the benefits of power plant emission controls in Massachusetts. And it's set to be published in the Journal of Air -- Management Association, although it has not been published yet.

MS. CHURNEY: Thank you.

HEARING OFFICER FAY: Okay, any recross?

MR. HARRIS: Excuse my confusion. I thought that redirect would come after staff and the other folks did their questions, and so that's why I was surprised that Ms. Churney asked a question, so.

HEARING OFFICER FAY: Staff had no recross. Do you have any further recross,

Mr. Harris, limited to that one response?

MR. HARRIS: No.

HEARING OFFICER FAY: Okay, --

MS. CHURNEY: At this time, then, I would move that portion of exhibit 139, which consists of Mr. Hartman's testimony and attached exhibits into the record.

HEARING OFFICER FAY: Okay, is there objection? All right, hearing none, that is moved into the record.

And we thank you, Mr. Hartman, for your testimony, and you are excused.

That concludes Mr. Hartman's testimony. As I indicated we still have to bring the staff panel back, and we will resume in the future, CAPE's cross-examination of that panel.

MS. HOLMES: Mr. Hearing Officer, if I could, we have one witness on the panel who has traveled some distance, not from Oklahoma, and I wonder if it would be possible to find out whether or not CAPE has questions of him. And if so, whether they could be completed between now and the --

HEARING OFFICER FAY: Let's go off the record.

(Off the record.)

HEARING OFFICER FAY: We had an off-the-record discussion and CAPE indicated they had no questions on cross-examination of Mr. Ziemer, so Mr. Ziemer of staff panel, consultant to the Air District, is excused. Thank you for your testimony. The rest of the panel we will have to call back.

At this time I would like to ask if any members of the public would like to make comments regarding air quality?

Yes, sir, could you come up and use the microphone right over there. Please give your name.

MR. ZAITZ: Z-a-i-t-z. Normally I don't get involved in I guess you call it greenie activities, what I consider it, but I have a family and we've been here about three years, and I'm very concerned about what I see coming out of those smoke stacks.

And I'm not going to be convinced, and no one's going to convince me it's all just dandy stuff, and we should be breathing it every day. Okay. I think there has to be something done about this.

I just came back from Dallas, Texas. I have a friend of mine in the gas and oil industry, and he's working on technology which absolves the pollutants out of the air because of EPA regulations in other states.

They put a device, which is a quart-size disc in place on generators, diesel generators, and they've actually been able to get all the particles out through that process that they developed.

I see that there is a solution here. I don't see we should have these, you know, tables separated and all this eloquent dialogue that's going on here. I find it kind of interesting, but my first encounter with it.

There's money being made and that's always a factor that motivates people in extreme ways.

But we're the ones living here breathing the air. And that's the nitty gritty, okay. We have to live here. I don't think anybody would want to put their face in front of the smoke stack and tell me that's just wonderful stuff coming out of there. I don't think you'll last over a couple seconds.

Anyone trying to convince me those particles going up and meeting other particles and are dancing around in the atmosphere and it's just a wonderful thing, I won't buy that one, either.

I believe there is a solution of putting some groups together and finding a process of creating a process to get rid of the pollutants. I think that's an answer. I think there are groups out here that buy land on the coast; they want the ecology to be maintained. And we could get a foundation, and maybe even possibly keep Duke from having to absorb the cost. And I don't see where they would be opposed to anything that would maintain the process of generating funds for everybody so that they'd be happy, and also we could solve the problems with the pollutants going into the atmosphere for the residents, so we don't have to continue to breathe these things.

I think there's some falsifying information from what I can see. I keep hearing things, like I said, I'm very objective, I don't have a side. I'm not on anybody's side here. I'm on the side of the people that live in this town. And we have to live here, and we have to breathe this air. Okay, that's who I'm standing on the

side of.

So, everybody's experts in their domain. There are certain facts in certain areas, certain facts in other areas, everybody's trying to put their cause forth. They want to promote statistics which say this, statistics that say that.

All I'm saying is there's a solution and we can come up with a solution that will work. I think it would champions on both sides of the fence. I feel Duke would be champions and I think the locals would be champions. I think all the organizations.

And what I'm going to do, we've already used this process with the Postal Service and some other things and it works out perfectly well. It's new technology. It uses, like I said, some type of ionic transfers and not knowing the process completely, I work with new technology, new companies. I will bring this forward. I will bring data on this. And we could look at a possibility for solving the problems. And I would certainly like to pursue that.

And so at a later time, whenever the next meeting is, I will have some facts here. I

will bring them forward. And everyone can review that and see if there's not solutions to the problem.

PRESIDING MEMBER MOORE: Thank you.

HEARING OFFICER FAY: Thank you. Any other comments? Yes, sir, please come up and state your name and spell it for the court reporter.

MR. WAGNER: Do you need this?

HEARING OFFICER FAY: No, --

MR. WAGNER: I don't think I do, either.

HEARING OFFICER FAY: -- you can just say it. He was referring to our comment sheet. And you're welcome to fill that in if you don't want to speak into the record, otherwise we'll just hear it.

MR. WAGNER: Trying to keep a sense of humor here, folks. My name is Leonard Wagner and I'm from Sacramento, California. And I've over here, I want to just highlight or put an accent on the positive of what this gentleman said ahead of me.

I'll make this short, brief and to the point. With all due respect to Duke Energy and everybody else here, the City lawyer and whoever

that I've had the pleasure meeting for a minute, and the citizens.

I'm over here looking at properties. I been in Sacramento a long time and I'm familiar with SMUD there and PG&E, the nuclear power plant they built there at one point, I worked on it. I participated in that. Worked with Aerojet out there, and McClellan Field, Mesa Field, Army Signal Depot, all over the canvas. All the industry, the pollution that was caused by the rice mills there in Sacramento.

So I figure I have a little bit of expertise here, so to speak. My main concern at this point, and I'm sure you all have your own feelings, if you have wife and children, grandchildren, whatever, or just yourself, my goal, if I can attain it, living here and Sacramento, I'm going to go to the State Capitol again, I've been going there talking to different people, is to have the best beaches, air quality, ground quality, get the water quality back, get the fish back.

When I came here years ago we could go fishing and catch fish here. Now I'm going to go again, we're going for a boat ride. Well, no

offense, I don't need to come all the way to Morro Bay to go for a boat ride. I can go on a boat ride down the Sacramento River.

I'm not trying to be sarcastic or point my finger at anybody, I think what, if God willing, we could all get together, all of us, and figure out the most economical and best way to do this.

Money's always the bottomline. You have to have money. I could never have enough money. I told them I'll never spend all the money I have in my lifetime anyway, so I'm going to give it to the grandchildren, a little joke there, folks.

That's about really all I have to say. This is a beautiful place, Morro Bay. Let me just say this, as a parting shot. Guy passed away here and he went to heaven. St. Peter meets him at the gate and he says, where you from. He says Morro Bay. He says, well, you might not stay with us very long.

The other part of the coin was, at the end of the day here in Morro Bay he said, well, another day of paradise.

And I'll cut it off at that point. And I will thank all of you and pray to god that we'll

all get together and do what's best for everybody.

Thank you.

HEARING OFFICER FAY: Thank you. Any other comments? Yes, please come up to the microphone.

(Pause.)

HEARING OFFICER FAY: Please state your name for the record.

MR. FREILER: Hello, my name's Robert Freiler. I'm a homeowner in Los Osos.

HEARING OFFICER FAY: Would you spell your last name, sir?

MR. FREILER: F, as in Frank, -r-e-i-l-e-r. First a couple of comments on the Americans with Disabilities Act and accessibility to this meeting. When I showed up yesterday I was very surprised to see that there were no seats removed so a wheelchair could come in here and sit like everybody else is, under the ADA. That there was no marked parking places outside for parking, disabled parking.

I talked to Priscilla Ross in Sacramento this morning. She assured me that staff had been told that this was an accessible building and, yes, I could get in this far, but this is, under

the ADA this is not an accessible building.

And I explained to her, that, yes, reasonable accommodations were requested for five days advance notice. But under the ADA for ten years now this building should have had changes to it, taking care of the parking and the seating.

So I hope that when the hearings resume that they will be in a legal building.

My comments are, I have a story. Once upon a time long ago some people got together and formed a company and built a power plant with big smoke towers. For many years much smoke, tons and tons of airborne pollutants, and many millions and millions of sea creatures were sacrificed, killed for the benefit of all the people who have used the electricity. And, of course, for the benefit of the good people who ran and owned the company.

There were other short-sighted sacrifices long ago, like blowing up half that nice old rock, Morro Rock, so that people had building materials to build their cities with.

What people did not realize is what the future would be. People who made their living fishing the ocean would have to stop fishing many kinds of fish because not enough sea life lived to

have babies. And that the nice old rock was worth more in terms of tourist and land-value dollars than it was blown up into little pieces and carted away.

That pollution is very bad for everyone, especially babies, children and old folks.

That was then and this is now. The people know the value of sea life. They know the dangers and costs of air pollution. Pacific Gas and Electric, the old company, used and profited from the power plant for 50 years. But the poor old power plant that spewed and killed was past its prime. And so PG&E sold their power plant.

A nice power company, Duke Power, from back east, bought the past-its-prime old company. Those Duke people thought, aw, shucks, those people out west will more than understand our need to make our stockholders and the people who run our power company their money back, plus a tidy profit.

Those slow people will not mind a bit sacrificing the Bay, the fishermen and the fisherwomen. Breathing dirty air and sacrificing central coast life for another 50 years.

The thing that gets me is this:

Companies do not have to cool their power plants with sea water in the 21st century. In the 21st century power plants can be cooled with air, without any sea and estuary water. None. Smoke can be swept clean before it's returned to the sky.

The money crunchers at Duke know a good thing when they figure one. They know it's cheaper to cool with sea water. You make more money with less cooling with sea water. Is this legal? Duke Power should not be able to sacrifice our air and fishermen and fisherwomen for the short-term profit.

Morro Bay Estuary is the last remnants of a singular resource, one of the last remaining estuarian systems from here south. It is a necessary nursery for many important species and needs protection.

Honorable members of the California Energy Commission, I'm asking you to acknowledge the real cost of this power plant to our community and to our environment.

The technology exists to build a modern, clean power plant. Thank you.

HEARING OFFICER FAY: Thank you for your

comments.

Does any other member of the public wish to address the Committee? Please come up to the mike and state your name.

(Pause.)

MS. DAVIS: My name's Mandy Davis. I have no intentions of leafing through a bunch of papers and boring you guys to tears this time.

But the reason why I'm here is primarily I care for the wildlife in this area, and for the greater community incredibly. And I would like to address the fact that yes, we are speaking about public safety and we're addressing air quality issues.

But I think that what we have done is we have addressed this entire section or segment in a very anthropocentric way. There is a much larger community out there to address. There is a much larger aspect to safety and to what's going to happen to this community with the kinds of pollutants and the possibility, you know, that -- we're looking at a human community here, but to put it into perspective, we have a wildlife community that is considerably more sensitive in many ways than we are.

I'll give you a really good example, one that everybody will be very familiar with. It's the canary in the cave. There's a really good reason why they put that canary in there. They have -- most avian species, and I can cite you a variety of different studies, have extremely sensitive cardiorespiratory systems.

And for us not to address within this segment where we are talking about air pollution and its effects on public safety and the community, as a whole, would be remiss.

I'd like to read something to you, and hopefully it will put things into perspective, and hopefully it will put things into perspective for you and everybody here that is listening to all this.

And it's something -- I'm hoping that what we can do, because everything is so broken down into segments that getting the big picture is very difficult to do sometimes. And that's something we're going to have to do at the end of all of this.

This is a quote, it's very short. "For mankind will find its greatest strength, reach its loftiest goals and realize its full potential when

it recognizes its elemental connection to all that exists and tempers all of its actions to be in harmony with and in reverence for life."

I think it is our responsibility as members of this community. It is Duke's responsibility, as a very large member of this community. It is the CEC's responsibility as a member of a much larger community. And you do have a lot of power and you have a lot of say. That we should consider the fact that we are members of a much larger community, and we need to look at that.

So, I have a solution. And I know the fellow that -- he's not sitting here, and last time I spoke, he goes, you know, you got to quit telling us about the problems without coming up with a solution. I have, at least, an answer to one of the potential problems here.

And that's the problem that I'm addressing is the fact that we're breaking this up into a bunch of little pieces, and we're not seeing the big picture. The big picture is the whole community.

Yeah, you might have gone down the street and might have got tacos down at Taco del

-- you've walked around and had some coffee at the Coffee House, and you see these guys here, you see these guys here. I'm standing up here. But you don't have the big picture.

So, what I'm going to suggest is this: I know that you have obliged Duke; you have gone to take, if not one, if not a couple of tours at their power plant. And what I am suggesting to you is that you give me the same right to be able to give you a tour of a much larger power plant.

That power plant I'm speaking of is the estuary. It is much larger, it is much more diverse. And it is a very sensitive production of power, you know, it's something that's incredibly sensitive. And every single aspect that we're talking about here is going to affect it.

So what I would like you to do, and I'm making this invitation to anybody on the CEC, anybody that is an intervenor, you know, at least one of the lawyers, one of the representatives, anybody from APCD, that you come out on a tour of the estuary with me.

That way you can see the big picture. You can see the greater community. You can see these avian creatures that are absolutely amazing,

that not only live here, but they also happen to migrate through here. You can see the kinds of creatures that this pollution is going to affect, and does affect right now.

You'll get a much better picture of the large community that we have responsibility for, and that we are part of.

So, I am extending an invitation to you, and everyone here -- well, not everyone, sorry, guys, I can't take you all -- but I would like to take you on a tour of the estuary. I have a very good friend that's an award winning environmental educator. And she also happens to work for the NEP, and I'm hoping that she can come along.

I'm kind of putting it out there and hopefully I won't get her in trouble. And I also happen to be a wildlife rehabilitator; have an extensive background in wildlife biology. And I would like you to see what our decisions here are affecting, besides the humanity. We're only a small part of it, guys.

So, I'd like to invite you. We could do it this afternoon. We could do it tomorrow. We could do it during the next set of meetings, but I'm hoping that you can get together, figure out a

time that I can take you on a power plant tour, okay?

So that's one thing that I would like to address. And I would like to have an answer.

The other thing that I would like to address is I understand this gentleman's comments about epidemiological studies. And their efficacy or their appropriateness in these kinds of hearings.

And I also understand that, you know, that being able to control the kinds of issues that they're looking at is usually a huge problem. But we have an opportunity here, and actually I think you guys have been remiss, you've been remiss, pretty much we've been remiss straight across the board in not doing the best job that we can.

We have an opportunity in this region, actually very very locally, to do a very effective epidemiological study. And that study would be considering the majority of the weather, the majority of the wind patterns, the meteorological information that we have.

We have a community here that the majority of the pollution, you know, stays within

this community, south, southwest, southeast. But the majority of the pollution within all of the studies and modeling does not go up into the Cambria area.

So what I'm suggesting is that we model or we actually not model, I've had it with modeling, I'm sorry, I just don't, you know, modeling doesn't cut it, but we have two communities that are very similar demographically. They're very similar from a geographical standpoint. They're very similar in size. They both have Highway 1 going through them.

And we basically have an opportunity to limit a lot of the factors and to be able to compare two communities, the same size, coastal communities in an epidemiological study.

The reason why I ask for this is because I notice this myself, I happen to be a human canary. And I was wondering why in god's name these guys didn't put together a very appropriate smaller and more broad-based epidemiological study from a regional standpoint.

So I suggest also that this could be something that could be undertaken, and be presented as part of the evidence here.

HEARING OFFICER FAY: Great, thank you, --

MS. DAVIS: Um-hum.

HEARING OFFICER FAY: -- Ms. Davis, for your comment. That concludes the taking of public comment.

And as I explained earlier, the hearing has to end at 1:15, and so you will be getting notice of future hearings. Right now, what is scheduled for our next hearing is March 12th, and I don't have confirmation of whether it will be in this building. And so be sure to pay close attention to the address on the notice.

But it looks like March 12, 13 and 15, until you get further notice.

MR. SCHULTZ: Hearing Officer Fay, I have just one question. I'm going to assume that the air quality briefs are not going to be due with all the other briefs towards the end of this month, or whatever the date was, since we haven't finished.

HEARING OFFICER FAY: Absolutely, there's no way.

MS. HOLMES: So you want us to brief the topics that we've completed --

HEARING OFFICER FAY: Brief the topics we've completed, but leave out air quality and public health. And we'll have to reschedule the briefing schedule for those.

And those who have concerns about these matters, write the Governor.

(Laughter.)

MS. HOLMES: The Governor's not going to help with the briefing schedule. I would point out --

(Laughter.)

MS. HOLMES: -- a discussion about the fact that the schedule for the second set of briefs was going to be tight potentially, depending upon the testimony dates. I would encourage the Committee, when they come up with the final scheduling order, to consider the fact that the next set of briefs is now going to be much more extensive than you had originally anticipated.

HEARING OFFICER FAY: That's right, thank you for that.

Okay, any other last comments?

MR. HARRIS: Yes, Mr. Fay. We may have problems with having our, although they won't be

witnesses, our experts available on the 12th and the 18th, and so we'll --

HEARING OFFICER FAY: Communicate with me on that.

MR. HARRIS: Communicate with you on that.

HEARING OFFICER FAY: And we know you have an availability problem on March 14th, as well, for your witness. We take note of that.

MR. HARRIS: Okay, Commissioner and Hearing Officer, could I briefly say something else?

HEARING OFFICER FAY: Sure.

MR. HARRIS: Completely out of character, kind of nice?

(Laughter.)

PRESIDING MEMBER MOORE: Are you ready to go off the record, counsel?

MR. HARRIS: No, actually do it on the record.

Commissioner Moore, the circumstances are pretty strange today, but I did want to take the opportunity to thank you for your service to the people of California. Professionally, I think we have a tremendous amount of respect for you,

and personally have enjoyed working with you.

And so I know I speak for a lot of people in the room when I say thank you, and you will be missed, both on this project, and in the Commission's overall work. So, thanks.

PRESIDING MEMBER MOORE: Thank you. Very kind of you to say that. And I would end this hearing with just a couple of notes. And that is to say that there is a Second Member, and like any other government agency designed to serve the people, we have thought out the rights of succession, or the responsibilities of succession.

And I want to assure all of you that Commissioner Keese is well informed on the case. His Advisor, Terry O'Brien, who is here, will be the keeper of my notes. And those notes will transfer over into the hands of the next Commissioner. And Commissioner Keese will take the case over seamlessly and it will proceed apace.

There will be another Commissioner assigned, I'm sure, to be Second Member on this case. I don't know who it will be. And I'll simply say I wasn't expecting to have it end this way, but a privilege to be in Morro Bay when it

did.

So, thank you, all, for your hospitality and your kindness. And I trust that my successor and the Energy Commission will serve you well. The process has proved itself to be a good one, and I think the depth and the breadth of these hearings proves that. And whether you feel that you got exactly the decision that you wanted at the end, I believe in my heart of hearts, I have to believe this or I couldn't have been in public service, that the decision which finally gets rendered will be an honorable one.

Adjourned.

(Whereupon, at 1:22 p.m., the hearing was adjourned, to reconvene sine die.)

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CERTIFICATE OF REPORTER

I, JAMES RAMOS, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Hearing; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing, nor in any way interested in outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 13th day of February, 2002.

JAMES RAMOS

Section I: AQMD BACT Determinations

Application No.: 386305

Equipment Category – Gas Turbine

1. GENERAL INFORMATION

DATE: 1/30/2004

A. MANUFACTURER: General Electric

B. TYPE: Combined Cycle

C. MODEL: PG7241FA

D. STYLE: Includes inlet air evaporative cooling and steam injection for power augmentation

E. APPLICABLE AQMD RULES:

F. COST: $ (NA) SOURCE OF COST DATA:

G. OPERATING SCHEDULE: 24 HRS/DAY 7 DAYS/WK 52 WKS/YR

2. EQUIPMENT INFORMATION

APP. NO.: 386305

A. FUNCTION: Power Generation

B. MAXIMUM HEAT INPUT: 1,700 MMBtu/hr (turbine), 583 MMBtu/hr (duct burner)

C. MAXIMUM THROUGHPUT: 181 net MW (gas turbine with steam injection), 147 net MW (steam turbine)

D. BURNER INFORMATION: NO.: TYPE: Dry Low-NOx

E. PRIMARY FUEL: Natural Gas

F. OTHER FUEL:

G. OPERATING CONDITIONS: Baseload, load following

3. COMPANY INFORMATION

APP. NO.: 386305

A. NAME: Magnolia Power Project, SCPPA

B. SIC CODE: 4911

C. ADDRESS: 164 W. Magnolia Blvd.
CITY: Burbank STATE: CA ZIP: 91502

D. CONTACT PERSON: Bruce Blowey

E. PHONE NO.: 661-252-6908

4. PERMIT INFORMATION

APP. NO.: 386305

A. AGENCY: SCAQMD

B. APPLICATION TYPE: new construction

C. AGENCY CONTACT PERSON: John Dang

D. PHONE NO.: 909-396-2427

E. PERMIT TO CONSTRUCT/OPERATE INFORMATION: P/C NO.: 386305 ISSUANCE DATE: 5/27/2003
☐ CHECK IF NO P/C P/O NO.: ISSUANCE DATE:

F. START-UP DATE: 5/2005 (est.)

5. EMISSION INFORMATION

APP. NO.: 386305

A. PERMIT

A1. PERMIT LIMIT: PPMVD@15% O2: NOx-2.0 (3-hr), CO-2.0(1-hr), VOC-2.0(1-hr), NH3-5.0(1-hr), PM: .01 gr/scf and 11 lb/hr. Monthly mass limits on CO, VOC, SOX, and PM10.

5. EMISSION INFORMATION

APP. NO.: 386305

A2. BACT/LAER DETERMINATION: Above limits on NOx, VOC and NH3 were believed to represent prior BACT for combined cycle gas turbines. The CO limit is more stringent than prior BACT in that the concentration is lower and the averaging time is shorter.

A3. BASIS OF THE BACT/LAER DETERMINATION: Prior BACT was based on CARB's Guidance Document for Power Plant Sitings, dated September 1999 and AQMD Part D BACT. Other similar recently AQMD permitted combined cycle powerplants include LADWP Valley, LADWP Haynes, and Mountainview Power Plant. These plants were permitted with the same or similar emission concentration limits for NOx, CO, VOC, and NH3 however, they were not considered achieved in practice at the time of BACT determination. The more stringent limit on CO was proposed by the applicant.

B. CONTROL TECHNOLOGY

B1. MANUFACTURER/SUPPLIER: Cormetech (SCR system), Engelhard (oxidation catalyst)

B2. TYPE: SCR system and oxidation catalyst.

B3. DESCRIPTION: SCR and oxidation catalysts are integral in the HRSG. SCR catalyst nominal operating temperature is 700F; allowable operating temperature range is 450 to 850F. Aqueous ammonia (max. 19.5 wt. %) is used.

B4. CONTROL EQUIPMENT PERMIT APPLICATION DATA: P/C NO: 386306 ISSUANCE DATE: 5/27/2003
P/O NO.: ISSUANCE DATE:

B5. WASTE AIR FLOW TO CONTROL EQUIPMENT: FLOW RATE:
ACTUAL CONTAMINANT LOADING: BLOWER HP:

B6. WARRANTY:

B7. PRIMARY POLLUTANTS: NOx, CO, VOC, PM, SOx

B8. SECONDARY POLLUTANTS: NH3

B9. SPACE REQUIREMENT: SCR Catalyst: 1,100 cu. ft; CO Catalyst: 360 cu. ft.

B10. LIMITATIONS: B11. UNUSED

B12. OPERATING HISTORY:

B13. UNUSED B14. UNUSED

C. CONTROL EQUIPMENT COSTS

C1. CAPITAL COST: ☐ CHECK IF INSTALLATION COST IS INCLUDED IN EQUIPMENT COST
EQUIPMENT: $ INSTALLATION: $ (NA) SOURCE OF COST DATA:

C2. ANNUAL OPERATING COST: $ (NA) SOURCE OF COST DATA:

D. DEMONSTRATION OF COMPLIANCE

D1. STAFF PERMFORMING FIELD EVALUATION:
ENGINEER'S NAME: INSPECTOR'S NAME: DATE:

D2. COMPLIANCE DEMONSTRATION: CEMS for NOx and CO, annual RATA, annual NH3 test, source test for SOX, VOC, and PM every three years.

D3. VARIANCE: NO. OF VARIANCES: DATES.
CAUSES:

D4. VIOLATION: NO. OF VIOLATIONS: DATES.
CAUSES:

5. EMISSION INFORMATION

APP. NO.: 386305

D5 MAINTENANCE REQUIREMENTS:

D6. UNUSED

D7. SOURCE TEST/PERFORMANCE DATA RESULTS AND ANALYSIS:

DATE OF SOURCE TEST: no later than 180 days after initial start-up CAPTURE EFFICIENCY:

DESTRUCTION EFFICIENCY: OVERALL EFFICIENCY:

SOURCE TEST/PERFORMANCE DATA:

OPERATING CONDITIONS:

TEST METHODS:

6. COMMENTS

APP. NO.: 386305

It should be noted that the CO emission limit has not yet been verified by performance data.

Section I: AQMD BACT Determinations

Application No.: 394164

Equipment Category - Gas Turbine

1. GENERAL INFORMATION

DATE: 1/30/2004

A. MANUFACTURER: Alstom

B. TYPE: Combined Cycle

C. MODEL: GTX100

D. STYLE: With duct burner

E. APPLICABLE AQMD RULES: 212, 218, 401, 402, 403, 407, 431.1, 475, Reg. XIII, 1401, Reg. XX, Reg. XXX, CEQA, 40CFR Part 60 subpart GG, 40CFR Part 63 NESHAPS, 40CFR Part 64, 40CFR Part 72

F. COST: $ (NA) SOURCE OF COST DATA: Owner/Operator

G. OPERATING SCHEDULE: 24 HRS/DAY 7 DAYS/WK 52 WKS/YR

2. EQUIPMENT INFORMATION

APP NO: 394164

A. FUNCTION: Power Generation

B. MAXIMUM HEAT INPUT: 525 mmbtu/hr (turbine) and 73 mmbtu/hr (duct burner)

C. MAXIMUM THROUGHPUT: 43 MW gas turbine, 55 MW steam turbine

D. BURNER INFORMATION: NO.: TYPE: Dry Low-NOx

E. PRIMARY FUEL: Natural Gas

F. OTHER FUEL:

G. OPERATING CONDITIONS: Baseload, load following

3. COMPANY INFORMATION

APP. NO.: 394164

A. NAME: Vernon City Light & Power

B. SIC CODE: 4911

C. ADDRESS: 2715 E 50th Street

CITY: Vernon STATE: CA ZIP: 90058

D. CONTACT PERSON: Mr. Carlos Fandino

E. PHONE NO.: (323) 583 - 8811x573

4. PERMIT INFORMATION

APP. NO.: 394164

A. AGENCY: SCAQMD

B. APPLICATION TYPE: new construction

C. AGENCY CONTACT PERSON: Chandrashekhar S. Bhatt

D. PHONE NO.: (909) 396 - 2653

E. PERMIT TO CONSTRUCT/OPERATE INFORMATION: P/C NO.: 394164 ISSUANCE DATE: 5/27/2003

☐ CHECK IF NO P/C P/O NO.: ISSUANCE DATE

F. START-UP DATE: Fall 2004 (est.)

5. EMISSION INFORMATION

APP. NO.: 394164

A. PERMIT

A1. PERMIT LIMIT: ppmvd @15% O2 : NOx 2.0 (1-hr), CO 2.0 (3-hr), VOC 2.0 (1-hr), NH3 5.0 (1-hr). PM 0.01 gr/scf and 11 lb/hr. Monthly mass limits on CO, PM10, VOC and SOx.

5. EMISSION INFORMATION

APP. NO.: 394164

A2. BACT/LAER DETERMINATION: Above limits on NOx, VOC and NH3 were believed to represent BACT for a combined cycle gas turbine. The CO limit is more stringent than prior BACT.

A3 BASIS OF THE BACT/LAER DETERMINATION: Prior BACT determination was based on CARB's Guidance Document for Power Plant Sitings, dated September 1999 and the ANP Blackstone combined-cycle power plant in Massachusetts (AQMD Public Notice 1/16/2003). The more stringent limit for CO was proposed by the applicant to reduce the offset requirements. Magnolia Power Project (A/N 386305) has similar concentration limits of NOx, CO, VOC and NH3 except for differences in averaging times (3-hr for NOx and 1-hr for VOC).

B. CONTROL TECHNOLOGY

B1. MANUFACTURER/SUPPLIER: Mitsubishi/Cormetec (SCR system), Emerachem (oxidation catalyst)

B2. TYPE: SCR system and oxidation catalyst

B3. DESCRIPTION: Low temperature SCR catalyst with aqueous ammonia (19% by weight)

B4. CONTROL EQUIPMENT PERMIT APPLICATION DATA: P/C NO.: 394166 ISSUANCE DATE: 5/27/2003

P/O NO: ISSUANCE DATE:

B5. WASTE AIR FLOW TO CONTROL EQUIPMENT: FLOW RATE:

ACTUAL CONTAMINANT LOADING: BLOWER HP:

B6. WARRANTY:

B7 PRIMARY POLLUTANTS: NOx, CO, PM,VOC, SOx

B8 SECONDARY POLLUTANTS: NH3

B9. SPACE REQUIREMENT: SCR catalyst total space requirement = 1,816 cu. ft; SCR catalyst volume = 537.1 cu. ft.; CO catalyst total space requirement = 638 cu. ft; CO catalyst volume: 63 cu. ft. There are 2 such units at MGS Power Plant.

B10 LIMITATIONS: B11 UNUSED

B12. OPERATING HISTORY:

B13. UNUSED B14. UNUSED

C. CONTROL EQUIPMENT COSTS

C1. CAPITAL COST: ☐ CHECK IF INSTALLATION COST IS INCLUDED IN EQUIPMENT COST

EQUIPMENT: $ INSTALLATION: $ (NA) SOURCE OF COST DATA:

C2 ANNUAL OPERATING COST: $ (NA) SOURCE OF COST DATA.

D. DEMONSTRATION OF COMPLIANCE

D1. STAFF PERMFORMING FIELD EVALUATION:

ENGINEER'S NAME: INSPECTOR'S NAME. DATE:

D2. COMPLIANCE DEMONSTRATION: Source test within 180 days after startup. NOx/CO CEMS.

D3. VARIANCE: NO. OF VARIANCES: DATES:

CAUSES.

D4. VIOLATION: NO OF VIOLATIONS: DATES:

CAUSES.

5. EMISSION INFORMATION

APP. NO.: 394164

D5. MAINTENANCE REQUIREMENTS:

D6. UNUSED

D7. SOURCE TEST/PERFORMANCE DATA RESULTS AND ANALYSIS:

DATE OF SOURCE TEST:

CAPTURE EFFICIENCY:

DESTRUCTION EFFICIENCY:

OVERALL EFFICIENCY:

SOURCE TEST/PERFORMANCE DATA:

OPERATING CONDITIONS:

TEST METHODS:

6. COMMENTS

APP. NO: 394164

There is also an identical power production unit and SCR system (A/N's 394165 and 394167).

Section I: AQMD BACT Determinations

Application No.: 366147

Equipment Category – Gas Turbine

1. GENERAL INFORMATION

DATE: 12/18/2001

A. MANUFACTURER: General Electric

B. TYPE: Combined Cycle

C. MODEL: 7241FA

D. STYLE: Includes evaporative inlet air cooling

E. APPLICABLE AQMD REGULATION XI RULES:

F. COST: $ (2000) SOURCE OF COST DATA:

G. OPERATING SCHEDULE HRS/DAY DAYS/WK WKS/YR

2. EQUIPMENT INFORMATION

APP. NO.: 366147

A. FUNCTION: Power Generation (one of four gas turbine/HRSG units sharing two steam turbines)

B. MAXIMUM HEAT INPUT: 1,991 MMBtu/hr (Turbine), 135 MMBtu/hr (Duct Burners)

C. MAXIMUM THROUGHPUT: 175.7 net MW (Gas Turbine), 104.6 net MW (half of 209.2 MW Steam Turbine)

D. BURNER INFORMATION: NO. TYPE: Dry Low-NOx

E. PRIMARY FUEL: Natural Gas

F. OTHER FUEL:

G. OPERATING CONDITIONS: Base, Peaking, Cycling

3. COMPANY INFORMATION

APP. NO.: 366147

A. NAME: Mountainview Power Co., LLC

B. SIC CODE:

C. ADDRESS: 25770 San Bernardino Ave.
CITY: San Bernardino STATE: CA ZIP: 92408

D. CONTACT PERSON:

E. PHONE NO.:

4. PERMIT INFORMATION

APP. NO.: 366147

A. AGENCY: SCAQMD

B. APPLICATION TYPE: new construction

C. AGENCY CONTACT PERSON: Chris Perri

D. PHONE NO.: 909-396-2696

E. PERMIT TO CONSTRUCT/OPERATE INFORMATION: P/C NO.: 366147 (A/N) ISSUANCE DATE: 5/24/2001
☐ CHECK IF NO P/C P/O NO.: ISSUANCE DATE:

F. START-UP DATE: June 2003 (Est.)

5. EMISSION INFORMATION

APP. NO.: 366147

A. PERMIT

A1. PERMIT LIMIT: PPMVD@15%O2: NOx-2.5(1-hr), NOx-2(12-mo.), CO-6(1-hr), VOC 1.4, NH3-5(1-hr); PM-.01 gr/scf; mass limits on CO, VOC, PM-10, SOx.

1 gr/100 scf

5. EMISSION INFORMATION

APP. NO.: 366147

A2. BACT/LAER DETERMINATION: The NOx and NH3 limits were believed to represent prior BACT. The CO limit is more stringent than prior BACT in that the averaging time is shorter. The VOC limit is more stringent than prior BACT in that the limit is lower and there is no averaging time.

A3. BASIS OF THE BACT/LAER DETERMINATION: Prior BACT was based on CARB's "Guidance for Power Plant Sitings" dated September 1999, and the more stringent limits on CO and VOC were proposed by the applicant.

B. CONTROL TECHNOLOGY

B1. MANUFACTURER/SUPPLIER:

B2. TYPE: SCR System, Oxidation Catalyst

B3. DESCRIPTION:

B4. CONTROL EQUIPMENT PERMIT APPLICATION DATA: P/C NO.: 366147 (A/N) ISSUANCE DATE: 5/24/2001
P/O NO.: ISSUANCE DATE:

B5. WASTE AIR FLOW TO CONTROL EQUIPMENT: FLOW RATE
ACTUAL CONTAMINANT LOADING: BLOWER HP:

B6. WARRANTY:

B7. PRIMARY POLLUTANTS: NOx, CO, VOC, PM, SOx

B8. SECONDARY POLLUTANTS: NH3

B9. SPACE REQUIREMENT: SCR Catalyst: 2750 cu. ft, CO Oxidation Catalyst: 240 cu. ft. HRSG Plan area: approx. 112' x 64'.

B10. LIMITATIONS. B11. UNUSED

B12. OPERATING HISTORY:

B13. UNUSED B14. UNUSED

C. CONTROL EQUIPMENT COSTS

C1. CAPITAL COST: ☐ CHECK IF INSTALLATION COST IS INCLUDED IN EQUIPMENT COST
EQUIPMENT: $ INSTALLATION: $ (2000) SOURCE OF COST DATA:

C2. ANNUAL OPERATING COST: $ (2000) SOURCE OF COST DATA:

D. DEMONSTRATION OF COMPLIANCE

D1. STAFF PERMFORMING FIELD EVALUATION:
ENGINEER'S NAME: INSPECTOR'S NAME: DATE:

D2. COMPLIANCE DEMONSTRATION: CEMS for NOx and CO, quarterly NH3 tests.

D3 VARIANCE: NO OF VARIANCES: DATES:
CAUSES

D4. VIOLATION. NO OF VIOLATIONS: DATES.
CAUSES:

D5. MAINTENANCE REQUIREMENTS: Periodic replacement/refurbishment of catalysts; maintenance of NH3 storage and injection system. D6 UNUSED

5. EMISSION INFORMATION

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D7. SOURCE TEST/PERFORMANCE DATA RESULTS AND ANALYSIS:

DATE OF SOURCE TEST: Full source test to be conducted within 60 days after first full-load operation, not to exceed 180 days after startup.

CAPTURE EFFICIENCY:

DESTRUCTION EFFICIENCY:

OVERALL EFFICEINCY:

SOURCE TEST/PERFORMANCE DATA

OPERATING CONDITIONS:

TEST METHODS:

6. COMMENTS

APP NO.: 366147

It should be noted that the permit emission limits have not yet been verified by performance data.

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: PSO SOUTHWESTERN POWER PLT

RBLC ID:	*OK-0117
*Corporate/Company Name:	PUBLIC SERVICE CO OF OKLAHOMA
*Facility Name:	PSO SOUTHWESTERN POWER PLT
Facility State:	OK
EPA Region:	6
Application Accepted Received Date:	08/17/2006 ACT
Permit Issuance Date:	02/09/2007 ACT
Date determination entered in RBLC:	03/15/2007
Date determination last updated:	03/16/2007
Facility Description:	ELECTRIC GENERATING STATION

Process Information : PSO SOUTHWESTERN POWER PLT

*Process Name:	GAS-FIRED TURBINES
*Process Type:	15.210
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	

Pollutant Information: PSO SOUTHWESTERN POWER PLT - GAS-FIRED TURBINES

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	DRY LOW NOX
Emission Limit 1:	9.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method	P

Code:	
*Control Method Description:	COMBUSTION CONTROL
Emission Limit 1:	25.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	@15% O2
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	USE OF LOW ASH FUEL (NATURAL GAS) AND EFFICIENT COMBUSTION
Emission Limit 1:	0.0093
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: LAWTON ENERGY COGEN FACILITY

RBLC ID:	*OK-0115
*Corporate/Company Name:	ENERGETIX
*Facility Name:	LAWTON ENERGY COGEN FACILITY
Facility State:	OK
EPA Region:	6
Application Accepted Received Date:	10/10/2006 ACT
Permit Issuance Date:	12/12/2006 ACT
Date determination entered in RBLC:	01/30/2007
Date determination last updated:	03/13/2007
Facility Description:	ELECTRIC POWER GENERATION SITE

Process Information : LAWTON ENERGY COGEN FACILITY

*Process Name:	COMBUSTION TURBINE AND DUCT BURNER
*Process Type:	15.210
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	

Pollutant Information: LAWTON ENERGY COGEN FACILITY - COMBUSTION TURBINE AND DUCT BURNER

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	SCR W/ DRY LOW NOX BURNERS AND DRY LOW NOX COMBUSTION
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	@15% O2
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	16.3800
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	@15% O2
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	0.0067
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : LAWTON ENERGY COGEN FACILITY

*Process Name: AUXILIARY BOILER
*Process Type: 11.310
Primary Fuel:
Throughput:
Throughput Unit:
Process Notes:

Pollutant Information: LAWTON ENERGY COGEN FACILITY - AUXILIARY BOILER

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: P
*Control Method Description: DRY-LOW NOX BURNERS
Emission Limit 1: 0.0360
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: ROCKY MOUNTAIN ENERGY CENTER, LLC

RBLC ID: CO-0056
*Corporate/Company Name: CALPINE CORP.
*Facility Name: ROCKY MOUNTAIN ENERGY CENTER, LLC
Facility State: CO
EPA Region: 8
Application Accepted Received Date: 01/06/2005 ACT
Permit Issuance Date: 05/02/2006 ACT
Date determination entered in RBLC: 05/02/2006
Date determination last updated: 05/08/2006
Facility NATURAL GAS-FIRED, COMBINED-CYCLE COMBUSTION TURBINES.

Description:

Process Information : ROCKY MOUNTAIN ENERGY CENTER, LLC

*Process Name:	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	300.00
Throughput Unit:	MW
Process Notes:	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.

Pollutant Information: ROCKY MOUNTAIN ENERGY CENTER, LLC - NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	LOW NOX BURNERS AND SCR
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	HOURLY MAX
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	USE GOOD COMBUSTION CONTROL PRACTICES AND CATALISTIC OXIDATION.
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	NATURAL GAS QUALITY FUEL ONLY AND GOOD COMBUSTION CONTROL PRACTICES.
Emission Limit 1:	0.0074
Emission Limit 1 Unit:	LB/MMBTU

Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	B
*Control Method Description:	NATURAL GAS QUALITY GAS ONLY FUEL, GOOD COMBUSTION PRATICES AND OXIDATION CATALYST.
Emission Limit 1:	0.0029
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: FORSYTH ENERGY PLANT

RBLC ID:	NC-0101
*Corporate/Company Name:	FORSYTH ENERGY PROJECTS, LLC
*Facility Name:	FORSYTH ENERGY PLANT
Facility State:	NC
EPA Region:	4
Application Accepted Received Date:	12/13/2002 ACT
Permit Issuance Date:	09/29/2005 ACT
Date determination entered in RBLC:	08/31/2004
Date determination last updated:	08/30/2006
Facility Description:	THREE COMBINED-CYCLE COMBUSTION TURBINE GENERATORS, EACH WITH A HEAT RECOVERY STEAM GENERATORS (HRSG) ALONG WITH NATURAL GAS-FIRED DUCT BURNERS TO MEET PEAK DEMAND. THE STEAM GENERATED THROUGH THE THREE HRSGS WILL DRIVE A STEAM TURBINE. THE ENTIRE PLANT WILL BE CAPABLE OF GENERATING A NOMINAL POWER OUTPUT OF 812 MEGAWATTS.

Process Information : FORSYTH ENERGY PLANT

*Process Name:	TURBINE, COMBINED CYCLE, NATURAL GAS, (3)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1844.30
Throughput Unit:	MMBTU/H
Process Notes:	Each of these units have a natural gas-fired heat recovery steam generator and a natural gas-fired duct burner. Each CT combusts natural gas as the primary fuel and very low-sulfur No. 2 fuel oil as a backup fuel. The use of fuel oil is limited to 1,200 hours per year and only during the months of November through March, and is listed as a separate process. These units are listed as a combined source (all three units) for each type of fuel.

Pollutant Information: FORSYTH ENERGY PLANT - TURBINE, COMBINED CYCLE, NATURAL GAS, (3)

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES AND EFFICIENT PROCESS DESIGN.
Emission Limit 1:	11.6000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-hour average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW-NOX COMBUSTORS AND SELECTIVE CATALYTIC REDUCTION (SCR)
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24 HOUR ROLLING AVERAGE, FIRST 500 HOURS
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	USE OF ONLY CLEAN-BURNING LOW-SULFUR FUELS AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	0.0190
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1	based on 3-hour average

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF VERY LOW-SULFUR FUEL (NATURAL GAS)
Emission Limit 1:	0.0006
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	based on 3-hour average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	VERY LOW-SULFUR FUEL (NATURAL GAS) OR NO. 2 FUEL OIL (0.015% SULFUR CONTENT BY WEIGHT).
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	SEE NOTE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FORSYTH ENERGY PLANT

*Process Name:	AUXILLIARY BOILER
*Process Type:	12.310
Primary Fuel:	NATURAL GAS
Throughput:	110.20
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: FORSYTH ENERGY PLANT - AUXILLIARY BOILER

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method	LOW-NOX BURNERS, GOOD COMBUSTION CONTROL AND CLEAN

Description:	BURNING, LOW-SULFUR FUEL (NATURAL GAS).
Emission Limit 1:	15.1300
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	based on 3-hour average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Oxides (SOx)
*Control Method Code:	P
*Control Method Description:	LOW-NOX BURNERS, GOOD COMBUSTION CONTROL AND CLEAN BURNING, LOW-SULFUR FUEL (NATURAL GAS).
Emission Limit 1:	0.6100
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	based on 3-hour average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	LOW-NOX BURNERS, GOOD COMBUSTION CONTROL AND CLEAN BURNING, LOW-SULFUR FUEL (NATURAL GAS).
Emission Limit 1:	9.0800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	based on 3-hour average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	LOW-NOX BURNERS, GOOD COMBUSTION CONTROL AND CLEAN BURNING, LOW-SULFUR FUEL (NATURAL GAS).
Emission Limit 1:	0.5900
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	based on 3-hour average
*Case-by-Case Basis:	BACT-PSD
Other Applicable	

Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description: LOW-NOX BURNERS, GOOD COMBUSTION CONTROL AND CLEAN BURNING, LOW-SULFUR FUEL (NATURAL GAS).
Emission Limit 1: 0.8200
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: based on 3-hour average
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : FORSYTH ENERGY PLANT

*Process Name: IC ENGINE, EMERGENCY GENERATOR
*Process Type: 17.210
Primary Fuel: DIESEL FUEL
Throughput: 11.40
Throughput Unit: MMBTU/H
Process Notes: usage limited to 500 h/yr

Pollutant Information: FORSYTH ENERGY PLANT - IC ENGINE, EMERGENCY GENERATOR

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 36.4800
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.5800
Emission Limit 1 Unit: LB/H

Emission Limit 1 Avg. Time/Condition: *Case-by-Case
Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 1.0400
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: *Case-by-Case
Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 9.6900
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: *Case-by-Case
Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 1.1400
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: *Case-by-Case
Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : FORSYTH ENERGY PLANT

*Process Name:	IC ENGINE, EMERGENCY FIREWATER PUMP
*Process Type:	17.210
Primary Fuel:	DIESEL FUEL
Throughput:	11.40
Throughput Unit:	MMBTU/H
Process Notes:	usage limited to 200 h/yr

Pollutant Information: FORSYTH ENERGY PLANT - IC ENGINE, EMERGENCY FIREWATER PUMP

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	36.4800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.5800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.0400
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case	BACT-PSD

Basis:
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 9.6900
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 1.1400
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : FORSYTH ENERGY PLANT

*Process Name: COOLING TOWER
*Process Type: 99.003
Primary Fuel:
Throughput: 3834.00
Throughput Unit: GAL/MIN
Process Notes:

Pollutant Information: FORSYTH ENERGY PLANT - COOLING TOWER

*Pollutant Name: Particulate Matter (PM)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.0070
Emission Limit 1 Unit: LB/H

Unit:	
Emission Limit 1 Avg. Time/Condition:	based on 3-hour average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0020
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	based on 3-hour average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FORSYTH ENERGY PLANT

*Process Name:	TURBINE, COMBINED CYCLE, FUEL OIL, (3)
*Process Type:	15.290
Primary Fuel:	LOW-SULFUR FUEL OIL
Throughput:	2003.20
Throughput Unit:	MMBTU/H
Process Notes:	These units are listed in addition to the natural gas units because they account for the emissions while firing very low-sulfur No. 2 fuel oil. FUEL USAGE LIMITED TO MAXIMUM OF 1,200 HOURS PER YEAR PER TURBINE DURING THE MONTHS OF NOVEMBER THROUGH MARCH. Limits for operation without duct burner.

Pollutant Information: FORSYTH ENERGY PLANT - TURBINE, COMBINED CYCLE, FUEL OIL, (3)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	DRY LOW NOX COMBUSTORS AND USE OF WATER INJECTION.
Emission Limit 1:	8.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	FOR FIRST 500 HOURS OF OPERATION
*Case-by-Case Basis:	BACT-PSD
Other Applicable	

Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF VERY LOW-SULFUR NO. 2 FUEL OIL (0.015% SULFUR) LIMITED TO 1,200 HOURS PER YEAR PER TURBINE.
Emission Limit 1:	0.0162
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	EFFICIENT COMBUSTION PROCESS DESIGN.
Emission Limit 1:	15.7000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	USE OF ONLY CLEAN-BURNING, LOW- SULFUR FUELS AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	0.0358
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	based on 3-hour average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	VERY LOW-SULFUR NO. 2 FUEL OIL, WITH AND W/OP DUCT BURNERS. USAGE OF FUEL OIL LIMITED TO A MAXIMUM OF 1,200 HOURS PER YEAR DURING THE MONTHS OF NOVEMBER THROUGH

	MARCH.
Emission Limit 1:	0.0150
Emission Limit 1 Unit:	% SULFUR BY WEIGHT
Emission Limit 1 Avg. Time/Condition:	SULFURIC ACID MIST
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FORSYTH ENERGY PLANT

*Process Name:	TURBINE & DUCT BURNER, COMBINED CYCLE, FUEL OIL, 3
*Process Type:	15.290
Primary Fuel:	FUEL OIL
Throughput:	2003.20
Throughput Unit:	MMBTU/H
Process Notes:	Combined turbine and duct burner emission limits.

Pollutant Information: FORSYTH ENERGY PLANT - TURBINE & DUCT BURNER, COMBINED CYCLE, FUEL OIL, 3

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	VERY LOW SULFUR NO. 2 FUEL OIL (0.015% S) LIMITED TO 1,200 H/YR PER TURBINE
Emission Limit 1:	0.0154
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	EFFICIENT COMBUSTION PROCESS DESIGN
Emission Limit 1:	25.1000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By	No

Agency (Y/N)?:	
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	EFFICIENT COMBUSTION DESIGN
Emission Limit 1:	6.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN-BURNING, LOW SULFUR FUELS (< 0.015% S), GOOD COMBUSTION PRACTICES.
Emission Limit 1:	0.0248
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-hr avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	VERY LOW SULFUR NO. 2 FUEL OIL (< 0.015% S). USAGE OF FUEL OIL LIMITED TO A MAXIMUM OF 1,200 H/YR DURING THE MONTHS OF NOVEMBER THROUGH MARCH.
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	SEE NOTE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FORSYTH ENERGY PLANT

*Process Name:	TURBINE & DUCT BURNER, COMBINED CYCLE, NAT GAS, 3
*Process Type:	15.210
Primary Fuel:	NATURAL GAS

Throughput:	1844.30
Throughput Unit:	MMBTU/H
Process Notes:	Each of these units have a natural gas-fired HRSG & a natural gas fired duct burner. Limits for this process are for turbines and duct burners.

Pollutant Information: FORSYTH ENERGY PLANT - TURBINE & DUCT BURNER, COMBINED CYCLE, NAT GAS, 3

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES AND EFFICIENT PROCESS DESIGN
Emission Limit 1:	25.9000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-hr avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES AND EFFICIENT PROCESS DESIGN
Emission Limit 1:	5.7000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN BURNING LOW-SULFUR FUELS AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	0.0210
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-hr avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL (NATURAL GAS)
Emission Limit 1:	0.0006
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-hr avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	USE OF LOW SULFUR FUEL (NATURAL GAS)
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	SEE NOTE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: TRACY SUBSTATION EXPANSION PROJECT

RBLC ID:	NV-0035
*Corporate/Company Name:	SIERRA PACIFIC POWER COMPANY
*Facility Name:	TRACY SUBSTATION EXPANSION PROJECT
Facility State:	NV
EPA Region:	9
Application Accepted Received Date:	
Permit Issuance Date:	08/16/2005 ACT
Date determination entered in RBLC:	09/12/2005
Date determination last updated:	08/31/2006
Facility Description:	2 - NATURAL GAS FIRED COMBINED CYCLE COMBUSTION TURBINE GENERATORS WITH HRSG''S AND DUCT BURNERS. 2 - NATURAL GAS

FIRED FUEL PREHEATERS. 1 - NATURAL GAS FIRED AUXILIARY BOILER

Process Information : TRACY SUBSTATION EXPANSION PROJECT

*Process Name:	FUEL PREHEATER #1
*Process Type:	19.600
Primary Fuel:	NATURAL GAS
Throughput:	4.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: TRACY SUBSTATION EXPANSION PROJECT - FUEL PREHEATER #1

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES
Emission Limit 1:	0.0200
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	0.0300
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES
Emission Limit 1:	0.1400
Emission Limit 1 Unit:	LB/MMBTU

Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES
Emission Limit 1:	0.0800
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : TRACY SUBSTATION EXPANSION PROJECT

*Process Name:	TURBINE, COMBINED CYCLE COMBUSTION #1 WITH HRSG AND DUCT BURNER.
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	306.00
Throughput Unit:	MW
Process Notes:	

Pollutant Information: TRACY SUBSTATION EXPANSION PROJECT - TURBINE, COMBINED CYCLE COMBUSTION #1 WITH HRSG AND DUCT BURNER.

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	0.0110
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)

*Control Method Code:	B
*Control Method Description:	SELECTIVE CATALYST REDUCTION W/ AMMONIA INJECTION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST FOR CO ALSO MINIMIZES VOC EMISSIONS.
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	1.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	SULFURIC ACID MIST

*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : TRACY SUBSTATION EXPANSION PROJECT

*Process Name:	BOILER, AUXILIARY
*Process Type:	11.310
Primary Fuel:	NATURAL GAS
Throughput:	159.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: TRACY SUBSTATION EXPANSION PROJECT - BOILER, AUXILIARY

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	0.0040
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	0.0370
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES

Emission Limit 1:	0.0360
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	0.0050
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : TRACY SUBSTATION EXPANSION PROJECT

*Process Name:	FUEL PREHEATER #2
*Process Type:	19.600
Primary Fuel:	NATURAL GAS
Throughput:	4.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: TRACY SUBSTATION EXPANSION PROJECT - FUEL PREHEATER #2

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	0.0200
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES
Emission Limit 1:	0.1400
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	0.0300
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	0.0800
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : TRACY SUBSTATION EXPANSION PROJECT

*Process Name:	TURBINE, COMBINED CYCLE COMBUSTION #2 WITH HRSG AND DUCT BURNER.
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	306.00

Throughput Unit: MW
Process Notes:

Pollutant Information: TRACY SUBSTATION EXPANSION PROJECT - TURBINE, COMBINED CYCLE COMBUSTION #2 WITH HRSG AND DUCT BURNER.

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*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: BEST COMBUSTION PRACTICES.
Emission Limit 1: 0.0110
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition: 3-HOUR ROLLING
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS, OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: A
*Control Method Description: SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION
Emission Limit 1: 2.0000
Emission Limit 1 Unit: PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition: 3-HOUR ROLLING
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: A
*Control Method Description: OXIDATION CATALYST SYSTEM
Emission Limit 1: 3.5000
Emission Limit 1 Unit: PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition: 3-HOUR ROLLING
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method: A

Code:	
*Control Method Description:	OXIDATION CATALYST FOR CO ALSO MINIMIZES VOC EMISSIONS.
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-HOUR ROLLING
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	BEST COMBUSTION PRACTICES.
Emission Limit 1:	1.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	SULFURIC ACID MIST
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: WANAPA ENERGY CENTER

RBLC ID:	*OR-0041
*Corporate/Company Name:	DIAMOND WANAPA I, L.P.
*Facility Name:	WANAPA ENERGY CENTER
Facility State:	OR
EPA Region:	10
Application Accepted Received Date:	08/27/2003 ACT
Permit Issuance Date:	08/08/2005 ACT
Date determination entered in RBLC:	04/08/2004
Date determination last updated:	04/17/2006
Facility Description:	A 1,200 MW NATURAL GAS-FIRED COMBINED CYCLE COMBUSTION TURBINE PROJECT EMPLOYING A WATER-COOLED STEAM CONDENSING SYSTEM. FOUR COMBUSTION TURBINES, FOUR HEAT RECOVERY STEAM GENERATORS, TWO STEAM TURBINES, AND TWO COOLING TOWERS EMPLOYED.

Process Information : WANAPA ENERGY CENTER

*Process Name:	COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	2384.10
Throughput Unit:	MMBTU/H
Process Notes:	GE 7241FA TURBINE AND DUCT BURNER. COMBUSTION TURBINE - 1,778.5 MMBTU/HR DUCT BURNER - 605.6 MMBTU/HR

Pollutant Information: WANAPA ENERGY CENTER - COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW-NOX BURNERS AND SCR.
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMDV @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 HOURS
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST.
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMDV @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 HOURS
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMDV @ 15% O2
Emission Limit 1	3 HOURS

Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	SEE POLUTANT NOTE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	SEE POLUTANT NOTE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	SEE POLLUTANT NOTE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : WANAPA ENERGY CENTER

*Process Name:	COOLING TOWER
*Process Type:	99.009
Primary Fuel:	COLUMBIA RIVER WATER
Throughput:	6.20
Throughput Unit:	cubic feet per second
Process Notes:	

Pollutant Information: WANAPA ENERGY CENTER - COOLING TOWER

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	A
*Control Method Description:	INSTALLATION OF HIGH EFFICIENCY 0.0005% DRIFT ELIMINATORS. LIMIT TOTAL DISSOLVED SOLIDS IN THE WATER TO LESS THAN 3,532 PPMW.
Emission Limit 1:	3532.0000
Emission Limit 1 Unit:	PPMW
Emission Limit 1 Avg. Time/Condition:	SOLIDS IN MIST
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: HINES POWER BLOCK 4

RBLC ID:	FL-0265
*Corporate/Company Name:	PROGRESS ENERGY
*Facility Name:	HINES POWER BLOCK 4
Facility State:	FL
EPA Region:	4
Application Accepted Received Date:	08/06/2004 ACT
Permit Issuance Date:	06/08/2005 ACT
Date determination entered in RBLC:	07/01/2005
Date determination last updated:	01/12/2006
Facility Description:	COMBINED CYCLE POWER PLANT. THIS IS THE 4TH BLOCK OF POWER ADDED, MAKING THE TOTAL GENERATING CAPACITY OF THE FACILITY APPROXIMATELY 2090 MW.

Process Information : HINES POWER BLOCK 4

*Process Name:	COMBINED CYCLE TURBINE
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	530.00
Throughput Unit:	MW
Process Notes:	

Pollutant Information: HINES POWER BLOCK 4 - COMBINED CYCLE TURBINE

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	NATURAL GAS
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	CLEAN FUELS
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	GRAIN/100 CF GAS
Emission Limit 1 Avg. Time/Condition:	CONTINUOUS
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN FUELS
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6 MIM BLOCK AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable	

Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	8.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	NATURAL GAS
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: CRESCENT CITY POWER

RBLC ID:	LA-0192
*Corporate/Company Name:	CRESENT CITY POWER, LLC
*Facility Name:	CRESCENT CITY POWER
Facility State:	LA
EPA Region:	6
Application Accepted Received Date:	04/20/2004 ACT
Permit Issuance Date:	06/06/2005 ACT
Date determination entered in RBLC:	04/13/2006
Date determination last updated:	08/30/2006
Facility Description:	NEW 600 MW NATURAL GAS-FIRED COMBINED CYCLE POWER PLANT

Process Information : CRESCENT CITY POWER

*Process Name:	GAS TURBINES - 187 MW (2)
*Process Type:	15.210
Primary Fuel:	
Throughput:	2006.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: CRESCENT CITY POWER - GAS TURBINES - 187 MW (2)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	USE OF CLEAN BURNING FUEL AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	29.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF LOW SULFUR NATURAL GAS, 1.8 GRAINS PER 100 SCF
Emission Limit 1:	10.1000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	LOW NOX BURNERS AND SELECTIVE CATLYTIC REDUCTION (SCR) ADD-ON CONTROLS
Emission Limit 1:	21.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	CO OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	17.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	B
*Control Method Description:	CO OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	2.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	USE OF LOW SULFUR NATURAL GAS, 1.8 GRAINS PER 100 SCF
Emission Limit 1:	8.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	*SEE NOTES. HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : CRESCENT CITY POWER

*Process Name:	DUCT BURNERS (2)
*Process Type:	11.310
Primary Fuel:	
Throughput:	759.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: CRESCENT CITY POWER - DUCT BURNERS (2)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method	USE OF CLEAN BURNING FUEL AND GOOD COMBUSTION PRACTICES

Description:	
Emission Limit 1:	11.9000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF LOW SULFUR NATURAL GAS, 1.8 GRAINS PER 100 SCF
Emission Limit 1:	3.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	LOW NOX BURNERS AND SELECTIVE CATLYTIC REDUCTION (SCR) ADD-ON CONTROLS
Emission Limit 1:	8.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	CO OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	6.6000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable	OPERATING PERMIT

Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: B
*Control Method Description: CO OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES
Emission Limit 1: 12.9000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: HOURLY MAXIMUM
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfuric Acid (mist, vapors, etc)
*Control Method Code: P
*Control Method Description: USE OF LOW SULFUR NATURAL GAS, 1.8 GRAINS PER 100 SCF
Emission Limit 1: 3.2000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: *SEE NOTES. HOURLY MAXIMUM
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT
Cost Verified By Agency (Y/N)?: No

Process Information : CRESCENT CITY POWER

*Process Name: FUEL GAS HEATERS (3)
*Process Type: 13.310
Primary Fuel:
Throughput: 19.00
Throughput Unit: MMBTU/H
Process Notes:

Pollutant Information: CRESCENT CITY POWER - FUEL GAS HEATERS (3)

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: USE OF LOW SULFUR PIPELINE NATURAL GAS AND GOOD COMBUSTION PRACTICES
Emission Limit 1: 0.1400
Emission Limit 1 Unit: LB/H
Emission Limit 1 HOURLY MAXIMUM

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF LOW SULFUR PIPELINE NATURAL GAS AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	0.0080
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	LOW NOX BURNERS AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	1.8100
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	1.5200
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)

*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	0.1000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : CRESCENT CITY POWER

*Process Name:	CHILLER COOLING TOWER
*Process Type:	99.009
Primary Fuel:	
Throughput:	35000.00
Throughput Unit:	Gals H20/min
Process Notes:	

Pollutant Information: CRESCENT CITY POWER - CHILLER COOLING TOWER

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.7500
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : CRESCENT CITY POWER

*Process Name:	DIESEL FIRED WATER PUMP
*Process Type:	17.210
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	425 HP

Pollutant Information: CRESCENT CITY POWER - DIESEL FIRED WATER PUMP

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES
Emission Limit 1:	0.1400
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES
Emission Limit 1:	0.6100
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES
Emission Limit 1:	8.9000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES
Emission Limit 1:	1.8800
Emission Limit 1 Unit:	LB/H
Emission Limit 1	HOURLY MAXIMUM

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES
Emission Limit 1:	0.0500
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : CRESCENT CITY POWER

*Process Name:	OIL/WATER SEPARATOR
*Process Type:	99.999
Primary Fuel:	
Throughput:	10.00
Throughput Unit:	Gals/min
Process Notes:	

Pollutant Information: CRESCENT CITY POWER - OIL/WATER SEPARATOR

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.1200
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : CRESCENT CITY POWER

*Process Name:	MAIN COOLING TOWER
*Process Type:	99.009
Primary Fuel:	
Throughput:	290200.00
Throughput Unit:	Gals/min
Process Notes:	

Pollutant Information: CRESCENT CITY POWER - MAIN COOLING TOWER

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	MARLEY EXCEL DRIFT ELIMINATORS
Emission Limit 1:	2.6100
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: BERRIEN ENERGY, LLC

RBLC ID:	MI-0366
*Corporate/Company Name:	BERRIEN ENERGY, LLC
*Facility Name:	BERRIEN ENERGY, LLC
Facility State:	MI
EPA Region:	5
Application Accepted Received Date:	02/10/2005 ACT
Permit Issuance Date:	04/13/2005 ACT
Date determination entered in RBLC:	12/22/2003
Date determination last updated:	01/04/2006
Facility Description:	ELECTRIC POWER GENERATING FACILITY.

Process Information : BERRIEN ENERGY, LLC

*Process Name:	3 COMBUSTION TURBINES AND DUCT BURNERS
*Process Type:	15.210

Primary Fuel:	NATURAL GAS
Throughput:	1584.00
Throughput Unit:	MMBTU/H
Process Notes:	EACH TURBINE IS EQUIPPED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG). EACH HRSG IS EQUIPPED WITH A NATURAL GAS FIRED DUCT BURNER (650 MMBTU/H). TOTAL NOMINAL PLAN GENERATING CAPACITY WITHOUT DUCT FIRING IS 800 MW. A MAX OUTPUT OF 1100 MW THROUGH SUPPLEMENTAL FIRING OF HRSGS.

Pollutant Information: BERRIEN ENERGY, LLC - 3 COMBUSTION TURBINES AND DUCT BURNERS

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	STATE OF THE ART COMBUSTION TECHNIQUES AND USE OF NATURAL GAS ARE BACT FOR PM10.
Emission Limit 1:	19.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	N/A
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDIZER PROVIDES SOME CONTROL FOR VOCS.
Emission Limit 1:	3.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	N/A
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	DRY LOW NOX BURNERS AND SELECTIVE CATALYTIC REDUCTION.
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPMDV @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24-HOUR ROLLING AVG EACH HOUR
*Case-by-Case Basis:	BACT-PSD
Other Applicable	N/A

Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: A
*Control Method Description: CATALYTIC OXIDATION.
Emission Limit 1: 2.0000
Emission Limit 1 Unit: PPMDV @ 15% O2
Emission Limit 1 Avg. Time/Condition: 3-HOUR BLOCK
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: N/A
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Formaldehyde
*Control Method Code: A
*Control Method Description: CATALYTIC OXIDIZER IS BACT FOR TOXICS.
Emission Limit 1: 5.0000
Emission Limit 1 Unit: T/YR
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements: N/A
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Ammonia (NH3)
*Control Method Code: N
*Control Method Description: PROPER STOICIOMETRIC ADDITION OF NH3.
Emission Limit 1: 10.0000
Emission Limit 1 Unit: PPM
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements: N/A
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: FPL TURKEY POINT POWER PLANT

RBLC ID:	FL-0263
*Corporate/Company Name:	FLORIDA POWER AND LIGHT
*Facility Name:	FPL TURKEY POINT POWER PLANT
Facility State:	FL
EPA Region:	4
Application Accepted Received Date:	11/14/2003 ACT
Permit Issuance Date:	02/08/2005 ACT
Date determination entered in RBLC:	03/08/2005
Date determination last updated:	01/12/2006
Facility Description:	THE PROPOSED A "4 ON 1" COMBINED CYCLE UNIT 5, WHICH WILL CONSIST OF FOUR GE MODEL FA GAS TURBINES (170 MW EACH), FOUR HEAT RECOVERY STEAM GENERATORS, A SINGLE STEAM TURBINE-ELECTRICAL GENERATOR (470 MW), AND A MECHANICAL DRAFT COOLING TOWER. NEW COMBINED CYCLE UNIT 5 WILL HAVE A TOTAL GENERATING CAPACITY OF APPROXIMATELY 1150 MW. THE EXISTING TURKEY POINT FOSSIL PLANT CURRENTLY CONSISTS OF TWO FOSSIL FUEL-FIRED STEAM ELECTRICAL GENERATING UNITS AND FIVE •BLACK START• DIESEL FIRED PEAKING GENERATORS. FOSSIL FUEL-FIRED STEAM ELECTRIC GENERATING UNITS 1 AND 2 (440 MW EACH) BEGAN OPERATION IN 1967 AND 1968, RESPECTIVELY.

Process Information : FPL TURKEY POINT POWER PLANT

*Process Name:	170 MW COMBUSTION TURBINE, 4 UNITS
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	GENERATING CAPACITY: EACH OF THE FOUR GAS TURBINES HAS A NOMINAL GENERATING CAPACITY OF 170 MW FOR GAS FIRING (180 MW FOR OIL FIRING). EACH OF THE FOUR HEAT RECOVERY STEAM GENERATORS (HRSGS) PROVIDES STEAM TO THE SINGLE STEAM TURBINE ELECTRICAL GENERATOR, WHICH HAS A NOMINAL CAPACITY OF 470 MW. THE TOTAL NOMINAL GENERATING CAPACITY OF THE •4-ON-1• COMBINED CYCLE UNIT IS 1150 MW. FUELS: EACH GAS TURBINE WILL FIRE NATURAL GAS AS THE PRIMARY FUEL AND ULTRA LOW SULFUR (0.0015% SULFUR) DISTILLATE OIL AS A RESTRICTED ALTERNATE FUEL. EMISSIONS OF ALL POLLUTANTS INCREASE WITH THE FIRING OF OIL. THE APPLICANT REQUESTS 500 HOURS PER YEAR PER GAS TURBINE (OR EQUIVALENT) FOR OIL FIRING. MODES OF OPERATION: STANDARD NORMAL OPERATION, WITH DUCT BURNER, POWER AUGMENTATION AND PEAKING.

Pollutant Information: FPL TURKEY POINT POWER PLANT - 170 MW COMBUSTION TURBINE, 4 UNITS

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method	B

Code:	
*Control Method Description:	NOX EMISSIONS WILL BE REDUCED WITH DRY LOW-NOX (DLN) COMBUSTION TECHNOLOGY FOR GAS FIRING AND WATER INJECTION FOR OIL FIRING. IN COMBINATION WITH THESE NOX CONTROLS, A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM FURTHER REDUC
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD@ 15 % O2
Emission Limit 1 Avg. Time/Condition:	24-HR (ALL MODES OF OPERATION)
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NESHAP, NSPS, OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	CO WILL BE MINIMIZED BY THE EFFICIENT COMBUSTION OF NATURAL GAS AND DISTILLATE OIL AT HIGH TEMPERATURES
Emission Limit 1:	8.0000
Emission Limit 1 Unit:	PPMVD @ 15 % O2
Emission Limit 1 Avg. Time/Condition:	24-HR AVG. TIME (CT & DUCT BURNER)
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	PM/PM10 WILL BE MINIMIZED BY THE EFFICIENT COMBUSTION OF NATURAL GAS AND DISTILLATE OIL AT HIGH TEMPERATURES.
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	SEE NOTE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	EMISSIONS OF SAM AND SO2 WILL BE MINIMIZED BY FIRING NATURAL GAS AND RESTRICTING THE AMOUNTS OF ULTRA LOW SULFUR DISTILLATE OIL.
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	GR S/100 SCF GAS
Emission Limit 1	

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	VOC EMISSIONS WILL BE MINIMIZED BY THE EFFICIENT COMBUSTION OF NATURAL GAS AND DISTILLATE OIL AT HIGH TEMPERATURES.
Emission Limit 1:	1.3000
Emission Limit 1 Unit:	PPMVD @ 15 % O2
Emission Limit 1 Avg. Time/Condition:	STACK TEST (CT NORMAL) GAS
*Case-by-Case Basis:	
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: BP CHERRY POINT COGENERATION PROJECT

RBLC ID:	*WA-0328
*Corporate/Company Name:	BP WEST COAST PRODUCTS, LLC
*Facility Name:	BP CHERRY POINT COGENERATION PROJECT
Facility State:	WA
EPA Region:	10
Application Accepted Received	

Date:	
Permit Issuance Date:	01/11/2005 ACT
Date determination entered in RBLC:	04/17/2006
Date determination last updated:	08/31/2006
Facility Description:	720 MW NATURAL GAS-FIRED COMBINED CYCLE COMBUSTION TURBINE COGENERATION FACILITY ADJACENT TO BP CHERRY POINT PETROEUM REFINERY. THE FACILITY WILL EMPLOY THREE COMBUSTION TURBINES AND HEAT RECOVERY STEAM GENERATORS, ONE STEAM TURBINE, AND A WATER-COOLED STEAM CONDENSING SYSTEM WITH ONE COOLING TOWER.

Process Information : BP CHERRY POINT COGENERATION PROJECT

*Process Name:	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	174.00
Throughput Unit:	MW
Process Notes:	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.

Pollutant Information: BP CHERRY POINT COGENERATION PROJECT - GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	LEAN PRE-MIX DRY LOW-NOX BURNERS ON CT. LOW-NOX DUCT BURNERS. SCR.
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPMDV
Emission Limit 1 Avg. Time/Condition:	3-HR @ 15%O2
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	LEAN PRE-MIX CT BURNER & OXIDATION CATALYST
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMDV
Emission Limit 1 Avg. Time/Condition:	3-HR @ 15%O2
*Case-by-Case	BACT-PSD

Basis:
Other Applicable
Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: LIMIT FUEL TYPE TO NATURAL GAS
Emission Limit 1:
Emission Limit 1 Unit:
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable
Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: B
*Control Method Description: LEAN PRE-MIX CT BURNER & OXIDATION CATALYST
Emission Limit 1:
Emission Limit 1 Unit:
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable
Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: LIMIT FUEL TYPE TO NATURAL GAS
Emission Limit 1:
Emission Limit 1 Unit:
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable
Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Ammonia (NH3)
*Control Method Code: N
*Control Method

Description:	
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMDV
Emission Limit 1 Avg. Time/Condition:	3-HR @ 15% O2
*Case-by-Case Basis:	
Other Applicable Requirements:	OTHER
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LIMIT FUEL TYPE TO NATURAL GAS
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : BP CHERRY POINT COGENERATION PROJECT

*Process Name:	COOLING TOWER
*Process Type:	99.009
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	

Pollutant Information: BP CHERRY POINT COGENERATION PROJECT - COOLING TOWER

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	B
*Control Method Description:	INSTALLATION OF DRIFT ELIMINATORS WITH DRIFT LOSS OF LESS THAN 0.001% OF THE RECIRCULATING WATER FLOW RATE.
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By	No

Agency (Y/N)?:

Process Information : BP CHERRY POINT COGENERATION PROJECT

*Process Name: EMERGENCY GENERATOR
*Process Type: 17.110
Primary Fuel: DIESEL FUEL
Throughput: 1.50
Throughput Unit: MW
Process Notes:

Pollutant Information: BP CHERRY POINT COGENERATION PROJECT - EMERGENCY GENERATOR

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: FUEL MUST SATISFY REQUIREMENTS OF ON-ROAD DIESEL SPECIFICATIONS AT TIME OF FUEL PURCHASE
Emission Limit 1:
Emission Limit 1 Unit:
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: P
*Control Method Description: THE ENGINE MUST BE NEW AND MUST SATISFY THE FEDERAL ENGINE STANDARDS OF 40 CFR 89 FOR YEAR OF PURCHASE.
Emission Limit 1:
Emission Limit 1 Unit:
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: DUKE ENERGY HANGING ROCK ENERGY FACILITY

RBLC ID:	OH-0252
*Corporate/Company Name:	DUKE ENERGY HANGING ROCK, LLC
*Facility Name:	DUKE ENERGY HANGING ROCK ENERGY FACILITY
Facility State:	OH
EPA Region:	5
Application Accepted Received Date:	03/01/2001 ACT
Permit Issuance Date:	12/28/2004 ACT
Date determination entered in RBLC:	04/09/2003
Date determination last updated:	07/05/2005
Facility Description:	FOUR NATURAL GAS (NG) FIRED COMBUSTION TURBINES, WITH DUCT BURNERS; COMBINED CYCLE, EACH 172 MW

Process Information : DUKE ENERGY HANGING ROCK ENERGY FACILITY

*Process Name:	TURBINES (4) (MODEL GE 7FA), DUCT BURNERS ON
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	172.00
Throughput Unit:	MW
Process Notes:	FOUR GE 7FA TURBINES, 172 MW EACH, COMBINED CYCLE W/ DLN AND SCR. ALL POLLUTANT LIMITS ARE FOR INDIVIDUAL UNITS. LIMITS FOR OPERATION OF TURBINE WITH THE DUCT BURNER ON. THE MAXIMUM HOURS OF OPERATION OF THE DUCT BURNER SHALL NOT EXCEED 5500 H/ROLLING 12-MONTHS FOR EACH TURBINE. THE TOTAL NUMBER OF STARTUPS AND SHUTDOWNS SHALL BE LIMITED TO 260 CYCLES (EACH CYCLE IS ONE STARTUP AND SHUTDOWN). EACH TURBINE HAS ROLLING 12-MONTH EMISSIONS LIMITS BASED ON 3260 H/YR WITHOUT DUCT BURNERS, 5500 H/YR WITH DUCT BURNERS, AND THE ESTIMATED EMISSIONS FROM STARTUP/SHUTDOWNS; THESE LIMITS FOR EACH TURBINE ARE AS FOLLOWS: 121.2 TONS OF NOX/ROLLING 12-MONTHS 52.82 TONS OF SO2/ROLLING 12-MONTHS 88.53 TONS OF PM/PM10/ROLLING 12-MONTHS 278.0 TONS OF CO/ROLLING 12-MONTHS 65.1 TONS OF VOC/ROLLING 12-MONTHS 8.07 TONS OF H2SO4/ROLLING 12-MONTHS 140.01 T/YR OF NH3

Pollutant Information: DUKE ENERGY HANGING ROCK ENERGY FACILITY - TURBINES (4) (MODEL GE 7FA), DUCT BURNERS ON

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX (DLN) BURNERS AND SELECTIVE CATALYTIC REDUCTION (SCR)
Emission Limit 1:	27.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	50.3000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	23.3000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL: MAXIMUM S CONTENT OF NATURAL GAS SHALL NOT EXCEED 2 GRAINS/100 SCF
Emission Limit 1:	14.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	

Emission Limit 1:	20.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	2.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Formaldehyde
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.4940
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6 min average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	

Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	37.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY HANGING ROCK ENERGY FACILITY

*Process Name:	BOILERS (2)
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	30.60
Throughput Unit:	MMBTU/H
Process Notes:	LIMITS ARE FOR EACH BOILER INDIVIDUALLY. THE MAXIMUM FUEL HEAT INPUT SHALL NOT EXCEED 91,500 MMBTU/ROLLING 12-MONTHS FOR EACH BOILER.

Pollutant Information: DUKE ENERGY HANGING ROCK ENERGY FACILITY - BOILERS (2)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.0700
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH BOILER
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.1300
Emission Limit 1	LB/H

Unit:
Emission Limit 1 EACH BOILER
Avg.
Time/Condition:
*Case-by-Case BACT-PSD
Basis:
Other Applicable
Requirements:
Cost Verified By No
Agency (Y/N)?:

*Pollutant Name Sulfur Dioxide (SO2)
*Control Method P
Code:
*Control Method THE MAXIMUM S CONTENT OF THE NATURAL GAS SHALL NOT EXCEED
Description: 2 GRAINS PER 100 CUBIC FEET.
Emission Limit 1: 0.0310
Emission Limit 1 LB/H
Unit:
Emission Limit 1 EACH BOILER
Avg.
Time/Condition:
*Case-by-Case BACT-PSD
Basis:
Other Applicable
Requirements:
Cost Verified By No
Agency (Y/N)?:

*Pollutant Name Volatile Organic Compounds (VOC)
*Control Method N
Code:
*Control Method
Description:
Emission Limit 1: 0.4900
Emission Limit 1 LB/H
Unit:
Emission Limit 1 EACH BOILER
Avg.
Time/Condition:
*Case-by-Case BACT-PSD
Basis:
Other Applicable
Requirements:
Cost Verified By No
Agency (Y/N)?:

*Pollutant Name Particulate Matter < 10 • (PM10)
*Control Method N
Code:
*Control Method
Description:
Emission Limit 1: 0.3100
Emission Limit 1 LB/H
Unit:
Emission Limit 1 EACH BOILER
Avg.
Time/Condition:
*Case-by-Case BACT-PSD
Basis:
Other Applicable
Requirements:
Cost Verified By No
Agency (Y/N)?:

Process Information : DUKE ENERGY HANGING ROCK ENERGY FACILITY

*Process Name:	TURBINES (4) (MODEL GE 7FA), DUCT BURNERS OFF
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	172.00
Throughput Unit:	MW
Process Notes:	FOUR GE 7FA TURBINES, 172 MW EACH, COMBINED CYCLE W/ DLN AND SCR. ALL POLLUTANT LIMITS FOR INDIVIDUAL TURBINE UNITS. THESE LIMITS ARE FOR WHEN TURBINES OPERATE WITH DUCT BURNERS OFF. THE TOTAL NUMBER OF STARTUPS AND SHUTDOWNS SHALL BE LIMITED TO 260 CYCLES (EACH CYCLE IS ONE STARTUP AND SHUTDOWN). EACH TURBINE HAS ROLLING 12-MONTH EMISSIONS LIMITS BASED ON 3260 H/YR WITHOUT DUCT BURNERS, 5500 H/YR WITH DUCT BURNERS, AND THE ESTIMATED EMISSIONS FROM STARTUP/SHUTDOWNS; THESE LIMITS FOR EACH TURBINE ARE AS FOLLOWS: 121.2 TONS OF NOX/ROLLING 12-MONTHS 52.82 TONS OF SO2/ROLLING 12-MONTHS 88.53 TONS OF PM/PM10/ROLLING 12-MONTHS 278.0 TONS OF CO/ROLLING 12-MONTHS 65.1 TONS OF VOC/ROLLING 12-MONTHS 8.07 TONS OF H2SO4/ROLLING 12-MONTHS 140.01 T/YR OF NH3

Pollutant Information: DUKE ENERGY HANGING ROCK ENERGY FACILITY - TURBINES (4) (MODEL GE 7FA), DUCT BURNERS OFF

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX (DLN) BURNERS AND SELECTIVE CATALYTIC REDUCTION(SCR)
Emission Limit 1:	21.1000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	25.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By	No

Agency (Y/N)?:

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 15.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: EACH TURBINE
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: LOW SULFUR FUEL: MAXIMUM S CONTENT OF NATURAL GAS SHALL NOT EXCEED 2 GRAINS/100 SCF
Emission Limit 1: 11.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: EACH TURBINE
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfuric Acid (mist, vapors, etc)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 1.6800
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: EACH TURBINE
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Formaldehyde
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.4500
Emission Limit 1 Unit: LB/H

Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6 MIN AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	3.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	28.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY HANGING ROCK ENERGY FACILITY

*Process Name:	COOLING TOWER, (2) 10 CELL MECHANICAL DRAFT
*Process Type:	99.009
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	(2) TEN CELL WET MECHANICAL DRAFT COOLING TOWERS

Pollutant Information: DUKE ENERGY HANGING ROCK ENERGY FACILITY - COOLING TOWER, (2) 10 CELL MECHANICAL DRAFT

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	DRIFT ELIMINATORS
Emission Limit 1:	2.6000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	LIMIT FOR EACH UNIT
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY HANGING ROCK ENERGY FACILITY

*Process Name:	BACKUP GENERATORS (2)
*Process Type:	17.210
Primary Fuel:	DIESEL
Throughput:	500.00
Throughput Unit:	KW
Process Notes:	(2) 500 KW DIESEL FIRED BACKUP GENERATORS, 670 HP, LIMITED TO 500 H/YR OPERATION.

Pollutant Information: DUKE ENERGY HANGING ROCK ENERGY FACILITY - BACKUP GENERATORS (2)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case	BACT-PSD

Basis:
Other Applicable
Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 12.6000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 1.1000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: LOW SULFUR FUEL
Emission Limit 1: 0.2700
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method

Description:	
Emission Limit 1:	0.5900
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY HANGING ROCK ENERGY FACILITY

*Process Name:	FIRE WATER PUMP (1)
*Process Type:	17.210
Primary Fuel:	DIESEL
Throughput:	265.00
Throughput Unit:	HP
Process Notes:	(1) 265 HP DIESEL FIRED FIRE WATER PUMP, LIMITED TO 500 H/YR OPERATION.

Pollutant Information: DUKE ENERGY HANGING ROCK ENERGY FACILITY - FIRE WATER PUMP (1)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	8.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	

Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.6600
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: LOW SULFUR FUEL
Emission Limit 1: 0.1000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter (PM)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.6600
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: WELLTON MOHAWK GENERATING STATION

RBLC ID:	AZ-0047
*Corporate/Company Name:	DOME VALLEY ENERGY PARTNERS
*Facility Name:	WELLTON MOHAWK GENERATING STATION
Facility State:	AZ
EPA Region:	9
Application Accepted Received Date:	04/16/2001 ACT
Permit Issuance Date:	12/01/2004 ACT
Date determination entered in RBLC:	07/08/2005
Date determination last updated:	01/31/2006
Facility Description:	COMBINED CYCLE GAS-FIRED ELECTRICITY GENERATING STATION

Process Information : WELLTON MOHAWK GENERATING STATION

*Process Name:	COMBUSTION TURBINE GENERATORS AND HEAT RECOVERY STEAM GENERATORS - GE7FA TURBINES OPTION
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	THIS IS ONE OF TWO OPERATING SCENARIOS THAT ARE WRITTEN INTO THE FACILITY'S PERMIT. THE COMPANY CAN CHOOSE BETWEEN GE TURBINES OR SIEMENS WESTINGHOUSE TURBINES. THE THROUGHPUT OF THE HEAT RECOVERY STEAM GENERATORS IS 346 MMBTU/HR (WITH SUPPLEMENTAL FIRING)

Pollutant Information: WELLTON MOHAWK GENERATING STATION - COMBUSTION TURBINE GENERATORS AND HEAT RECOVERY STEAM GENERATORS - GE7FA TURBINES OPTION

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	LOW NOX BURNERS AND SELECTIVE CATALYTIC REDUCTION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM AT 15% O2
Emission Limit 1 Avg. Time/Condition:	THREE-HOUR
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method	A

Code:	
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	29.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0023
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD

Basis:	
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6-MINUTE AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

Process Information : WELLTON MOHAWK GENERATING STATION

*Process Name:	COMBUSTION TURBINE GENERATORS AND HEAT RECOVERY STEAM GENERATORS - SW501F TURBINES OPTION
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	180.00
Throughput Unit:	MW
Process Notes:	THIS IS ONE OF TWO OPERATING SCENARIOS THAT ARE WRITTEN INTO THE FACILITY'S PERMIT. THE COMPANY CAN CHOOSE BETWEEN GE TURBINES OR SIEMENS WESTINGHOUSE TURBINES. THE THROUGHPUT OF THE HEAT RECOVERY STEAM GENERATORS IS 383 MMBTU/HR (WITH SUPPLEMENTAL FIRING)

Pollutant Information: WELLTON MOHAWK GENERATING STATION - COMBUSTION TURBINE GENERATORS AND HEAT RECOVERY STEAM GENERATORS - SW501F TURBINES OPTION

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	LOW NOX BURNERS AND SELECTIVE CATALYTIC REDUCTION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	33.1000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0023
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1	3-HOUR AVERAGE

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6-MINUTE AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

Process Information : WELLTON MOHAWK GENERATING STATION

*Process Name:	MECHANICAL DRAFT COOLING TOWERS
*Process Type:	99.009
Primary Fuel:	
Throughput:	170000.00
Throughput Unit:	Gal/Min
Process Notes:	6-CELL COOLING TOWER

Pollutant Information: WELLTON MOHAWK GENERATING STATION - MECHANICAL DRAFT COOLING TOWERS

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	DRIFT ELIMINATORS (NOT TO EXCEED A TOTAL DRIFT RATE OF 0.0005 PERCENT OF CIRCULATING WATER FLOW)
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6-MINUTE AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P

*Control Method Description:	DRIFT ELIMINATORS (NOT TO EXCEED A TOTAL DRIFT RATE OF 0.0005 PERCENT OF CIRCULATING WATER FLOW)
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : WELLTON MOHAWK GENERATING STATION

*Process Name:	AUXILIARY BOILER
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	38.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: WELLTON MOHAWK GENERATING STATION - AUXILIARY BOILER

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	LOW NOX BURNERS
Emission Limit 1:	0.3700
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	BASED ON HIGHER HEATING VALUE OF FUEL
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0800
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	BASED ON HIGHER HEATING VALUE OF FUEL
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	

Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0033
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	BASED ON HIGHER HEATING VALUE OF FUEL
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6-MINUTE AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0033
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	BASED ON HIGHER HEATING VALUE OF FUEL
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0023
Emission Limit 1	LB/MMBTU

Unit:	
Emission Limit 1	BASED ON HIGHER HEATING VALUE OF FUEL
Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : WELLTON MOHAWK GENERATING STATION

*Process Name:	BLACK START GENERATORS
*Process Type:	17.130
Primary Fuel:	NATURAL GAS
Throughput:	6.00
Throughput Unit:	MW
Process Notes:	

Pollutant Information: WELLTON MOHAWK GENERATING STATION - BLACK START GENERATORS

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.5000
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	AT 100% LOAD
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	2.3000
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	AT 100% LOAD
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: SABINE PASS LNG IMPORT TERMINAL

RBLC ID:	*LA-0194
*Corporate/Company Name:	SABINE PASS LNG, LP
*Facility Name:	SABINE PASS LNG IMPORT TERMINAL
Facility State:	LA
EPA Region:	6
Application Accepted Received Date:	12/24/2003 ACT
Permit Issuance Date:	11/24/2004 ACT
Date determination entered in RBLC:	04/29/2006
Date determination last updated:	03/06/2007
Facility Description:	LNG TO BE TRANSFERRED FROM MARINE VESSELS INTO PRESSURIZED TANKS FOR STORAGE, THEN REGASIFIED USING VAPORIZERS. THE VAPORIZED NATURAL GAS WILL BE MEASURED AND SENT TO TRANSMISSION PIPELINES.

Process Information : SABINE PASS LNG IMPORT TERMINAL

*Process Name:	FIREWATER PUMP DIESEL ENGINES 1-3
*Process Type:	17.110
Primary Fuel:	DIESEL
Throughput:	660.00
Throughput Unit:	HP EA.
Process Notes:	

Pollutant Information: SABINE PASS LNG IMPORT TERMINAL - FIREWATER PUMP DIESEL ENGINES 1-3

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	1.2400
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES
Emission Limit 1:	12.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN AMD PROPER OPERATING PRACTICES
Emission Limit 1:	0.5500
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	0.0700
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : SABINE PASS LNG IMPORT TERMINAL

*Process Name:	STANDBY GENERATOR DIESEL ENGINES 1-2
*Process Type:	17.110
Primary Fuel:	DIESEL
Throughput:	2220.00
Throughput Unit:	HP EA.

Process Notes:

Pollutant Information: SABINE PASS LNG IMPORT TERMINAL - STANDBY GENERATOR DIESEL ENGINES 1-2

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	1.9600
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES
Emission Limit 1:	33.7700
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES
Emission Limit 1:	41.6000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P

*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	4.8900
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : SABINE PASS LNG IMPORT TERMINAL

*Process Name:	30 MW GAS TURBINE GENERATORS (4)
*Process Type:	15.210
Primary Fuel:	LNG
Throughput:	290.00
Throughput Unit:	MMBTU/H EA.
Process Notes:	TURBINES EQUIPPED WITH WASTE HEAT RECOVERY UNITS

Pollutant Information: SABINE PASS LNG IMPORT TERMINAL - 30 MW GAS TURBINE GENERATORS (4)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES AND THE USE OF NATURAL GAS AS FUEL
Emission Limit 1:	2.1100
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	DRY LOW NOX BURNER TECHNOLOGY
Emission Limit 1:	29.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT

Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	17.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES AND THE USE OF NATURAL GAS AS FUEL
Emission Limit 1:	1.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : SABINE PASS LNG IMPORT TERMINAL

*Process Name:	SUBMERGED COMBUSTION VAPORIZERS (24)
*Process Type:	12.310
Primary Fuel:	
Throughput:	108.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: SABINE PASS LNG IMPORT TERMINAL - SUBMERGED COMBUSTION VAPORIZERS (24)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES AND THE USE OF NATURAL GAS AS FUEL
Emission Limit 1:	0.1500
Emission Limit 1 Unit:	LB/H
Emission Limit 1	HOURLY MAXIMUM

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	WATER INJECTION AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	4.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	9.4700
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES AND THE USE OF NATURAL GAS AS FUEL
Emission Limit 1:	0.3200
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : SABINE PASS LNG IMPORT TERMINAL

*Process Name:	FUGITIVE EMISSIONS
*Process Type:	99.999
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	FUGITIVE EMISSIONS FROM VALVES, CONNECTORS, ETC.

Pollutant Information: SABINE PASS LNG IMPORT TERMINAL - FUGITIVE EMISSIONS

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.2500
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : SABINE PASS LNG IMPORT TERMINAL

*Process Name:	FUGITIVE EMISSIONS (ASSOCIATED W/ 528 AMBIENT AIR VAPORIZERS)
*Process Type:	99.999
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	

Pollutant Information: SABINE PASS LNG IMPORT TERMINAL - FUGITIVE EMISSIONS (ASSOCIATED W/ 528 AMBIENT AIR VAPORIZERS)

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.2500
Emission Limit 1 Unit:	LB/HR
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT

Cost Verified By Agency (Y/N)?:	No

Process Information : SABINE PASS LNG IMPORT TERMINAL

*Process Name:	FIREWATER BOOSTER PUMP DIESEL ENGINES 1-4
*Process Type:	17.210
Primary Fuel:	DIESEL
Throughput:	300.00
Throughput Unit:	HP EA.
Process Notes:	OPERATING TIME = 500 HR/YR.

Pollutant Information: SABINE PASS LNG IMPORT TERMINAL - FIREWATER BOOSTER PUMP DIESEL ENGINES 1-4

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN, PROPER OPERATING PRACTICES, AND USE OF LOW SULFUR DIESEL
Emission Limit 1:	0.0600
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN & PROPER OPERATING PRACTICES
Emission Limit 1:	3.4400
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN & PROPER OPERATING PRACTICES
Emission Limit 1:	0.1800
Emission Limit 1 Unit:	LB/H
Emission Limit 1	HOURLY MAXIMUM

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD ENGINE DESIGN & PROPER OPERATING PRACTICES
Emission Limit 1:	0.1000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: RELIANT ENERGY CHOCTAW COUNTY, LLC

RBLC ID:	MS-0073
*Corporate/Company Name:	
*Facility Name:	RELIANT ENERGY CHOCTAW COUNTY, LLC
Facility State:	MS
EPA Region:	4
Application Accepted Received Date:	05/17/2004 ACT
Permit Issuance Date:	11/23/2004 ACT
Date determination entered in RBLC:	01/25/2005
Date determination last updated:	01/25/2005
Facility Description:	THREE GE COMBINE CYCLE TURBINED RATED @ 230 MEGAWATTS EACH WITH SCR FOR POLLUTION CONTROL

Process Information : RELIANT ENERGY CHOCTAW COUNTY, LLC

*Process Name:	EMISSION POINT AA-001 GEN. ELEC. COMBUST. TURBINE
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	230.00
Throughput Unit:	MW

Process Notes:	SHORT TERM LIMITS DO NOT APPLY DURING PERIODS OF STARTUP OR SHUTDOWN (AS DEFINED IN THE PERMIT). HOWEVER, LONG TERM LIMITS APPLY AT ALL TIMES.

Pollutant Information: RELIANT ENERGY CHOCTAW COUNTY, LLC - EMISSION POINT AA-001 GEN. ELEC. COMBUST. TURBINE

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	20.5900
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.3800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPMV @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide

*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	18.3600
Emission Limit 1 Unit:	PPMV @ 1`5% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	3.6400
Emission Limit 1 Unit:	PPMV @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : RELIANT ENERGY CHOCTAW COUNTY, LLC

*Process Name:	EMISSION POINT AA-002 GEN ELEC. COMB. TURBINE
*Process Type:	15.210
Primary Fuel:	
Throughput:	230.00
Throughput Unit:	MW
Process Notes:	SHORT TERM LIMITS DO NO APPLY DURING PERIODS OF STARTUP OR SHUTDOWN (AS DEFINED IN THE PERMIT). HOWEVER LONG TERM LIMITS APPLY AT ALL TIMES.

Pollutant Information: RELIANT ENERGY CHOCTAW COUNTY, LLC - EMISSION POINT AA-002 GEN ELEC. COMB. TURBINE

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	20.5900
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	

*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.3800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPMV @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	
Emission Limit 1:	18.3600
Emission Limit 1 Unit:	PPMV @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A

*Control Method Description:	SCR
Emission Limit 1:	3.6400
Emission Limit 1 Unit:	PPMV @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : RELIANT ENERGY CHOCTAW COUNTY, LLC

*Process Name:	EMISSION POINT AA-003 GEN. ELEC COMB TURBINES
*Process Type:	15.210
Primary Fuel:	
Throughput:	230.00
Throughput Unit:	MW
Process Notes:	SHORT TERM LIMITS DO NOT APPLY DURING PERIODS OF STARTUP OR SHUTDOWN (AS DEFINED IN THE PERMIT). HOWEVER LONG TERM LIMITS APPLY AT ALL TIMES.

Pollutant Information: RELIANT ENERGY CHOCTAW COUNTY, LLC - EMISSION POINT AA-003 GEN. ELEC COMB TURBINES

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	20.5900
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.3800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: A
*Control Method Description: SCR
Emission Limit 1: 3.5000
Emission Limit 1 Unit: PPMV @ 15 02
Emission Limit 1 Avg. Time/Condition: 3-HOUR AVG.
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: A
*Control Method Description: SCR
Emission Limit 1: 18.3600
Emission Limit 1 Unit: PPMV @ 15 02
Emission Limit 1 Avg. Time/Condition: 3-HOUR AVG.
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: A
*Control Method Description: SCR
Emission Limit 1: 3.6400
Emission Limit 1 Unit: PPMV @ 15% 02
Emission Limit 1 Avg. Time/Condition: 3-HOUR AVG.
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: DICKERSON

RBLC ID:	MD-0032
*Corporate/Company Name:	MIRANT MID-ATLANTIC, LLC
*Facility Name:	DICKERSON
Facility State:	MD
EPA Region:	3
Application Accepted Received Date:	05/23/2001
Permit Issuance Date:	11/05/2004 EST
Date determination entered in RBLC:	12/30/2004
Date determination last updated:	04/12/2005
Facility Description:	PROJECT IS TO CONVERT EXISTING SIMPLE CYCLE CTS TO COMBINED CYCLE OPERATION, WITH INSTALLATION OF HRSGS AND STEAM TURBINE; AND CONSTRUCTION OF A NEW SIMILAR COMBINED CYCLE UNIT, PERMIT INCLUDES LIMITS FOR BOTH COMBINED AND SIMPLE CYCLE OPERATION AND WITH AND WITHOUT DUCT FIRING

Process Information : DICKERSON

*Process Name:	UNIT 5 -GE FRAME 7F COMB. TURBINES W/ HRSG- FO CC
*Process Type:	15.290
Primary Fuel:	
Throughput:	196.00
Throughput Unit:	MW
Process Notes:	

Pollutant Information: DICKERSON - UNIT 5 -GE FRAME 7F COMB. TURBINES W/ HRSG- FO CC

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	39.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING FO W/O DB IN COMB CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P

*Control Method Description: USE OF LOW SULFUR FUEL
Emission Limit 1: 106.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: 3-HR AVG FIRING FO W/O DB
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfuric Acid (mist, vapors, etc)
*Control Method Code: P
*Control Method Description:
Emission Limit 1: 5.4000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: 3-HR AVG FIRING FO W/O DB
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: A
*Control Method Description: OXIDATION CATALYST
Emission Limit 1: 7.2000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: 3-HR AVG FIRING FO W/O DB IN COMB CYCLE
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : DICKERSON

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*Process Name: UNIT 5 -GE FRAME 7F COM. TURBINES W/ HRSG - NG SC
*Process Type: 15.110
Primary Fuel:
Throughput: 196.00
Throughput Unit: MW
Process Notes:

Pollutant Information: DICKERSON - UNIT 5 -GE FRAME 7F COM. TURBINES W/ HRSG - NG SC

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*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	9.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING NG W/O DB IN SIMP CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF LOW SULFUR FUELS
Emission Limit 1:	12.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING NG W/O DB IN SIMP CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	
Emission Limit 1:	1.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	32.2000

Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING NG W/ DB IN SIMP CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DICKERSON

*Process Name:	UNIT 5 -GE FRAME 7F COMB. TURBINES W/ HRSG- FO SC
*Process Type:	15.190
Primary Fuel:	
Throughput:	196.00
Throughput Unit:	MW
Process Notes:	

Pollutant Information: DICKERSON - UNIT 5 -GE FRAME 7F COMB. TURBINES W/ HRSG- FO SC

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	17.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING FO W/O DB IN SIMP CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	72.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING FO W/O DB
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DICKERSON

*Process Name: AUXILARY BOILER - NG
*Process Type: 11.310
Primary Fuel:
Throughput: 60.00
Throughput Unit: MMBTU/H
Process Notes:

Pollutant Information: DICKERSON - AUXILARY BOILER - NG

*Pollutant Name Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES, USE OF CLEAN FUEL
Emission Limit 1: 0.3400
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: WHEN FIRNG NATURAL GAS
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name Carbon Monoxide
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES, USE OF CLEAN FUEL
Emission Limit 1: 9.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: WHEN FIRING NATURAL GAS
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES, USE OF CLEAM FUEL
Emission Limit 1: 0.6000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: WHEN FIRING NATURAL GAS
*Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : DICKERSON

*Process Name: COOLING TOWER
*Process Type: 99.009
Primary Fuel: NONE
Throughput: 10.00
Throughput Unit: CELLS
Process Notes:

Pollutant Information: DICKERSON - COOLING TOWER

*Pollutant Name: Particulate Matter (PM)
*Control Method Code: A
*Control Method Description: MIST ELIMINATORS
Emission Limit 1: 0.0010
Emission Limit 1 Unit: %
Emission Limit 1 Avg. Time/Condition: COOLING TOWER RECIRCULATING WATER FLOW
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : DICKERSON

*Process Name: UNIT 4 -GE FRAME 7F COMB. TURBINES W/ HRSG - NG CC
*Process Type: 15.210
Primary Fuel: NATURAL GAS
Throughput: 196.00
Throughput Unit: MW
Process Notes:

Pollutant Information: DICKERSON - UNIT 4 -GE FRAME 7F COMB. TURBINES W/ HRSG - NG CC

*Pollutant Name: Carbon Monoxide
*Control Method Code: A
*Control Method Description: OXIDATION CATALYST
Emission Limit 1: 8.4000
Emission Limit 1 Unit: LB/H
Emission Limit 1 3HR AVG FIRING NG W/O DB IN COMB. CYCLE

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	
Emission Limit 1:	1.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3HR AVG FIRING NG W/DB IN COMB CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	26.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING NG W/DB IN COMB. CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF LOW SULFUR FUELS
Emission Limit 1:	11.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING NG IN COMB. CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DICKERSON

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*Process Name: UNIT 4 -GE FRAME 7F COMB. TURBINES W/ HRSG- FO CC
*Process Type: 15.290
Primary Fuel:
Throughput: 196.00
Throughput Unit: MW
Process Notes:

Pollutant Information: DICKERSON - UNIT 4 -GE FRAME 7F COMB. TURBINES W/ HRSG- FO CC

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*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 41.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: 3HR AVG FIRING FO W/O DB IN COMB. CYCLE
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description:
Emission Limit 1: 92.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: 3-HR AVG FIRING FO W/O DB
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfuric Acid (mist, vapors, etc)
*Control Method Code: P
*Control Method Description:
Emission Limit 1: 4.4000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: 3-HR AVG FIRING FO W/O DB
*Case-by-Case Basis: BACT-PSD

Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	8.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3HR AVG FIRING FO W/O DB IN COMB CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DICKERSON

*Process Name:	UNIT 4 -GE FRAME 7F COM. TURBINES W/ HRSG - NG SC
*Process Type:	15.110
Primary Fuel:	NATURAL GAS
Throughput:	196.00
Throughput Unit:	MW
Process Notes:	

Pollutant Information: DICKERSON - UNIT 4 -GE FRAME 7F COM. TURBINES W/ HRSG - NG SC

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	21.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3HR AVG FIRING NG W/O DB IN SIMP. CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUELS
Emission Limit 1:	11.0000
Emission Limit 1	LB/H

Unit:	
Emission Limit 1	3HR AVG FIRING NG W/O DB IN SIMP CYCLE
Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	1.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3HR AVG FIRING NG W/O DB
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	84.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3HR AVG FIRING NG W/O DB IN SIMP CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DICKERSON

*Process Name:	UNIT 4 -GE FRAME 7F COMB. TURBINES W/ HRSG- FO SC
*Process Type:	15.190
Primary Fuel:	
Throughput:	196.00
Throughput Unit:	MW
Process Notes:	

Pollutant Information: DICKERSON - UNIT 4 -GE FRAME 7F COMB. TURBINES W/ HRSG- FO SC

*Pollutant Name	Particulate Matter < 10 • (PM10)

*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	22.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3HR AVG FIRING FO W/O DB IN SIMP CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	85.3000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3HR AVG FIRING FO W/O DB IN SIMP CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DICKERSON

*Process Name:	AUXILARY BOILER - FO
*Process Type:	11.200
Primary Fuel:	NATURAL GAS
Throughput:	60.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: DICKERSON - AUXILARY BOILER - FO

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICE, USE OF CLEAN FUELS
Emission Limit 1:	3.1000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	WHEN FIRING FUEL OIL
*Case-by-Case Basis:	BACT-PSD
Other Applicable	

Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES, USE OF CLEAN FUEL
Emission Limit 1: 9.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: WHEN FIRNG FUEL OIL
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES, USE OF CLEAN FUEL
Emission Limit 1: 3.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: WHEN FIRING FUEL OIL
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : DICKERSON

*Process Name: UNIT 5 -GE FRAME 7F COMB. TURBINES W/ HRSG - NG CC
*Process Type: 15.210
Primary Fuel: NATURAL GAS
Throughput: 196.00
Throughput Unit: MW
Process Notes:

Pollutant Information: DICKERSON - UNIT 5 -GE FRAME 7F COMB. TURBINES W/ HRSG - NG CC

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 15.0000
Emission Limit 1 Unit: LB/H

Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING NG W/DB IN COMB CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF LOW SULFUR FUELS
Emission Limit 1:	12.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING NG IN COMB CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	
Emission Limit 1:	1.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING NG W/DB IN COMB CYCLE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	7.6000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	3-HR AVG FIRING NG W/DB IN COMB CYCLE
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: MICHOUD ELECTRIC GENERATING PLANT

RBLC ID:	LA-0191
*Corporate/Company Name:	ENTERGY NEW ORLEANS, INC.
*Facility Name:	MICHOUD ELECTRIC GENERATING PLANT
Facility State:	LA
EPA Region:	6
Application Accepted Received Date:	08/14/2002 ACT
Permit Issuance Date:	10/12/2004 ACT
Date determination entered in RBLC:	03/30/2006
Date determination last updated:	06/02/2006
Facility Description:	EXISTING POWER PLANT COMPRISED OF 3 BOILERS CAPABLE OF FIRING NATURAL GAS & NO. 6 FUEL OIL. PROJECT INVOLVES ADDITION OF A 498 MW COMBINED CYCLE OPERATION CONSISTING OF 2 TURBINES AND SUPPLEMENTARY FIRED HRSGS (DUCT BURNERS). DURING PHASE I OF THE PROJECT, THE TURBINES WILL BE OPERATED IN SIMPLE CYCLE MODE.

Process Information : MICHOUD ELECTRIC GENERATING PLANT

*Process Name:	COMBUSTION GAS TURBINES 4 & 5 (SIMPLE CYCLE)
*Process Type:	15.110
Primary Fuel:	
Throughput:	1595.00
Throughput Unit:	MMBTU/H ea.
Process Notes:	EQT015 & 016; PHASE I

Pollutant Information: MICHOUD ELECTRIC GENERATING PLANT - COMBUSTION GAS TURBINES 4 & 5 (SIMPLE CYCLE)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	USE OF CLEAN BURNING FUELS (NATURAL GAS)
Emission Limit 1:	7.8500
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT

Cost Verified By Agency (Y/N)?:	No

Process Information : MICHOUD ELECTRIC GENERATING PLANT

*Process Name:	COMBUSTION GAS TURBINES 4 & 5 (COMBINED CYCLE)
*Process Type:	15.210
Primary Fuel:	
Throughput:	1595.00
Throughput Unit:	MM BTU/H ea.
Process Notes:	EQT021 & 022; PHASE II

Pollutant Information: MICHOUD ELECTRIC GENERATING PLANT - COMBUSTION GAS TURBINES 4 & 5 (COMBINED CYCLE)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	USE OF CLEAN BURNING FUELS (NATURAL GAS)
Emission Limit 1:	7.8500
Emission Limit 1 Unit:	LB/H*
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : MICHOUD ELECTRIC GENERATING PLANT

*Process Name:	HEAT RECOVERY STEAM GENERATORS 4 & 5
*Process Type:	12.310
Primary Fuel:	
Throughput:	200.00
Throughput Unit:	MM BTU/H ea.
Process Notes:	EQT017 & 018; PHASE II

Pollutant Information: MICHOUD ELECTRIC GENERATING PLANT - HEAT RECOVERY STEAM GENERATORS 4 & 5

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	USE OF CLEAN BURNING FUELS (NATURAL GAS)
Emission Limit 1:	1.9200
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg.	HOURLY MAXIMUM

Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

Process Information : MICHOUD ELECTRIC GENERATING PLANT

*Process Name:	COOLING TOWERS (2)
*Process Type:	99.009
Primary Fuel:	
Throughput:	1728.00
Throughput Unit:	Gal/min
Process Notes:	

Pollutant Information: MICHOUD ELECTRIC GENERATING PLANT - COOLING TOWERS (2)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	DRIFT ELIMINATORS AND GOOD OPERATING PRACTICES
Emission Limit 1:	0.0520
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	HOURLY MAXIMUM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: EL DORADO ENERGY, LLC

RBLC ID:	NV-0033
*Corporate/Company Name:	EL DORADO ENERGY, LLC
*Facility Name:	EL DORADO ENERGY, LLC
Facility State:	NV
EPA Region:	9
Application Accepted Received Date:	03/14/1997 ACT
Permit Issuance Date:	08/19/2004 ACT

Date determination entered in RBLC:	08/19/2004
Date determination last updated:	09/15/2004
Facility Description:	THE FACILITY CONSIST OF TWO COMBUSTION TURBINE GENERATORS (CTGS) TWO HEAT RECOVERY STEAM GENERATORS (HRSGS) AND ONE STEAM TURBINE GENERATOR. THE FACILITY IS LOCATED IN AN ATTAINMENT AREA FOR ALL CRITERIA AIR POLLUTANTS. INSIGNIFICAN EMISSION UNITS INCLUDE A 140 HP EMERGENCY FIRE -WATER PUMP AND A WET SURFACE AIR COOLER.

Process Information : EL DORADO ENERGY, LLC

*Process Name:	COMBUSTION TURBINE, COMBINED CYCLE & COGEN(2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	475.00
Throughput Unit:	MW
Process Notes:	Combustion turbine, 165 MW, gas fired, 2 each Duct burner, 175 MMBtu/hr, gas fired, 2 each Amonia Injection system, 2 each

Pollutant Information: EL DORADO ENERGY, LLC - COMBUSTION TURBINE, COMBINED CYCLE & COGEN(2)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	LOW NOX BURNER + SCR
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	For each turbine
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	2.6000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	For each CTG
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Cost Verified By	No

Agency (Y/N)?:

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: B
*Control Method Description:
Emission Limit 1: 9.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: For each CTG
*Case-by-Case Basis: LAER
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: P
*Control Method Description: THE FIRING OF NATURAL GAS ONLY, IN THE CTG/HRSGS AND THE USE OF GOOD COMBUSTION CONTROL
Emission Limit 1: 5.2000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: each CTG
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description:
Emission Limit 1: 1.0300
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: For each CTG
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Ammonia (NH3)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 10.0000
Emission Limit 1 Unit: PPM @ 15% O2

Emission Limit 1 Avg. Time/Condition:	each CTG + duct burner @ 15% O2
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: CPV WARREN LLC

RBLC ID:	VA-0291
*Corporate/Company Name:	CPV WARREN LLC
*Facility Name:	CPV WARREN LLC
Facility State:	VA
EPA Region:	3
Application Accepted Received Date:	01/16/2002 ACT
Permit Issuance Date:	07/30/2004 ACT
Date determination entered in RBLC:	12/08/2004
Date determination last updated:	08/31/2006
Facility Description:	COMBINED CYCLE POWER GENERATION

Process Information : CPV WARREN LLC

*Process Name:	TURBINE, COMBINED CYCLE (2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1717.00
Throughput Unit:	mmbtu/h
Process Notes:	THROUGHPUT FOR EACH, ALSO EACH RATED AT 180 MW

Pollutant Information: CPV WARREN LLC - TURBINE, COMBINED CYCLE (2)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	TWO STAGE LEAN PERMIX DRY LOW NOX COMBUSTION SCR AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg.	AS A ONE HOUR AVERAGE

Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN BURNING FUEL NATURAL GAS ONLY. GOOD COMBUSTION PRACTICES. FUEL HAS MAXIMUM .002% BY WEIGHT SULFUR CONTENT
Emission Limit 1:	0.0130
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	OXIDATION CATALYST. GOOD COMBUSTION PRACTICES.
Emission Limit 1:	1.3000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	W/O POWER AUGMENTATION
*Case-by-Case Basis:	
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	MAX. 0.002% BY WT MAX S CONTENT
Emission Limit 1:	0.0005
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	SULFURIC ACID MIST
*Case-by-Case Basis:	
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method	P

Code:	
*Control Method Description:	OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	0.7000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

Process Information : CPV WARREN LLC

*Process Name:	TURBINE, COMBINED CYCLE AND DUCT BURNER (2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1717.00
Throughput Unit:	mmbtu/h
Process Notes:	THROUGHPUT FOR EACH. ADDITIONAL THROUGHPUT: 180 MW EACH. HRSG EQUIPPED WITH DUCT BURNER RATED AT 500 MMBTU/H. LIMITS FOR THIS PROCESS ARE INCLUDED ONLY IF THEY ARE DIFFERENT FROM THOSE FOR NO DUCT BURNER FIRING.

Pollutant Information: CPV WARREN LLC - TURBINE, COMBINED CYCLE AND DUCT BURNER (2)

*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	OXIDATION CATALYST, AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	1.8000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	POWER AUGMENTATION DUCT BURNING
*Case-by-Case Basis:	
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	B
*Control Method Description:	OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	1.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	

*Case-by-Case Basis:	
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: FAIRBAULT ENERGY PARK

RBLC ID:	MN-0053
*Corporate/Company Name:	MN MUNICIPAL POWER AGENCY
*Facility Name:	FAIRBAULT ENERGY PARK
Facility State:	MN
EPA Region:	5
Application Accepted Received Date:	06/11/2003 ACT
Permit Issuance Date:	07/15/2004 ACT
Date determination entered in RBLC:	08/19/2004
Date determination last updated:	09/21/2004
Facility Description:	LARGE COMBUSTION TURBINE ELECTRIC POWER PLANT - INITIAL OPERATION IN SIMPLE CYCLE AND CONVERSION TO COMBINED CYCLE IN THE FUTURE.

Process Information : FAIRBAULT ENERGY PARK

*Process Name:	TURBINE, SIMPLE CYCLE, NATURAL GAS (1)
*Process Type:	15.110
Primary Fuel:	NATURAL GAS
Throughput:	1663.00
Throughput Unit:	MMBTU/H
Process Notes:	187 MW GROSS MITSUBISHI 501F.

Pollutant Information: FAIRBAULT ENERGY PARK - TURBINE, SIMPLE CYCLE, NATURAL GAS (1)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	P
*Control Method Description:	DRY LOW-NOX COMBUSTORS OPERATING IN LEAN PREMIX MODE.
Emission Limit 1:	25.0000
Emission Limit 1 Unit:	PPMVD @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE

*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES.
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	0.0100
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FAIRBAULT ENERGY PARK

*Process Name:	TURBINE, SIMPLE CYCLE, DISTILLATE OIL (1)
*Process Type:	15.190
Primary Fuel:	#2 DISTILLATE OIL
Throughput:	1576.00
Throughput Unit:	MMBTU/H
Process Notes:	MITSUBISHI 501 F TURBINE.

Pollutant Information: FAIRBAULT ENERGY PARK - TURBINE, SIMPLE CYCLE, DISTILLATE OIL (1)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	P
*Control Method Description:	WATER INJECTION

Emission Limit 1:	42.0000
Emission Limit 1 Unit:	PPMVD @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES.
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	0.0300
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FAIRBAULT ENERGY PARK

*Process Name:	TURBINE, COMBINED CYCLE, NATURAL GAS (1)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1876.00
Throughput Unit:	MMBTU/H
Process Notes:	280 MW GROSS MITSUBISHI 501F.

Pollutant Information: FAIRBAULT ENERGY PARK - TURBINE, COMBINED CYCLE, NATURAL GAS (1)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	B
*Control Method Description:	SCR AND DLN.
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPMVD @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES.
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	0.0100
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL.
Emission Limit 1:	0.8000
Emission Limit 1 Unit:	GR/SCF
Emission Limit 1	gr/scf nat gas, CALENDAR YR AVE

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES.
Emission Limit 1:	1.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FAIRBAULT ENERGY PARK

*Process Name:	TURBINE, COMBINED CYCLE, DISTILLATE OIL (1)
*Process Type:	15.290
Primary Fuel:	#2 DISTILLATE OIL
Throughput:	1801.00
Throughput Unit:	MMBTU/H
Process Notes:	280 MW GROSS MITSUBISHI 501F.

Pollutant Information: FAIRBAULT ENERGY PARK - TURBINE, COMBINED CYCLE, DISTILLATE OIL (1)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	B
*Control Method Description:	SCR AND WATER INJECTION.
Emission Limit 1:	6.0000
Emission Limit 1 Unit:	PPMVD @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P

*Control Method Description:	GOOD COMBUSTION PRACTICES.
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	0.0300
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL.
Emission Limit 1:	0.0510
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES.
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FAIRBAULT ENERGY PARK

*Process Name:	BOILER, NATURAL GAS (1)
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	40.00
Throughput Unit:	MMBTU/H
Process Notes:	AUXILIARY BOILER.

Pollutant Information: FAIRBAULT ENERGY PARK - BOILER, NATURAL GAS (1)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	P
*Control Method Description:	LOW NOX BURNER; FGR.
Emission Limit 1:	0.0400
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	0.0840
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION.
Emission Limit 1:	0.0080
Emission Limit 1 Unit:	LB/MMBTU

Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL 0.8 GR/SCF, CALENDAR YEAR AVERAGE
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	0.0060
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FAIRBAULT ENERGY PARK

*Process Name:	BOILER, DISTILLATE OIL (1)
*Process Type:	13.220
Primary Fuel:	#2 FUEL OIL
Throughput:	40.00
Throughput Unit:	MMBTU/H
Process Notes:	AUXILIARY BOILER.

Pollutant Information: FAIRBAULT ENERGY PARK - BOILER, DISTILLATE OIL (1)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	P

*Control Method Description:	LOW NOX BURNER AND FGR.
Emission Limit 1:	0.0580
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	0.0360
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION.
Emission Limit 1:	0.0240
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL.
Emission Limit 1:	0.0510
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	0.0030
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FAIRBAULT ENERGY PARK

*Process Name:	IC ENGINE, LARGE, FUEL OIL (1)
*Process Type:	17.110
Primary Fuel:	DIESEL
Throughput:	670.00
Throughput Unit:	HP
Process Notes:	4.874 MMBTU/H.

Pollutant Information: FAIRBAULT ENERGY PARK - IC ENGINE, LARGE, FUEL OIL (1)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	3.2800
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	0.7600
Emission Limit 1 Unit:	LB/MMBTU

Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION.
Emission Limit 1:	0.1000
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL.
Emission Limit 1:	0.0510
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	0.1000
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FAIRBAULT ENERGY PARK

*Process Name:	IC ENGINE, SMALL, FUEL OIL (1)
*Process Type:	17.210
Primary Fuel:	DIESEL
Throughput:	250.00
Throughput Unit:	HP
Process Notes:	2.017 MMBTU/H.

Pollutant Information: FAIRBAULT ENERGY PARK - IC ENGINE, SMALL, FUEL OIL (1)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	4.4100
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	0.9500
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION.
Emission Limit 1:	0.3100
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL.
Emission Limit 1:	0.0510
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION.
Emission Limit 1:	0.3600
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: BEATRICE POWER STATION

RBLC ID:	*NE-0023
*Corporate/Company Name:	NEBRASKA PUBLIC POWER DISTRICT
*Facility Name:	BEATRICE POWER STATION
Facility State:	NE
EPA Region:	7
Application Accepted Received Date:	
Permit Issuance Date:	06/22/2004 EST
Date determination entered in RBLC:	06/22/2004

Date determination last updated:	03/23/2005
Facility Description:	PERMIT TO CONSTRUCT: 2-NG TURBINES, 250 MW TOTAL AND ONE AUX. BOILER, 73 MMBTU/HR, OIL FIRED

Process Information : BEATRICE POWER STATION

*Process Name:	2-COMBUSTION TURBINES W/ DUCT BURNER
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	250.00
Throughput Unit:	MW
Process Notes:	Emission Limits were specified for BACT. The type controls to acheive the Emission Limits were not specifited.

Pollutant Information: BEATRICE POWER STATION - 2-COMBUSTION TURBINES W/ DUCT BURNER

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	SPECIFIC CONTROLS WERE NOT MANDATED, JUST POLLUTANT EMISSION LIMITS.
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24 HOUR AVE *
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	EMISSION LIMITS, NOT CONTROLS WERE SPECIFIED
Emission Limit 1:	18.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	30-DAY AVE.*
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	N
*Control Method Description:	EMISSION LEVES SPECIFIED, NOT THE CONTROL EQUIPMENT.

Emission Limit 1:	10.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	See Note
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : BEATRICE POWER STATION

*Process Name:	AUXILIARY BOILER (NG)
*Process Type:	13.310
Primary Fuel:	OIL/NG
Throughput:	73.30
Throughput Unit:	MMBTU/H
Process Notes:	THIS UNIT CAN BURN UP TO 289,000 GAL/YR OF DISTILATE OIL. SEE THE PROCEESS AUXILIARY BOILER (OIL) FOR EMISSION LIMITS WHILE BURNING DISTILATE OIL.

Pollutant Information: BEATRICE POWER STATION - AUXILIARY BOILER (NG)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	OPERATION LIMITED TO 500 HOURS PER YEAR.
Emission Limit 1:	0.0500
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR TEST AVG
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : BEATRICE POWER STATION

*Process Name:	AUXILIARY BOILER (OIL)
*Process Type:	13.220
Primary Fuel:	NATURAL GAS
Throughput:	73.30
Throughput Unit:	MMBTU/H
Process Notes:	THIS UNIT CAN BURN UP TO 289,000 GAL/YR OF DISTILATE OIL. THE LIMITS INDICATED HERE ARE FOR BURNING OIL. SEE THE PROCEESS AUXILIARY BOILER (NG) FOR EMISSION LIMITS WHILE BURNING NATURAL GAS.

Pollutant Information: BEATRICE POWER STATION - AUXILIARY BOILER (OIL)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	OPERATION LIMITED TO 500 HOURS PER YEAR.
Emission Limit 1:	0.1000
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 HOUR TEST AVG
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: CURRANT CREEK

RBLC ID:	UT-0066
*Corporate/Company Name:	PACIFICORP
*Facility Name:	CURRANT CREEK
Facility State:	UT
EPA Region:	8
Application Accepted Received Date:	08/20/2003 ACT
Permit Issuance Date:	05/17/2004 ACT
Date determination entered in RBLC:	02/06/2006
Date determination last updated:	03/22/2006
Facility Description:	POWER GENERATION PLANT WITH TWO NATURAL GAS COMBINED CYCLE TURBINES

Process Information : CURRANT CREEK

*Process Name:	NATURAL GAS FIRED TURBINES AND HEAT RECOVERY STEAM GENERATORS
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	
Throughput Unit:	
Process Notes:	TWO TURBINES EACH WITH A HRSG

Pollutant Information: CURRANT CREEK - NATURAL GAS FIRED TURBINES AND HEAT

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0660
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	18-HOUR/TESTED ANNUALLY
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	CONVENTIONAL SELECTIVE CATALYTIC REDUCTION SYSTEM WITH AMMONIA INJECTION
Emission Limit 1:	2.2500
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	3-HOUR/COMBINED CYCLE(17 LB/H)
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATINO CATALYST FOR COMBINED CYCLE MODE OF OPERATION
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	3-HOUR/COMBINED CYCLE(11.6 LB/H)
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: COPPER MOUNTAIN POWER

RBLC ID:	NV-0037
*Corporate/Company Name:	SEMPRA ENERGY RESOURCES
*Facility Name:	COPPER MOUNTAIN POWER
Facility State:	NV
EPA Region:	9
Application Accepted Received Date:	01/20/2004 ACT
Permit Issuance Date:	05/14/2004 ACT
Date determination entered in RBLC:	10/25/2005
Date determination last updated:	12/20/2005
Facility Description:	A 600 MW COMBINED CYCLE ELECTRICAL GENERATION FACILITY CONSISTING OF TWO COMBUSTION TURBINE GENERATORS WITH HEAT RECOVERY STEAM GENERATORS, ONE STEAM TURBINE GENERATOR, AND ONE AUXILIARY BOILER.

Process Information : COPPER MOUNTAIN POWER

*Process Name:	LARGE COMBUSTION TURBINES, COMBINED CYCLE & COGENERATION
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	600.00
Throughput Unit:	MW
Process Notes:	THE PRINCIPAL PROCESS EQUIPMENT CONSISTS OF TWO GE 172 MW COMBUSTION TURBINE GENERATORS, TWO 695 MMBTU/HR SUPPLEMENTARY FIRED HEAT RECOVERY STEAM GENERATORS, AND ONE 315 MW STEAM TURBINE GENERATOR.

Pollutant Information: COPPER MOUNTAIN POWER - LARGE COMBUSTION TURBINES, COMBINED CYCLE & COGENERATION

*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	GOOD COMBUSTOR DESIGN AND AN OXIDATION CATALYST
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	15% OXYGEN, THREE-HOUR AVERAGE
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method	USE OF LOW-SULFUR NATURAL GAS

Description:	
Emission Limit 1:	21.3000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW-NOX COMBUSTOR, STEAM INJECTION, AND SELECTIVE CATALYTIC REDUCTION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	15% OXYGEN, 3-HR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	B
*Control Method Description:	GOOD COMBUSTION CONTROL AND OXIDATION CATALYST
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	15% OXYGEN, 3-HR AVE. WITH DUCT FIRING
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF CLEAN-BURNING, LOW-SULFUR, PIPELINE-QUALITY NATURAL GAS
Emission Limit 1:	5.1000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable	NSPS, OPERATING PERMIT, SIP

Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	P
*Control Method Description:	LIMITING AMMONIA SLIP
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	15% OXYGEN, 3-HR AVERAGE
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

Process Information : COPPER MOUNTAIN POWER

*Process Name:	AUXILIARY BOILER
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	60.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: COPPER MOUNTAIN POWER - AUXILIARY BOILER

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	EFFECTIVE COMBUSTION SYSTEM DESIGN, 10:1 TURNDOWN CAPABILITY, AND LNB TECHNOLOGY
Emission Limit 1:	0.0800
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	RESTRICTION OF OPERATION TO NATURAL GAS
Emission Limit 1:	0.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1	

Avg. Time/Condition:	
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	LOW NOX BURNER (WITH EITHER INTERNAL OR EXTERNAL FLUE GAS RECIRCULATION)
Emission Limit 1:	0.0350
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	B
*Control Method Description:	EFFECTIVE COMBUSTION SYSTEM DESIGN, 10:1 TURNDOWN CAPABILITY AND LOW NOX BURNER TECHNOLOGY
Emission Limit 1:	0.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF LOW-SULFUR NATURAL GAS
Emission Limit 1:	0.0400
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: DUKE ENERGY WYTHE, LLC

RBLC ID:	VA-0289
*Corporate/Company Name:	DUKE ENERGY WYTHE, LLC
*Facility Name:	DUKE ENERGY WYTHE, LLC
Facility State:	VA
EPA Region:	3
Application Accepted Received Date:	03/12/2001 ACT
Permit Issuance Date:	02/05/2004 ACT
Date determination entered in RBLC:	03/11/2004
Date determination last updated:	03/25/2004
Facility Description:	POWER PLANT

Process Information : DUKE ENERGY WYTHE, LLC

*Process Name:	TURBINE, COMBINED CYCLE, NATURAL GAS
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	ONE OF TWO UNITS

Pollutant Information: DUKE ENERGY WYTHE, LLC - TURBINE, COMBINED CYCLE, NATURAL GAS

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES.
Emission Limit 1:	17.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method	P

Code:
*Control Method Description: GOOD COMBUSTION PRACTICES.
Emission Limit 1: 3.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: B
*Control Method Description: SCR AND LOW NOX BURNERS. GOOD COMBUSTION PRACTICES.
Emission Limit 1: 2.5000
Emission Limit 1 Unit: PPMVD
Emission Limit 1 Avg. Time/Condition: EACH UNIT
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES.
Emission Limit 1: 9.0000
Emission Limit 1 Unit: PPMVD
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES AND SULFUR IN NATURAL GAS LIMITED TO 0.3 GR/100 DSCF
Emission Limit 1: 1.7400
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD

Basis:	
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY WYTHE, LLC

*Process Name:	TURBINE, COMBINED CYCLE, DUCT BURNER, NATURAL GAS
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	throughput for each turbine.

Pollutant Information: DUKE ENERGY WYTHE, LLC - TURBINE, COMBINED CYCLE, DUCT BURNER, NATURAL GAS

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	23.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	21.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	SCR AND LOW NOX BURNERS; GOOD COMBUSTION PRACTICES
Emission Limit 1:	2.5000

Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	14.6000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES AND SULFUR IN NATURAL GAS LIMITED TO 0.3 GR/100 DSCF
Emission Limit 1:	2.0800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: COB ENERGY FACILITY, LLC

RBLC ID:	OR-0039
*Corporate/Company Name:	Peoples Energy Resources
*Facility Name:	COB ENERGY FACILITY, LLC
Facility State:	OR
EPA Region:	10

Application Accepted Received Date:	12/06/2002 ACT
Permit Issuance Date:	12/30/2003 ACT
Date determination entered in RBLC:	03/15/2004
Date determination last updated:	06/21/2004
Facility Description:	POWER GENERATION FACILITY

Process Information : COB ENERGY FACILITY, LLC

*Process Name:	TURBINE, COMBINED CYCLE, DUCT BURNER, NAT GAS, (4)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1150.00
Throughput Unit:	MW
Process Notes:	Throughput is net generating capacity. Turbines are GE 7FA or similar.

Pollutant Information: COB ENERGY FACILITY, LLC - TURBINE, COMBINED CYCLE, DUCT BURNER, NAT GAS, (4)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION AND FIRING NATURAL GAS
Emission Limit 1:	14.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Oxides (SOx)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL: < 0.8 % S BY WT.
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	NSPS
Cost Verified By	No

Agency (Y/N)?:

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: B
*Control Method Description: DLN COMBUSTORS, AND SCR
Emission Limit 1: 2.5000
Emission Limit 1 Unit: PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition: 4-h rolling avg
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: A
*Control Method Description: CATALYTIC OXIDATION
Emission Limit 1: 2.0000
Emission Limit 1 Unit: PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition: 4-h rolling avg
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Ammonia (NH3)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 5.0000
Emission Limit 1 Unit: PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition: 3-h avg
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: B
*Control Method Description: CATALYTIC OXIDATION AND GOOD COMBUSTION CONTROLS
Emission Limit 1: 7.1000
Emission Limit 1 Unit: LB/H

Emission Limit 1 Avg. Time/Condition:	as methane, 3-h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	20.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	3 min
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : COB ENERGY FACILITY, LLC

*Process Name:	DUCT BURNERS, NATURAL GAS, (4)
*Process Type:	11.310
Primary Fuel:	NATURAL GAS
Throughput:	654.00
Throughput Unit:	MMBTU/H
Process Notes:	Throughput for each.

Pollutant Information: COB ENERGY FACILITY, LLC - DUCT BURNERS, NATURAL GAS, (4)

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL
Emission Limit 1:	0.0300
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method	P

Code:	
*Control Method Description:	CLEAN FUEL
Emission Limit 1:	0.2000
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	B
*Control Method Description:	DLN COMBUSTORS AND SCR
Emission Limit 1:	200.0000
Emission Limit 1 Unit:	NG/J
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	20.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6-min avg
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

Process Information : COB ENERGY FACILITY, LLC

*Process Name:	BOILERS, AUXILIARY, NATURAL GAS, (2)
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	80.00
Throughput Unit:	MMBTU/H
Process Notes:	Throughput for each. Provide auxiliary steam for standby and startup conditions.

Pollutant Information: COB ENERGY FACILITY, LLC - BOILERS, AUXILIARY, NATURAL GAS, (2)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	LOW NOX BURNERS AND FLUE GAS RECIRCULATION
Emission Limit 1:	0.0350
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	0.0370
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: IVANPAH ENERGY CENTER, L.P.

RBLC ID:	NV-0038
*Corporate/Company Name:	IVANPAH ENERGY CENTER, L.P.
*Facility Name:	IVANPAH ENERGY CENTER, L.P.
Facility State:	NV
EPA Region:	9
Application Accepted Received Date:	02/12/2002 ACT
Permit Issuance Date:	12/29/2003 ACT
Date determination entered in RBLC:	11/14/2005

Date determination last updated:	12/21/2005
Facility Description:	A 500 MW ELECTRICAL GENERATING PLANT CONSISTING OF TWO COMBUSTION TURBINE GENERATORS, TWO HEAT RECOVERY STEAM GENERATORS, ONE STEAM TURBINE GENERATOR. THE PROPOSED PLANT IS SURROUNDED BY UNOCCUPIED LAND FOR A DISTANCE OF AT LEAST TWO MILES IN ALL DIRECTIONS. THE UN-IMPROVED ACCESS ROAD TO THE PROPOSED PLANT SITE IS ABOUT 1.6 MILES IN LENGTH.

Process Information : IVANPAH ENERGY CENTER, L.P.

*Process Name:	LARGE COMBUSTION TURBINES, COMBINED CYCLE & COGENERATION
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	500.00
Throughput Unit:	MW
Process Notes:	THE PRINCIPAL PROCESS EQUIPMENT CONSISTS OF TWO WESTINGHOUSE 501 FD COMBUSTION TURBINE GENERATORS, TWO HEAT RECOVERY STEAM GENERATORS, AND ONE STEAM TURBINE GENERATOR.

Pollutant Information: IVANPAH ENERGY CENTER, L.P. - LARGE COMBUSTION TURBINES, COMBINED CYCLE & COGENERATION

*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	GOOD COMBUSTION CONTROL AND CATALYTIC OXIDATION
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	15% OXYGEN, ONE HOUR AVERAGE
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX COMBUSTION CONTROL IN COMBINATION WITH SELECTIVE CATALYTIC REDUCTION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	15% OXYGEN, ONE HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS, OPERATING PERMIT, SIP
Cost Verified By	No

Agency (Y/N)?:

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: B
*Control Method Description: GOOD COMBUSTION CONTROL AND USE OF PIPELINE-QUALITY NATURAL GAS
Emission Limit 1: 11.2500
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: LAER
Other Applicable Requirements: OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: B
*Control Method Description: GOOD COMBUSTION CONTROL AND CATALYTIIC OXIDATION
Emission Limit 1: 2.3000
Emission Limit 1 Unit: PPMVD
Emission Limit 1 Avg. Time/Condition: 15% OXYGEN, ONE HOUR AVERAGE
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: OPERATING PERMIT, SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: USE OF PIPELINE-QUALITY NATURAL GAS
Emission Limit 1: 1.5500
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS, SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Ammonia (NH3)
*Control Method Code: P
*Control Method Description: GOOD SCR REAGENT INJECTION CONTROL
Emission Limit 1: 10.0000
Emission Limit 1 Unit: PPMVD

Emission Limit 1	15% OXYGEN, ONE HOUR AVERAGE
Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: MANKATO ENERGY CENTER

RBLC ID:	MN-0054
*Corporate/Company Name:	
*Facility Name:	MANKATO ENERGY CENTER
Facility State:	MN
EPA Region:	5
Application Accepted Received Date:	09/28/2004 ACT
Permit Issuance Date:	12/04/2003 ACT
Date determination entered in RBLC:	10/25/2004
Date determination last updated:	08/24/2006
Facility Description:	COMBINED CYCLE GAS TURBINE ELECTRIC POWER PLANT. TWO IDENTICAL GE FRAME F7A GAS TURBINES EACH WITH HRSG W/DUCT BURNERS FEEDING STEAM TO COMMON STEAM TURBINES. PRIMARY FUEL IS NG, NO. 2 VERY LOW SULFUR DISTILLATE OIL FOR BACKUP. ALSO, AUX. BOILER, DIESEL EMERGENCY GNERATOR, DIESEL FIRE PUMP, AND 900,000 GAL ABOVE GROUN OIL STORAGE TANK.

Process Information : MANKATO ENERGY CENTER

*Process Name:	COMBUSTION TURBINE, LARGE, 2 EACH
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1916.00
Throughput Unit:	MMBTU/H
Process Notes:	DISTILLATE FUEL OIL UP TO 875 H/YR PER TURBINE; MAX. SULFUR CONTENT OF 0.05% BY WEIGHT.

Pollutant Information: MANKATO ENERGY CENTER - COMBUSTION TURBINE, LARGE, 2 EACH

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P

*Control Method Description:	CLEAN FUELS AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	0.0090
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN FUELS AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	0.0090
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	0.8000
Emission Limit 1 Unit:	GR/100SCF
Emission Limit 1 Avg. Time/Condition:	CALENDAR YEAR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	LEAN PRE-MIX COMBUSTION & SCR
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPMVD 15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	OXIDATION CATALYST AND GOOD COMBUSTION
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPMVD 15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG. FULL LOAD
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	OXIDATION CATALYST AND GOOD COMBUSITION PRACTICS
Emission Limit 1:	34.0000
Emission Limit 1 Unit:	PPMVD @15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	0.8000
Emission Limit 1 Unit:	GR/100 SCT
Emission Limit 1 Avg. Time/Condition:	CALENDAR YEAR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : MANKATO ENERGY CENTER

*Process Name:	COMBUSTION TURBINE, LARGE 2 EACH

*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1827.00
Throughput Unit:	MMBTU/H
Process Notes:	@44F, BURNING NO. 2 DISTILLATE FUEL OIL. DISTILLATE FUEL OIL UP TO 875 H/YR PER TURBINE; MAX. SULFUR CONTENT 0.05% BY WEIGHT.

Pollutant Information: MANKATO ENERGY CENTER - COMBUSTION TURBINE, LARGE 2 EACH

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUELS AND GOOD COMBUSTION
Emission Limit 1:	0.0570
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN FUELS AND GOOD COMBUSTION
Emission Limit 1:	0.0570
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	WATER INJECTION AND SCR
Emission Limit 1:	5.5000
Emission Limit 1 Unit:	PPMVD @15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	

Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFLUR FUEL
Emission Limit 1:	0.0500
Emission Limit 1 Unit:	% SULFUR BY WT.
Emission Limit 1 Avg. Time/Condition:	INSTANTANEOUS
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	OXIDATION CATALYST AND GOOD COMBUSTION
Emission Limit 1:	4.8000
Emission Limit 1 Unit:	PPMVD @15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG. FULL LOAD
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	B
*Control Method Description:	OXIDATION CATALYST AND GOOD COMBUSTION
Emission Limit 1:	7.1000
Emission Limit 1 Unit:	PPMVD @15% 02
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	0.0500
Emission Limit 1	% SULFUR BY WT

Unit:	
Emission Limit 1 Avg. Time/Condition:	INSTANTANEOUS
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : MANKATO ENERGY CENTER

*Process Name:	DUCT BURNER, 2 EACH
*Process Type:	11.310
Primary Fuel:	NATURAL GAS
Throughput:	800.00
Throughput Unit:	MMBTU/H
Process Notes:	RESTRICTED TO NG ONLY

Pollutant Information: MANKATO ENERGY CENTER - DUCT BURNER, 2 EACH

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION
Emission Limit 1:	0.0090
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION
Emission Limit 1:	0.0090
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method	P

Code:	
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	0.8000
Emission Limit 1 Unit:	GR/100SCF
Emission Limit 1 Avg.	CALENDAR YR AVG.
Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPMVD @15% 02
Emission Limit 1 Avg.	3-HOUR AVG
Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPMVD @15% 02
Emission Limit 1 Avg.	3-HOUR AVG.
Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	3.4000
Emission Limit 1 Unit:	PPMVD @15% 02
Emission Limit 1 Avg.	3-HOUR AVG.
Time/Condition:	
*Case-by-Case	BACT-PSD

Basis:	
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	0.8000
Emission Limit 1 Unit:	GR/100SCF
Emission Limit 1 Avg. Time/Condition:	CALENDAR YR. AVG.
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : MANKATO ENERGY CENTER

*Process Name:	BOILER, COMMERCIAL
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	70.00
Throughput Unit:	MMBTU/H
Process Notes:	NATURAL GAS ONLY

Pollutant Information: MANKATO ENERGY CENTER - BOILER, COMMERCIAL

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	N
*Control Method Description:	CLEAN FUELS
Emission Limit 1:	0.0080
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	CLEAN FUELS
Emission Limit 1:	0.0080
Emission Limit 1	LB/MMBTU

Unit:	
Emission Limit 1	
Avg.	
Time/Condition:	
*Case-by-Case	BACT-PSD
Basis:	
Other Applicable	
Requirements:	
Cost Verified By	No
Agency (Y/N)?:	

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method	P
Code:	
*Control Method	LOW SULFUR FUEL
Description:	
Emission Limit 1:	0.0010
Emission Limit 1	LB/MMBTU
Unit:	
Emission Limit 1	
Avg.	
Time/Condition:	
*Case-by-Case	BACT-PSD
Basis:	
Other Applicable	
Requirements:	
Cost Verified By	No
Agency (Y/N)?:	

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method	P
Code:	
*Control Method	DRY LOW NOX AND FLUE GAS RECIRCULATION
Description:	
Emission Limit 1:	0.0360
Emission Limit 1	LB/MMBTU
Unit:	
Emission Limit 1	
Avg.	
Time/Condition:	
*Case-by-Case	
Basis:	
Other Applicable	
Requirements:	
Cost Verified By	No
Agency (Y/N)?:	

*Pollutant Name	Carbon Monoxide
*Control Method	P
Code:	
*Control Method	GOOD COMBUSTION
Description:	
Emission Limit 1:	0.0600
Emission Limit 1	LB/MMBTU
Unit:	
Emission Limit 1	
Avg.	
Time/Condition:	
*Case-by-Case	BACT-PSD
Basis:	
Other Applicable	
Requirements:	
Cost Verified By	No
Agency (Y/N)?:	

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	0.0070
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	0.8000
Emission Limit 1 Unit:	GR/100 SCF
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : MANKATO ENERGY CENTER

*Process Name:	INTERNAL COMBUSTION ENGINE, LARGE
*Process Type:	17.110
Primary Fuel:	DIESEL FUEL
Throughput:	1850.00
Throughput Unit:	HP
Process Notes:	MAX. SULFUR CONTENT 0.05% BY WEIGHT

Pollutant Information: MANKATO ENERGY CENTER - INTERNAL COMBUSTION ENGINE, LARGE

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	0.0700
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	

*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	0.0700
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	0.5900
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	12.7000
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	P

*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	1.0000
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	0.1200
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : MANKATO ENERGY CENTER

*Process Name:	INTERNAL COMBUSTION ENGINE, SMALL
*Process Type:	17.210
Primary Fuel:	DIESEL FUEL
Throughput:	290.00
Throughput Unit:	HP
Process Notes:	MAX. SULFUR CONTENT 0.05% BY WEIGHT

Pollutant Information: MANKATO ENERGY CENTER - INTERNAL COMBUSTION ENGINE, SMALL

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	0.0700
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	

Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	0.0700
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	0.1400
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	5.7000
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	0.2500
Emission Limit 1	G/B-HP-H

Unit:	
Emission Limit 1	
Avg. Time/Condition:	
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	0.0800
Emission Limit 1 Unit:	G/B-HP-H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: JAMES CITY ENERGY PARK

RBLC ID:	VA-0287
*Corporate/Company Name:	JAMES CITY ENERGY PARK LLC
*Facility Name:	JAMES CITY ENERGY PARK
Facility State:	VA
EPA Region:	3
Application Accepted Received Date:	03/01/2002 ACT
Permit Issuance Date:	12/01/2003 ACT
Date determination entered in RBLC:	03/11/2004
Date determination last updated:	03/29/2004
Facility Description:	POWER GENERATING FACILITY

Process Information : JAMES CITY ENERGY PARK

*Process Name:	TURBINE, COMBINED CYCLE, NATURAL GAS
*Process Type:	15.210
Primary Fuel:	NATURAL GAS

Throughput: 1973.00
Throughput Unit: MMBTU/H
Process Notes: throughput for each turbine

Pollutant Information: JAMES CITY ENERGY PARK - TURBINE, COMBINED CYCLE, NATURAL GAS

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*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: LOW SULFUR FUELS
Emission Limit 1: 11.4000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: each
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter (PM)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION/DESIGN AND CLEAN FUEL
Emission Limit 1: 18.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: each
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES/DESIGN AND CLEAN FUEL
Emission Limit 1: 18.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: each
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)

*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION/DESIGN AND CLEAN FUEL
Emission Limit 1:	1.4000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX BURNERS SCR WITH AMMONIA INJECTION AND CEM DEVICES.
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	9.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : JAMES CITY ENERGY PARK

*Process Name:	TURBINE, COMBINED CYCLE, FUEL OIL
*Process Type:	15.290
Primary Fuel:	DISTILLATE OIL
Throughput:	2167.00
Throughput Unit:	MMBTU/H
Process Notes:	THIS LIMIT IS FOR ONE OF TWO UNITS

Pollutant Information: JAMES CITY ENERGY PARK - TURBINE, COMBINED CYCLE, FUEL OIL

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX BURNERS SCR WITH AMMONIA INJECTION AND CEM DEVICES.
Emission Limit 1:	6.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	6.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUELS
Emission Limit 1:	110.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	ON OIL
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION/DESIGN AND CLEAN FUEL

Emission Limit 1: 43.9000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION/DESIGN
Emission Limit 1: 43.9000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION/DESIGN AND CLEAN FUELS
Emission Limit 1: 3.5000
Emission Limit 1 Unit: PPM
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : JAMES CITY ENERGY PARK

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*Process Name: TURBINE, COMBINED CYCLE, NATURAL GAS,DUCT BURNER
*Process Type: 15.210
Primary Fuel: NATURAL GAS
Throughput: 1973.00
Throughput Unit: MMBTU/H
Process Notes: throughput for each turbine

Pollutant Information: JAMES CITY ENERGY PARK - TURBINE, COMBINED CYCLE, NATURAL GAS,DUCT BURNER

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUELS
Emission Limit 1:	11.3000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	each
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION/DESIGN AND CLEAN FUEL
Emission Limit 1:	24.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	each
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION/DESIGN AND CLEAN FUEL
Emission Limit 1:	24.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	each
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION/DESIGN AND CLEAN FUEL
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1	

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX BURNERS, SCR WITH AMMONIA INJECTION AND CEM DEVICES
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	12.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: DUKE ENERGY ARLINGTON VALLEY (AVEFII)

RBLC ID:	AZ-0043
*Corporate/Company Name:	DUKE ENERGY ARLINGTON VALLEY
*Facility Name:	DUKE ENERGY ARLINGTON VALLEY (AVEFII)
Facility State:	AZ
EPA Region:	9
Application Accepted Received Date:	09/01/2001 ACT

Permit Issuance Date:	11/12/2003 ACT
Date determination entered in RBLC:	01/08/2004
Date determination last updated:	01/29/2004
Facility Description:	POWER PLANT

Process Information : DUKE ENERGY ARLINGTON VALLEY (AVEFII)

*Process Name:	TURBINE, COMBINED CYCLE & DUCT BURNER
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	325.00
Throughput Unit:	MW
Process Notes:	

Pollutant Information: DUKE ENERGY ARLINGTON VALLEY (AVEFII) - TURBINE, COMBINED CYCLE & DUCT BURNER

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	1 hr avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDIZER
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 hr avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method	N

Code:	
*Control Method Description:	
Emission Limit 1:	25.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	3 hr avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY ARLINGTON VALLEY (AVEFII)

*Process Name:	TURBINE, COMBINED CYCLE
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	325.00
Throughput Unit:	MW
Process Notes:	This process entry provides emission limits for the combined cycle turbine without the duct burner.

Pollutant Information: DUKE ENERGY ARLINGTON VALLEY (AVEFII) - TURBINE, COMBINED CYCLE

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	1 hr avg
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: A
*Control Method Description: CATALYTIC OXIDIZER
Emission Limit 1: 2.0000
Emission Limit 1 Unit: PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition: 3 hr avg
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 18.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 1.0000
Emission Limit 1 Unit: PPM
Emission Limit 1 Avg. Time/Condition: 3 hr avg
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: HINES ENERGY COMPLEX, POWER BLOCK 3

RBLC ID:	FL-0256
*Corporate/Company Name:	PROGRESS ENERGY FLORIDA
*Facility Name:	HINES ENERGY COMPLEX, POWER BLOCK 3
Facility State:	FL
EPA Region:	4
Application Accepted Received Date:	09/04/2002 ACT
Permit Issuance Date:	09/08/2003 ACT
Date determination entered in RBLC:	09/23/2003
Date determination last updated:	08/30/2006
Facility Description:	POWER PLANT

Process Information : HINES ENERGY COMPLEX, POWER BLOCK 3

*Process Name:	COMBUSTION TURBINES, COMBINED CYCLE, NATURAL GAS,2
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1830.00
Throughput Unit:	MMBTU/H
Process Notes:	Secondary fuel is 0.05% sulfur distillate fuel oil, and is entered as a separate process.

Pollutant Information: HINES ENERGY COMPLEX, POWER BLOCK 3 - COMBUSTION TURBINES, COMBINED CYCLE, NATURAL GAS,2

*Pollutant Name	Ammonia (NH3)
*Control Method Code:	P
*Control Method Description:	GOOD PROCESS OPERATIONS.
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX COMBUSTORS & SELECTIVE CATALYTIC REDUCTION

Emission Limit 1: 2.5000
Emission Limit 1 Unit: PPMVD @15% O2
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: P
*Control Method Description: COMBUSTION DESIGN, GOOD COMBUSTION PRACTICES.
Emission Limit 1: 10.0000
Emission Limit 1 Unit: PPMVD @15% O2
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: PERMIT LIMIT IS LOW SULFUR FUELS
Emission Limit 1:
Emission Limit 1 Unit:
Emission Limit 1 Avg. Time/Condition: see note
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfuric Acid (mist, vapors, etc)
*Control Method Code: P
*Control Method Description: PERMIT LIMIT IS LOW SULFUR FUELS-NATURAL GAS
Emission Limit 1:
Emission Limit 1 Unit:
Emission Limit 1 Avg. Time/Condition: SEE NOTE
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:

Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	COMBUSTION DESIGN, GOOD COMBUSTION PRACTICES.
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD % 15 O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	PERMIT LIMIT IS CLEAN BURNING FUELS AND GOOD COMBUSTION PRACTICES. NO EMISSION LIMITS.
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	PERMIT LIMIT IS CLEAN BURNING FUELS AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : HINES ENERGY COMPLEX, POWER BLOCK 3

*Process Name:	COMBUSTION TURBINES, COMBINED CYCLE, 2, FUEL OIL
*Process Type:	15.290
Primary Fuel:	FUEL OIL

Throughput:	1830.00
Throughput Unit:	MMBTU/H
Process Notes:	fuel is 0.05% S distillate fuel oil, limited to 720 h/yr, each CT

Pollutant Information: HINES ENERGY COMPLEX, POWER BLOCK 3 - COMBUSTION TURBINES, COMBINED CYCLE, 2, FUEL OIL

*Pollutant Name	Ammonia (NH3)
*Control Method Code:	P
*Control Method Description:	GOOD PROCESS OPERATIONS
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	WATER INJECTION AND SCR
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	COMBUSTION DESIGN, GOOD COMBUSTION PRACTICES
Emission Limit 1:	20.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	SEE NOTE
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	COMBUSTION DESIGN, GOOD COMBUSTION PRACTICES.
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN BURNING FUELS AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg.	see note

Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	CLEAN BURNING FUELS AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: LA PAZ GENERATING FACILITY

RBLC ID:	*AZ-0049
*Corporate/Company Name:	ALLEGHENY ENERGY SUPPLY LLC
*Facility Name:	LA PAZ GENERATING FACILITY
Facility State:	AZ
EPA Region:	9
Application Accepted Received Date:	10/02/2001 ACT
Permit Issuance Date:	09/04/2003 ACT
Date determination entered in RBLC:	10/14/2005
Date determination last updated:	03/09/2006
Facility Description:	NATURAL GAS FIRED, COMBINED CYCLE GENERATING STATION

Process Information : LA PAZ GENERATING FACILITY

*Process Name:	SIEMENS WESTINGHOUSE COMBUSTION TURBINES AND HEAT RECOVERY STEAM GENERATORS
*Process Type:	15.110
Primary Fuel:	NATURAL GAS
Throughput:	1080.00

Throughput Unit:	MW
Process Notes:	THE COMPANY HAS THE OPTION OF EITHER CHOOSING THIS EQUIPMENT SETUP, OR THE OTHER LISTED SETUP. THIS SET UP IS 2 SIEMENS WESTINGHOUSE COMBUSTION TURBINES AND TWO HEAT RECOVERY STEAM GENERATORS WITH SUPPLEMENTAL DUCT FIRING

Pollutant Information: LA PAZ GENERATING FACILITY - SIEMENS WESTINGHOUSE COMBUSTION TURBINES AND HEAT RECOVERY STEAM GENERATORS

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	LOW NOX BURNERS AND SELECTIVE CATALYTIC REDUCTION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	THREE HOUR AVERAGE AT 15% OXYGEN
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	THREE HOUR AVERAGE AT 15% OXYGEN
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	30.3000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0021
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	THREE HOUR AVERAGE AT 15% OXYGEN
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : LA PAZ GENERATING FACILITY

*Process Name:	GE COMBUSTION TURBINES AND HEAT RECOVERY STEAM GENERATORS
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1040.00
Throughput Unit:	MW
Process Notes:	THE COMPANY HAS THE OPTION OF EITHER CHOOSING THIS EQUIPMENT SETUP, OR THE OTHER LISTED SETUP. THIS SET UP IS 2 GE COMBUSTION TURBINES AND TWO HEAT RECOVERY STEAM GENERATORS WITH SUPPLEMENTAL DUCT FIRING.

Pollutant Information: LA PAZ GENERATING FACILITY - GE COMBUSTION TURBINES AND HEAT RECOVERY STEAM GENERATORS

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	LOW NOX BURNERS WITH SELECTIVE CATALYTIC REDUCTION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD

Emission Limit 1 Avg. Time/Condition:	THREE HOUR AVERAGE AT 15% OXYGEN
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	3-HOUR AVERAGE AT 15% OXYGEN
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	45.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0021
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-HR AVERAGE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	4.5000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	3-HR AVERAGE AT 15% OXYGEN
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : LA PAZ GENERATING FACILITY

*Process Name:	MECHANICAL DRAFT COOLING TOWERS FOR GE TURBINES
*Process Type:	99.009
Primary Fuel:	
Throughput:	173870.00
Throughput Unit:	GAL/MIN
Process Notes:	TEN CELL COOLING TOWER TO BE USED IF GE TURBINES ARE SELECTED

Pollutant Information: LA PAZ GENERATING FACILITY - MECHANICAL DRAFT COOLING TOWERS FOR GE TURBINES

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	DRIFT ELIMINATORS
Emission Limit 1:	0.0005
Emission Limit 1 Unit:	% CIRCULATING WATER
Emission Limit 1 Avg. Time/Condition:	TOTAL DRIFT RATE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : LA PAZ GENERATING FACILITY

*Process Name:	MECHANICAL DRAFT COOLING TOWERS FOR SIEMENS TURBINES
*Process Type:	99.009
Primary Fuel:	
Throughput:	141400.00
Throughput Unit:	GAL/MIN
Process Notes:	TEN CELL COOLING TOWER - TO BE USED IF SIEMENS TURBINES ARE SELECTED.

Pollutant Information: LA PAZ GENERATING FACILITY - MECHANICAL DRAFT COOLING TOWERS FOR SIEMENS TURBINES

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	DRIFT ELIMINATORS
Emission Limit 1:	0.0005
Emission Limit 1 Unit:	% CIRCULATING WATER
Emission Limit 1 Avg. Time/Condition:	TOTAL DRIFT RATE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : LA PAZ GENERATING FACILITY

*Process Name:	AUXILIARY BOILER FOR GE TURBINE
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	41.00
Throughput Unit:	MMBTU/H
Process Notes:	THIS BOILER IS TO BE USED IF THE GE TURBINE SETUP IS SELECTED.

Pollutant Information: LA PAZ GENERATING FACILITY - AUXILIARY BOILER FOR GE TURBINE

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	LOW NOX BURNERS
Emission Limit 1:	0.0270
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	NSPS
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method	

Description:
Emission Limit 1: 0.0900
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.0150
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.0025
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.0100
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable

Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : LA PAZ GENERATING FACILITY

*Process Name: AUXILIARY BOILER FOR SIEMENS TURBINES
*Process Type: 13.310
Primary Fuel: NATURAL GAS
Throughput: 55.34
Throughput Unit: MMBTU/H
Process Notes: THIS BOILER IS FOR USE WHEN THE SIEMENS TURBINE SYSTEM IS SELECTED.

Pollutant Information: LA PAZ GENERATING FACILITY - AUXILIARY BOILER FOR SIEMENS TURBINES

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: P
*Control Method Description: LOW NOX BURNERS
Emission Limit 1: 0.0360
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: NSPS
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.1400
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.0150
Emission Limit 1 LB/MMBTU

Unit:
Emission Limit 1
Avg.
Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.0025
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.0100
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: SACRAMENTO MUNICIPAL UTILITY DISTRICT

RBLC ID: CA-0997
*Corporate/Company Name: SACRAMENTO MUNICIPAL UTILITY DISTRICT
*Facility Name: SACRAMENTO MUNICIPAL UTILITY DISTRICT
Facility State: CA
EPA Region: 9
Application 09/12/2001 ACT

Accepted Received Date:	
Permit Issuance Date:	09/01/2003 EST
Date determination entered in RBLC:	01/15/2003
Date determination last updated:	03/09/2004
Facility Description:	COMBUSTION GAS TURBINE GE 7FA

Process Information : SACRAMENTO MUNICIPAL UTILITY DISTRICT

*Process Name:	GAS TURBINES, (2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1611.00
Throughput Unit:	MMBTU/H
Process Notes:	COMBUSTION GAS TURBINE GE 7FA

Pollutant Information: SACRAMENTO MUNICIPAL UTILITY DISTRICT - GAS TURBINES, (2)

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.4000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name Sulfur Oxides (SOx)
*Control Method Code: P
*Control Method Description: LOW SULFUR NATURAL GAS
Emission Limit 1: 1.0000
Emission Limit 1 Unit: GR/100 SCF
Emission Limit 1 Avg. Time/Condition: FUEL SPECIFICATION
*Case-by-Case Basis: LAER
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION CONTROL
Emission Limit 1: 9.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: LAER
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name Carbon Monoxide
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION CONTROL
Emission Limit 1: 4.0000
Emission Limit 1 Unit: PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: LAER
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: DUKE ENERGY WASHINGTON COUNTY LLC

RBLC ID:	OH-0254
*Corporate/Company Name:	DUKE ENERGY NORTH AMERICA
*Facility Name:	DUKE ENERGY WASHINGTON COUNTY LLC
Facility State:	OH
EPA Region:	5
Application Accepted Received Date:	04/28/2000 ACT
Permit Issuance Date:	08/14/2003 ACT
Date determination entered in RBLC:	04/09/2003
Date determination last updated:	07/05/2005
Facility Description:	TWO 170 MW NATURAL GAS-FIRED COMBUSTION TURBINES, COMBINED CYCLE

Process Information : DUKE ENERGY WASHINGTON COUNTY LLC

*Process Name:	TURBINES (2) (MODEL GE 7FA), DUCT BURNERS ON
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	TWO GE 7FA TURBINES 170 MW EACH, COMBINED CYCLE W/ DLN AND SCR. THE MAXIMUM HOURS OF OPERATION OF THE DUCT BURNER SHALL NOT EXCEED 4500 H/ROLLING 12-MONTHS FOR EACH TURBINE. THE TOTAL NUMBER OF STARTUPS AND SHUTDOWNS SHALL BE LIMITED TO 260 CYCLES (EACH CYCLE IS ONE STARTUP AND SHUTDOWN). EACH TURBINE HAS ROLLING 12-MONTH EMISSIONS LIMITS BASED ON 4260 H/YR WITHOUT DUCT BURNERS, 4500 H/YR WITH DUCT BURNERS, AND THE ESTIMATED EMISSIONS FROM 260 STARTUP/SHUTDOWNS; THESE LIMITS FOR EACH TURBINE ARE AS FOLLOWS: 157.5 TONS OF NOX/ROLLING 12-MONTHS 56.5 TONS OF SO2/ROLLING 12-MONTHS 103.5 TONS OF PM/PM10/ROLLING 12-MONTHS 453.7 TONS OF CO/ROLLING 12-MONTHS 63.1 TONS OF VOC/ROLLING 12-MONTHS

Pollutant Information: DUKE ENERGY WASHINGTON COUNTY LLC - TURBINES (2) (MODEL GE 7FA), DUCT BURNERS ON

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW-NOX (DLN) COMBUSTION BURNERS AND SELECTIVE CATALYTIC REDUCTION (SCR)
Emission Limit 1:	32.3000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL - LOW S NATURAL GAS 2 GR/100 SCF
Emission Limit 1:	14.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	28.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	78.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	SCR HAS SOME CONTROL OF VOC
Emission Limit 1:	19.6000
Emission Limit 1 Unit:	LB/H
Emission Limit 1	EACH TURBINE

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	2.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	34.6000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Formaldehyde
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.8200
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)

*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6 min avg
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY WASHINGTON COUNTY LLC

*Process Name:	BOILER
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	30.60
Throughput Unit:	MMBTU/H
Process Notes:	THE MAXIMUM ANNUAL FUEL HEAT INPUT SHALL NOT EXCEED 128,000 MMBTU/ROLLING 12-MONTHS

Pollutant Information: DUKE ENERGY WASHINGTON COUNTY LLC - BOILER

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	1.0800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0310
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.3100
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 3.3400
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.4900
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Visible Emissions (VE)
*Control Method Code: N
*Control Method Description:

Emission Limit 1:	20.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6 min avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY WASHINGTON COUNTY LLC

*Process Name:	EMERGENCY DIESEL-FIRED GENERATOR
*Process Type:	17.110
Primary Fuel:	DIESEL
Throughput:	600.00
Throughput Unit:	KW
Process Notes:	600 KW Emergency disel-fired generator. Limited to 500 hr/yr operation.

Pollutant Information: DUKE ENERGY WASHINGTON COUNTY LLC - EMERGENCY DIESEL-FIRED GENERATOR

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL, COMBUSTION CONTROL
Emission Limit 1:	12.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL, COMBUSTION CONTROL
Emission Limit 1:	0.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By	No

Agency (Y/N)?:

*Pollutant Name: Particulate Matter (PM)
*Control Method Code: P
*Control Method Description: LOW SULFUR FUEL, COMBUSTION CONTROL
Emission Limit 1: 0.7200
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: P
*Control Method Description: LOW SULFUR FUEL, COMBUSTION CONTROL
Emission Limit 1: 15.2000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: P
*Control Method Description: LOW SULFUR FUEL, COMBUSTION CONTROL
Emission Limit 1: 1.7600
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : DUKE ENERGY WASHINGTON COUNTY LLC

*Process Name: EMERGENCY DIESEL FIRE PUMP ENGINE
*Process Type: 17.210
Primary Fuel: DIESEL
Throughput: 400.00

Throughput Unit:	HP
Process Notes:	400 HP Emergency diesel fuel fired fire pump engine. Limited to 500 hr/yr of operation.

Pollutant Information: DUKE ENERGY WASHINGTON COUNTY LLC - EMERGENCY DIESEL FIRE PUMP ENGINE

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL, COMBUSTION CONTROL
Emission Limit 1:	12.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL, COMBUSTION CONTROL
Emission Limit 1:	0.8400
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL, COMBUSTION CONTROL
Emission Limit 1:	0.8800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide

*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL, COMBUSTION CONTROL
Emission Limit 1:	2.7600
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY WASHINGTON COUNTY LLC

*Process Name:	COOLING TOWER
*Process Type:	99.009
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	SEVEN CELL MECHANICAL DRAFT COOLING TOWER

Pollutant Information: DUKE ENERGY WASHINGTON COUNTY LLC - COOLING TOWER

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	2.0800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY WASHINGTON COUNTY LLC

*Process Name:	TURBINES (2) (MODEL GE 7FA), DUCT BURNERS OFF
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	TWO GE 7FA TURBINES 170 MW EACH, COMBINED CYCLE W/ DLN AND SCR. THE TOTAL NUMBER OF STARTUPS AND SHUTDOWNS SHALL BE LIMITED TO 260 CYCLES (EACH CYCLE IS ONE STARTUP AND SHUTDOWN). EACH TURBINE HAS ROLLING 12-MONTH EMISSIONS LIMITS BASED ON 4260 H/YR WITHOUT DUCT BURNERS, 4500 H/YR

WITH DUCT BURNERS, AND THE ESTIMATED EMISSIONS FROM 260 STARTUP/SHUTDOWNS; THESE LIMITS FOR EACH TURBINE ARE AS FOLLOWS: 157.5 TONS OF NOX/ROLLING 12-MONTHS 56.5 TONS OF SO2/ROLLING 12-MONTHS 103.5 TONS OF PM/PM10/ROLLING 12-MONTHS 453.7 TONS OF CO/ROLLING 12-MONTHS 63.1 TONS OF VOC/ROLLING 12-MONTHS

Pollutant Information: DUKE ENERGY WASHINGTON COUNTY LLC - TURBINES (2) (MODEL GE 7FA), DUCT BURNERS OFF

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*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW-NOX (DLN) COMBUSTION BURNERS AND SELECTIVE CATALYTIC REDUCTION (SCR)
Emission Limit 1:	24.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW S NATURAL GAS 2 GR/100 SCF
Emission Limit 1:	11.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	19.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH TURBINE
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	SIP
Cost Verified By	No

Agency (Y/N)?:

*Pollutant Name: Carbon Monoxide
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 43.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: EACH TURBINE
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: A
*Control Method Description: SCR HAS SOME CONTROL OF VOC
Emission Limit 1: 3.0000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: EACH TURBINE
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements: SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Formaldehyde
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 0.8000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: EACH TURBINE
*Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Ammonia (NH3)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 26.6000
Emission Limit 1 Unit: LB/H

Emission Limit 1 Avg. Time/Condition: EACH TURBINE
*Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfuric Acid (mist, vapors, etc)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 1.7000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: EACH TURBINE
*Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Visible Emissions (VE)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 10.0000
Emission Limit 1 Unit: % OPACITY
Emission Limit 1 Avg. Time/Condition: 6 min avg
*Case-by-Case Basis: N/A
Other Applicable Requirements: SIP
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: REDBUD POWER PLANT

RBLC ID: OK-0096
*Corporate/Company Name: REDBUD ENERGY LP
*Facility Name: REDBUD POWER PLANT
Facility State: OK
EPA Region: 6
Application Accepted Received 11/14/2002 EST

Date:	
Permit Issuance Date:	06/03/2003 ACT
Date determination entered in RBLC:	03/03/2004
Date determination last updated:	04/23/2004
Facility Description:	ELECTRICITY GENERATION

Process Information : REDBUD POWER PLANT

*Process Name:	COMBUSTION TURBINE AND DUCT BURNERS
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1832.00
Throughput Unit:	MMBTU/H
Process Notes:	Throughput for each of the 4 CTs.

Pollutant Information: REDBUD POWER PLANT - COMBUSTION TURBINE AND DUCT BURNERS

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	SELECTIVE CATALYTIC REDUCTION (SCR) WITH DRY LOW NOX BURNERS (DLN)
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES/DESIGN
Emission Limit 1:	17.2000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)

*Control Method Code:	P
*Control Method Description:	VERY LOW SO2 EMISSION RATE-LOW SULFUR FUEL
Emission Limit 1:	0.0030
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	USE OF LOW ASH FUEL AND EFFICIENT COMBUSTION
Emission Limit 1:	0.0120
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: BEATRICE POWER STATION

RBLC ID:	NE-0017
*Corporate/Company Name:	NEBRASKA PUBLIC POWER DISTRICT
*Facility Name:	BEATRICE POWER STATION
Facility State:	NE
EPA Region:	7
Application Accepted Received Date:	07/01/2002 ACT
Permit Issuance Date:	05/29/2003 ACT
Date determination entered in RBLC:	10/08/2003
Date determination last updated:	08/03/2004
Facility Description:	ELECTRIC GENERATING FACILITY

Process Information : BEATRICE POWER STATION

*Process Name:	TURBINE, COMBINED CYCLE, (2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	80.00
Throughput Unit:	MW
Process Notes:	Two GE 7E Class 80 MW combustion turbine with HRSG

Pollutant Information: BEATRICE POWER STATION - TURBINE, COMBINED CYCLE, (2)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	LOW-NOX BURNERS AND SELECTIVE CATALYTIC REDUCTION. EMISSION LIMITS SPECIFIED, NOT CONTROL DEVICES.
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24-hr average
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	GOOD COMBUSTION & CATALYTIC OXIDATION. EMISSION LIMITS SPECIFIED, NOT CONTROL DEVICES.
Emission Limit 1:	18.4000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	30 day rolling average
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.8000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case

Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: VERNON CITY LIGHT & POWER

RBLC ID:	CA-1096
*Corporate/Company Name:	VERNON CITY LIGHT & POWER
*Facility Name:	VERNON CITY LIGHT & POWER
Facility State:	CA
EPA Region:	9
Application Accepted Received Date:	
Permit Issuance Date:	05/27/2003 ACT
Date determination entered in RBLC:	06/09/2005
Date determination last updated:	12/05/2005
Facility Description:	

Process Information : VERNON CITY LIGHT & POWER

*Process Name:	GAS TURBINE: COMBINED CYCLE < 50 MW
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	43.00
Throughput Unit:	MW GAS TURBINE, 55 MW STEAM TURBINE
Process Notes:	EQUIP: , MFR: ALSTOM, TYPE: COMBINED CYCLEWITH DUCT BURNER, MODEL: GTX100, FUNC EQUIP: POWER GENERATION, FUEL_TYPE: , SCHEDULE: CONTINUOUS, H/D: 24, D/W: 7, W/Y: 52, NOTES: PRIOR BACT DETERMINATION WAS BASED ON CARBS GUIDANCE DOCUMENT FOR POWER PLANT SITINGS, DATED SEPTEMBER 1999 AND THE ANP BLACKSTONE COMBINED-CYCLE POWER PLANT IN MASSACHUSETTS (AQMD PUBLIC NOTICE 1/16/2003). THE MORE STRINGENT LIMIT FOR CO WAS PROPOSED BY THE APPLICANT TO REDUCE THE OFFSET REQUIREMENTS. MAGNOLIA POWER PROJECT (A/N 386305) HAS SIMILAR CONCENTRATION LIMITS OF NOX, CO, VOC AND NH3 EXCEPT FOR DIFFERENCES IN AVERAGING TIMES (3-HR FOR NOX AND 1-HR FOR VOC). SOURCE TEST RESULTS: TO BE TESTED WITHIN 180 DAYS AFTER STARTUP.

Pollutant Information: VERNON CITY LIGHT & POWER - GAS TURBINE: COMBINED CYCLE < 50 MW

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method	A

Code:	
*Control Method	SCR SYSTEM, AND OXIDATION CATALYST
Description:	
Emission Limit 1:	2.0000
Emission Limit 1	PPMVD @ 15% O2
Unit:	
Emission Limit 1	1H
Avg.	
Time/Condition:	
*Case-by-Case	BACT-PSD
Basis:	
Other Applicable	N/A
Requirements:	
Cost Verified By	No
Agency (Y/N)?:	

*Pollutant Name	Carbon Monoxide
*Control Method	A
Code:	
*Control Method	SCR SYSTEM, AND OXIDATION CATALYST
Description:	
Emission Limit 1:	2.0000
Emission Limit 1	PPMVD @ 15% O2
Unit:	
Emission Limit 1	3H
Avg.	
Time/Condition:	
*Case-by-Case	BACT-PSD
Basis:	
Other Applicable	N/A
Requirements:	
Cost Verified By	No
Agency (Y/N)?:	

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method	A
Code:	
*Control Method	SCR SYSTEM, AND OXIDATION CATALYST
Description:	
Emission Limit 1:	2.0000
Emission Limit 1	PPMVD @ 15% O2
Unit:	
Emission Limit 1	1H
Avg.	
Time/Condition:	
*Case-by-Case	BACT-PSD
Basis:	
Other Applicable	N/A
Requirements:	
Cost Verified By	No
Agency (Y/N)?:	

*Pollutant Name	Particulate Matter (PM)
*Control Method	N
Code:	
*Control Method	
Description:	
Emission Limit 1:	0.0100
Emission Limit 1	G/SCF
Unit:	
Emission Limit 1	
Avg.	
Time/Condition:	
*Case-by-Case	BACT-PSD

Basis:	
Other Applicable Requirements:	N/A
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD@15%O2
Emission Limit 1 Avg. Time/Condition:	1 H
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	N/A
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: MAGNOLIA POWER PROJECT, SCPPA

RBLC ID:	CA-1097
*Corporate/Company Name:	MAGNOLIA POWER PROJECT, SCPPA
*Facility Name:	MAGNOLIA POWER PROJECT, SCPPA
Facility State:	CA
EPA Region:	9
Application Accepted Received Date:	
Permit Issuance Date:	05/27/2003 ACT
Date determination entered in RBLC:	06/09/2005
Date determination last updated:	12/06/2005
Facility Description:	

Process Information : MAGNOLIA POWER PROJECT, SCPPA

*Process Name:	GAS TURBINE: COMBINED CYCLE >= 50 MW
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	181.00
Throughput Unit:	NET MW (GAS TURBINE W/STEAM INJECTION)
Process Notes:	EQUIP: INCLUDES INLET AIR EVAPORATIVE COOLING AND STEAM INJECTION, MFR: GENERAL ELECTRIC, TYPE: COMBINED CYCLE, MODEL: PG7241FA, FUNC EQUIP: POWER GENERATION, FUEL_TYPE:

, SCHEDULE: CONTINUOUS, H/D: 24, D/W: 7, W/Y: 52, NOTES: PRIOR BACT WAS BASED ON CARBS GUIDANCE DOCUMENT FOR POWER PLANT SITINGS, DATED SEPTEMBER 1999 AND AQMD PART D BACT. OTHER SIMILAR RECENTLY AQMD PERMITTED COMBINED CYCLE POWERPLANTS INCLUDE LADWP VALLEY, LADWP HAYNES, AND MOUNTAINVIEW POWER PLANT. THESE PLANTS WERE PERMITTED WITH THE SAME OR SIMILAR EMISSION CONCENTRATION LIMITS FOR NOX, CO, VOC, AND NH3 HOWEVER, THEY WERE NOT CONSIDERED ACHIEVED IN PRACTICE AT THE TIME OF BACT DETERMINATION. THE MORE STRINGENT LIMIT ON CO WAS PROPOSED BY THE APPLICANT. SOURCE TEST RESULTS: TO BE TESTED.

Pollutant Information: MAGNOLIA POWER PROJECT, SCPPA - GAS TURBINE: COMBINED CYCLE >= 50 MW

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*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR SYSTEM AND OXIDATION CATALYST
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 H AVG. TIME
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	N/A
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	SCR SYSTEM AND OXIDATION CATALYST
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	1H
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	N/A
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	SCR SYSTEM AND OXIDATION CATALYST
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	1 H

*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	N/A
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0100
Emission Limit 1 Unit:	G/SCF
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	N/A
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD@15%O2
Emission Limit 1 Avg. Time/Condition:	1 H
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	N/A
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: MCINTOSH COMBINED CYCLE FACILITY

RBLC ID:	GA-0105
*Corporate/Company Name:	SAVANNAH ELECTRIC AND POWER CO
*Facility Name:	MCINTOSH COMBINED CYCLE FACILITY
Facility State:	GA
EPA Region:	4
Application Accepted Received Date:	04/23/2002 ACT
Permit Issuance Date:	04/17/2003 ACT

Date determination entered in RBLC:	04/21/2004
Date determination last updated:	01/24/2005
Facility Description:	ELECTRIC GENERATING FACILITY

Process Information : MCINTOSH COMBINED CYCLE FACILITY

*Process Name:	TURBINE, COMBINED CYCLE, NATURAL GAS, (4)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	140.00
Throughput Unit:	MW
Process Notes:	TURBINES ARE GENERAL ELECTRIC 7FA TURBINES W/ 541.7 MMBTU/H DUCT BURNERS.

Pollutant Information: MCINTOSH COMBINED CYCLE FACILITY - TURBINE, COMBINED CYCLE, NATURAL GAS, (4)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX COMBUSTORS, SCR
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	Yes

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDATION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	Yes

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A

*Control Method Description:	CATALYTIC OXIDATION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL, GOOD COMBUSTION PRACTICE
Emission Limit 1:	0.0090
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	HHV BASIS
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL, GOOD COMBUSTION PRACTICE
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : MCINTOSH COMBINED CYCLE FACILITY

*Process Name:	TURBINE, COMBINED CYCLE, FUEL OIL, (4)
*Process Type:	15.290
Primary Fuel:	FUEL OIL
Throughput:	140.00
Throughput Unit:	MW
Process Notes:	TURBINES ARE GENERAL ELECTRIC 7FA TURBINES W/ 541.7 MMBTU/H DUCT BURNERS.

Pollutant Information: MCINTOSH COMBINED CYCLE FACILITY - TURBINE, COMBINED CYCLE, FUEL OIL, (4)

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*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	6.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDATION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDATION
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL, GOOD COMBUSTION PRACTICE
Emission Limit 1:	0.0160

Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition: HHV BASIS
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Visible Emissions (VE)
*Control Method Code: P
*Control Method Description: LOW SULFUR FUEL, GOOD COMBUSTION PRACTICE
Emission Limit 1: 10.0000
Emission Limit 1 Unit: % OPACITY
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : MCINTOSH COMBINED CYCLE FACILITY

*Process Name: FUEL GAS HEATER
*Process Type: 13.310
Primary Fuel: NATURAL GAS
Throughput: 5.00
Throughput Unit: MMBTU/H
Process Notes:

Pollutant Information: MCINTOSH COMBINED CYCLE FACILITY - FUEL GAS HEATER

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 99.0000
Emission Limit 1 Unit: PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide

*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	37.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: SUMAS ENERGY 2 GENERATION FACILITY

RBLC ID:	WA-0315
*Corporate/Company Name:	SUMAS ENERGY 2 GENERATION FACILITY
*Facility Name:	SUMAS ENERGY 2 GENERATION FACILITY
Facility State:	WA
EPA Region:	10
Application Accepted Received Date:	
Permit Issuance Date:	04/17/2003 ACT
Date determination entered in RBLC:	03/11/2004
Date determination last updated:	08/31/2006
Facility Description:	

Process Information : SUMAS ENERGY 2 GENERATION FACILITY

*Process Name:	TURBINES, COMBINED CYCLE, (2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	660.00
Throughput Unit:	MW
Process Notes:	Throughput is total. Natural gas fuel with 2 gr/100 CF max S content, 7 day avg basis, 1.1 gr/100 cf 12 mo avg basis.

Pollutant Information: SUMAS ENERGY 2 GENERATION FACILITY - TURBINES, COMBINED CYCLE, (2)

*Pollutant Name	Nitrogen Oxides (NOx)

*Control Method Code:	B
*Control Method Description:	DRY LOW NOX BURNERS, SCR
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	3 h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	1 h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL: < 2 GR/100 CF, 7 DAY AVG, 1.1 GR/100 CF, 12 MO AVG
Emission Limit 1:	1.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	1 h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM), Filterable
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICE, LOW SULFUR FUEL
Emission Limit 1:	194.0000
Emission Limit 1 Unit:	LB/D
Emission Limit 1 Avg. Time/Condition:	each

*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICE, CLEAN FUEL
Emission Limit 1:	377.0000
Emission Limit 1 Unit:	LB/D
Emission Limit 1 Avg. Time/Condition:	each
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICE
Emission Limit 1:	420.0000
Emission Limit 1 Unit:	LB/D
Emission Limit 1 Avg. Time/Condition:	as methane, each
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL: < 2 GR/100 CF 7 DAY AVG, 1.1 GR/100 CF 12 MO AVG
Emission Limit 1:	39.0000
Emission Limit 1 Unit:	LB/D
Emission Limit 1 Avg. Time/Condition:	EACH
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N

*Control Method Description:	
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	1 h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICE
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: FPL MARTIN PLANT

RBLC ID:	FL-0244
*Corporate/Company Name:	FLORIDA POWER & LIGHT
*Facility Name:	FPL MARTIN PLANT
Facility State:	FL
EPA Region:	4
Application Accepted Received Date:	02/02/2002 ACT
Permit Issuance Date:	04/16/2003 ACT
Date determination entered in RBLC:	06/11/2003
Date determination last updated:	12/22/2003
Facility Description:	EXISTING POWER PLANT

Process Information : FPL MARTIN PLANT

*Process Name:	TURBINE, COMBINED CYLE, NATURAL GAS, (4)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	Combined Cycle Unit 8 consists of 4 gas turbines (170 MW) , 4 HRSG with duct fiirng, and 1 steam turbine (470 MW).

Pollutant Information: FPL MARTIN PLANT - TURBINE, COMBINED CYLE, NATURAL GAS, (4)

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION DESIGN AND PRACTICES
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24-HR CEM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX COMBUSTORS AND SCR
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24-HR CEM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	NATURAL GAS CONTAINS LITTLE ASH OR OTHER CONTAMINANTS
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	NATURAL GAS CONTAINS LITTLE ASH OR OTHER CONTAMINANTS. LOW SULFUR FUELS.
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	1.3000
Emission Limit 1 Unit:	PPMVD 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	P
*Control Method Description:	GOOD DESIGN
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD @15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	CLEAN FUELS

Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FPL MARTIN PLANT

*Process Name:	TURBINE, SIMPLE CYCLE, FUEL OIL (4)
*Process Type:	15.190
Primary Fuel:	DISTILLATE FUEL OIL
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	Unit 8 consists of 4 turbines (170 MW) , 4 HRSG with duct firing, and 1 steam turbine (470 MW). Back up fuel is Distillate Fuel oil, 0.05% sulfur, no more than 500 h/yr. This process entry is for simple cycle operation

Pollutant Information: FPL MARTIN PLANT - TURBINE, SIMPLE CYCLE, FUEL OIL (4)

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION DESIGN AND PRACTICES
Emission Limit 1:	15.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24-HR CEM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	WATER INJECTION
Emission Limit 1:	42.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-hr block avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	

Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	ULTRA LOW SULFUR DISTILLATE FUEL CONTAINS LITTLE ASH OR OTHER CONTAMINANTS
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	CLEAN FUELS
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUELS. FUEL OIL < 0.05 % S BY WEIGHT
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	2.5000
Emission Limit 1	PPMVD @ 15% O2

Unit:	
Emission Limit 1	
Avg.	
Time/Condition:	
*Case-by-Case	BACT-PSD
Basis:	
Other Applicable	
Requirements:	
Cost Verified By	No
Agency (Y/N)?:	

Process Information : FPL MARTIN PLANT

*Process Name:	TURBINE, COMBINED CYCLE, FUEL OIL, (4)
*Process Type:	15.290
Primary Fuel:	DISTILLATE FUEL OIL
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	Combined Cycle Unit 8 consists of 4 turbines (170 MW) , 4 HRSG with duct firing, and 1 steam turbine (470 MW). Back up fuel: Distillate Fuel oil, 0.05% sulfur, no more than 500 h/yr

Pollutant Information: FPL MARTIN PLANT - TURBINE, COMBINED CYCLE, FUEL OIL, (4)

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION DESIGN AND PRACTICES
Emission Limit 1:	15.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	CEMS block avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	WATER INJECTION WITH SCR
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	CEMS 24-h block avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By	No

Agency (Y/N)?:

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: UTRA LOW SULFUR DISTILLATE FUEL OIL CONTAINS LITTLE ASH OR OTHER CONTAMINANTS.
Emission Limit 1:
Emission Limit 1 Unit:
Emission Limit 1 Avg. Time/Condition: see note
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: ULTRA LOW SULFUR DISTILLATE FUEL OIL (0.05% S BY WEIGHT) CONTAINS LITTLE OR NO ASH OR OTHER CONTAMINANTS.
Emission Limit 1:
Emission Limit 1 Unit:
Emission Limit 1 Avg. Time/Condition: see note
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES
Emission Limit 1: 2.5000
Emission Limit 1 Unit: PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Ammonia (NH3)
*Control Method Code: P
*Control Method Description: GOOD DESIGN AND OPERATION
Emission Limit 1: 5.0000
Emission Limit 1 Unit: PPMVD @ 15% O2

Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FPL MARTIN PLANT

*Process Name:	TURBINE, SIMPLE CYCLE, NATURAL GAS, (4)
*Process Type:	15.110
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	Combined Cycle Unit 8 consists of 4 gas turbines (170 MW), 4 HRSG with duct firing, and 1 steam turbine (470 MW). This process entry is for simple cycle operation.

Pollutant Information: FPL MARTIN PLANT - TURBINE, SIMPLE CYCLE, NATURAL GAS, (4)

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION DESIGN AND PRACTICES
Emission Limit 1:	8.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	CEMS block avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	DRY LOW NOX COMBUSTORS
Emission Limit 1:	9.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	CEMS block avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL - PIPELINE NATURAL GAS
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	CLEAN FUELS - PIPELINE NATURAL GAS
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6 min block avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUELS -- NATURAL GAS = 2 GR S/ 100 SCF
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg.	see note

Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	1.3000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	stack test
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FPL MARTIN PLANT

*Process Name:	TURBINE, COMBINED CYCLE WITH DUCT BURNER, NAT GAS
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	Combined Cycle Unit 8 consists of 4 gas turbines (170 MW), 4 HRSG with duct firing, and 1 steam turbine (470 MW). Only limits for NOx and VOC are different in this mode from combined cycle without duct firing.

Pollutant Information: FPL MARTIN PLANT - TURBINE, COMBINED CYCLE WITH DUCT BURNER, NAT GAS

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX COMBUSTORS AND SCR
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)

*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: FPL MANATEE PLANT - UNIT 3

RBLC ID:	FL-0245
*Corporate/Company Name:	FLORIDA POWER & LIGHT
*Facility Name:	FPL MANATEE PLANT - UNIT 3
Facility State:	FL
EPA Region:	4
Application Accepted Received Date:	
Permit Issuance Date:	04/15/2003 ACT
Date determination entered in RBLC:	06/12/2003
Date determination last updated:	08/30/2006
Facility Description:	EXISTING POWER PLANT

Process Information : FPL MANATEE PLANT - UNIT 3

*Process Name:	TURBINE, COMBINED CYCLE, NATURAL GAS (4)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	Combined cycle Unit 3 consists of 4 gas turbines (170MW), 4 HRSGs with duct firing, and 1 steam turbine (470MW).

Pollutant Information: FPL MANATEE PLANT - UNIT 3 - TURBINE, COMBINED CYCLE, NATURAL GAS (4)

*Pollutant Name	Nitrogen Oxides (NOx)

*Control Method Code:	B
*Control Method Description:	DRY LOW NOX COMBUSTORS WITH SCR
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24-H CEM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION DESIGN AND PRACTICES
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24-H CEM
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	P
*Control Method Description:	NATURAL GAS
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUELS
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	GR/100 SCF
Emission Limit 1 Avg. Time/Condition:	gr S/100 scf. fuel limitation

*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	P
*Control Method Description:	SCR EQUIPMENT DESIGN AND OPERATION
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	GR/100 SCF
Emission Limit 1 Avg. Time/Condition:	GR S/100 SCF FUEL LIMITATION
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P

*Control Method Description:	GOOD COMBUSTION PRACTICE
Emission Limit 1:	1.3000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	normal operation
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : FPL MANATEE PLANT - UNIT 3

*Process Name:	TURBINE, SIMPLE CYCLE, NATURAL GAS, (4)
*Process Type:	15.110
Primary Fuel:	NATURAL GAS
Throughput:	170.00
Throughput Unit:	MW
Process Notes:	Combined cycle Unit 3 consists of 4 gas turbines (170MW), 4 HRSGs with duct firing, and 1 steam turbine (470MW). This process entry is for simple cycle operation.

Pollutant Information: FPL MANATEE PLANT - UNIT 3 - TURBINE, SIMPLE CYCLE, NATURAL GAS, (4)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	DRY LOW NOX COMBUSTORS
Emission Limit 1:	9.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION DESIGN AND PRACTICES
Emission Limit 1:	7.4000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	stack test
*Case-by-Case Basis:	BACT-PSD

Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	P
*Control Method Description:	FUEL SPECIFICATIONS
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	GR/100 SCF
Emission Limit 1 Avg. Time/Condition:	gr S/100 scf. fuel limitation
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL

Emission Limit 1:	2.0000
Emission Limit 1 Unit:	GR/100 SCF
Emission Limit 1 Avg. Time/Condition:	GR S/100 SCF FUEL LIMITATION
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION
Emission Limit 1:	1.3000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: CHOCOLATE BAYOU PLANT

RBLC ID:	TX-0374
*Corporate/Company Name:	BP AMOCO CHEMICAL CO
*Facility Name:	CHOCOLATE BAYOU PLANT
Facility State:	TX
EPA Region:	6
Application Accepted Received Date:	10/24/2000 ACT
Permit Issuance Date:	03/24/2003 ACT
Date determination entered in RBLC:	09/02/2003
Date determination last updated:	01/04/2005
Facility Description:	BP AMOCO PROPOSES TO CONSTRUCT A GAS- FIRED STEAM AND ELECTRIC GENERATING FACILITY. THE PROPOSED PROJECT WILL BE CALLED THE GREEN POWER UNIT ONE. THE PROJECT WILL CONSIST OF TWO DUAL SHAFT GAS-FIRED ELECTRIC GENERATING TURBINES EACH RATED AT APPROX. 35 MW (BASE LOAD), EACH TURBINE WILL HAVE A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH 312 MMBTU/H DUCT BURNERS. GREEN POWER UNIT ONE WILL BE CAPABLE OF PRODUCING AN ESTIMATED NOMINAL 70 MW OF

	ELECTRICITY. STEAM PRODUCED IN THE HRSGS WILL BE USED IN THE CHOCOLATE BAYOU WORKS CHEMICAL COMPLEX. THE CHEMICAL COMPLEX WILL CONSUME APPROX. HALF OF THE ELECTRICAL OUTPUT PRODUCED BY THE TWO NEW TURBINES. EXCESS POWER PRODUCED BY THE COMBUSTION TURBINES WILL BE SOLD TO THE GRID. THE COMBUSTION TURBINES WILL ONLY BURN PIPELINE QUALITY SWEET NAT GAS. THE DUCT BURNERS WILL BURN NAT GAS, COMPLEX GAS, OR MIXTURES OF NAT GAS AND COMPLEX GAS.

Process Information : CHOCOLATE BAYOU PLANT

*Process Name:	(2) COGENERATION TRAINS 2 & 3, GT-2 & 3
*Process Type:	15.210
Primary Fuel:	NAT GAS
Throughput:	70.00
Throughput Unit:	MW, TOTAL
Process Notes:	FUEL LIMITATIONS: TURBINES: PIPELINE-QUALITY NAT GAS CONTAINING NO MORE THAN 5.0 GR S/100 DSCF/H AND 0.5 GR S /100 DSCF, ON A 12 MO ROLLING AV. HRSG DUCT BURNERS MAY FIRE PIPELINE-QUALITY NAT GAS, COMPLEX FUEL OR MIXTURES OF BOTH PROVIDED THEY CONTAIN NO MORE THAN 5.0 GR S/100 DSCF/H AND 0.5 GR S /100 DSCF, ON A 12 MO ROLLING AV.

Pollutant Information: CHOCOLATE BAYOU PLANT - (2) COGENERATION TRAINS 2 & 3, GT-2 & 3

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX COMBUSTORS & SELECTIVE CATALYTIC REDUCTION
Emission Limit 1:	11.4300
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	66.8100
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	

Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES & FIRING ONLY GASEOUS FUELS CONTAINING NO ASH
Emission Limit 1:	10.0300
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	6.1400
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES & LOW S FUEL GASES
Emission Limit 1:	12.6600
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	NONE INDICATED
Emission Limit 1:	8.4500
Emission Limit 1	LB/H

Unit:	
Emission Limit 1	EACH
Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL
Emission Limit 1:	1.9400
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	EACH
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	NONE INDICATED
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6 MIN AV
*Case-by-Case Basis:	N/A
Other Applicable Requirements:	SIP
Cost Verified By Agency (Y/N)?:	No

Process Information : CHOCOLATE BAYOU PLANT

*Process Name:	DIESEL START-UP ENGINE, GT-SUGEN
*Process Type:	19.800
Primary Fuel:	DIESEL
Throughput:	
Throughput Unit:	
Process Notes:	THE START-UP DIESEL ENGINE IS LIMITED TO A MAXIMUM OF 100 H/YR NON-EMERGENCY OPERATION.

Pollutant Information: CHOCOLATE BAYOU PLANT - DIESEL START-UP ENGINE, GT-SUGEN

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	NONE INDICATED
Emission Limit 1:	21.6000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	NONE INDICATED
Emission Limit 1:	4.9500
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	NONE INDICATED
Emission Limit 1:	0.6300
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	N
*Control Method Description:	NONE INDICATED
Emission Limit 1:	0.5800
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg.	

Time/Condition:
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: N
*Control Method Description: NONE INDICATED
Emission Limit 1: 2.9100
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : CHOCOLATE BAYOU PLANT

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*Process Name: COOLING WATER TOWER (2 CELLS), COGENCWT
*Process Type: 99.009
Primary Fuel:
Throughput:
Throughput Unit:
Process Notes:

Pollutant Information: CHOCOLATE BAYOU PLANT - COOLING WATER TOWER (2 CELLS), COGENCWT

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*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description: NONE INDICATED
Emission Limit 1: 0.5400
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : CHOCOLATE BAYOU PLANT

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*Process Name: (2) GT LUBE OIL VENT FOR COGEN TRAINS 2 & 3
*Process Type: 19.900
Primary Fuel: LUBE OIL
Throughput:
Throughput Unit:
Process Notes:

Pollutant Information: CHOCOLATE BAYOU PLANT - (2) GT LUBE OIL VENT FOR COGEN TRAINS 2 & 3

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*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: N
*Control Method Description: NONE INDICATED
Emission Limit 1: 0.0500
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: EACH
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : CHOCOLATE BAYOU PLANT

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*Process Name: NAT GAS & FUEL GAS FUGITIVES
*Process Type: 19.900
Primary Fuel: NAT GAS
Throughput:
Throughput Unit:
Process Notes:

Pollutant Information: CHOCOLATE BAYOU PLANT - NAT GAS & FUEL GAS FUGITIVES

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*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: N
*Control Method Description: NONE INDICATED
Emission Limit 1: 0.4500
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name	Hydrogen Sulfide
*Control Method Code:	N
*Control Method Description:	NONE INDICATED
Emission Limit 1:	0.0010
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	LESS THAN
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : CHOCOLATE BAYOU PLANT

*Process Name:	AMMONIA (NH3) FUGITIVES, NH3FUG2
*Process Type:	19.900
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	

Pollutant Information: CHOCOLATE BAYOU PLANT - AMMONIA (NH3) FUGITIVES, NH3FUG2

*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	NONE INDICATED
Emission Limit 1:	0.2600
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY

RBLC ID:	OK-0090
*Corporate/Company Name:	DUKE ENERGY
*Facility Name:	DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY
Facility State:	OK
EPA Region:	6
Application Accepted Received Date:	09/05/2002 ACT
Permit Issuance Date:	03/21/2003 ACT
Date determination entered in RBLC:	09/09/2003
Date determination last updated:	10/10/2003
Facility Description:	MERCHANT POWER PLANT - NOMINAL TOTAL OF 620 MW.

Process Information : DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY

*Process Name:	TURBINES, COMBINED CYCLE (2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1701.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY - TURBINES, COMBINED CYCLE (2)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	SCR, DRY LOW NOX COMBUSTORS
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	24-h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	COMBUSTION CONTROL
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	

*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION AND DLN TECHNOLOGY
Emission Limit 1:	45.6000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	combined
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF PIPELINE-QUALITY NATURAL GAS (VERY LOW SULFUR FUEL) MAXIMUM 0.8 % S BY WT.
Emission Limit 1:	0.0060
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND EFFICIENT COMBUSTION
Emission Limit 1:	0.0150
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Process Name:	BOILER, AUXILIARY
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	33.00
Throughput Unit:	MMBTU/H
Process Notes:	

Pollutant Information: DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY - BOILER, AUXILIARY

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	LOW-NOX BURNERS
Emission Limit 1:	0.0500
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	BOILER DESIGN AND GOOD OPERATING PRACTICES
Emission Limit 1:	0.0850
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	BOILER DESIGN AND GOOD OPERATING PRACTICES
Emission Limit 1:	0.0160
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable	

Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: BACT IS USE OF PIPE-LINE QUALITY NATURAL GAS
Emission Limit 1: 0.2000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: USE OF LOW ASH FUEL AND EFFICIENT COMBUSTION
Emission Limit 1: 0.0100
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY

*Process Name: IC ENGINE, BACKUP GENERATOR, DIESEL
*Process Type: 17.110
Primary Fuel: DIESEL
Throughput: 749.00
Throughput Unit: BHP
Process Notes: 500 kW generator, limited to < 100 h/yr

Pollutant Information: DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY - IC ENGINE, BACKUP GENERATOR, DIESEL

*Pollutant Name: Nitrogen Oxides (NOx)
*Control Method Code: P
*Control Method Description: ENGINE DESIGN AND LIMITED HOURS OF OPERATION (<100 H/YR)
Emission Limit 1: 2.1600
Emission Limit 1 Unit: LB/MMBTU

Emission Limit 1 Avg. Time/Condition: *Case-by-Case
Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Carbon Monoxide
*Control Method Code: P
*Control Method Description: ENGINE DESIGN AND GOOD COMBUSTION PRACTICES
Emission Limit 1: 2.6600
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition: *Case-by-Case
Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: P
*Control Method Description: BACT IS GOOD ENGINE DESIGN
Emission Limit 1: 1.7000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: *Case-by-Case
Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: USE OF LOW SULFUR DIESEL FUEL (< 0.05% S BY WT)
Emission Limit 1: 0.3000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition: *Case-by-Case
Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	COMBUSTION CONTROL AND GOOD ENGINE DESIGN
Emission Limit 1:	0.1240
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY

*Process Name:	IC ENGINE, FIRE WATER PUMP
*Process Type:	17.210
Primary Fuel:	DIESEL
Throughput:	265.00
Throughput Unit:	BHP
Process Notes:	operation limit: < 100 h/yr

Pollutant Information: DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY - IC ENGINE, FIRE WATER PUMP

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	P
*Control Method Description:	ENGINE DESIGN AND HOURS LIMIT (<100 H/YR)
Emission Limit 1:	4.4100
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	P
*Control Method Description:	ENGINE DESIGN AND GOOD COMBUSTION PRACTICES
Emission Limit 1:	0.9500
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case	BACT-PSD

Basis:
Other Applicable
Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Volatile Organic Compounds (VOC)
*Control Method Code: P
*Control Method Description: ENGINE DESIGN
Emission Limit 1: 0.7000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: USE OF VERY LOW SULFUR DIESEL FUEL (<0.05% S BY WT)
Emission Limit 1: 0.5000
Emission Limit 1 Unit: LB/H
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: COMBUSTION CONTROL AND GOOD ENGINE DESIGN
Emission Limit 1: 0.3100
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY

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*Process Name:	COOLING TOWER
*Process Type:	99.009
Primary Fuel:	
Throughput:	
Throughput Unit:	
Process Notes:	

Pollutant Information: DUKE ENERGY STEPHENS, LLC STEPHENS ENERGY - COOLING TOWER

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	A
*Control Method Description:	DRIFT ELIMINATORS
Emission Limit 1:	1.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: KLAMATH GENERATION, LLC

RBLC ID:	OR-0040
*Corporate/Company Name:	KLAMATH GENERATION, LLC
*Facility Name:	KLAMATH GENERATION, LLC
Facility State:	OR
EPA Region:	10
Application Accepted Received Date:	
Permit Issuance Date:	03/12/2003 ACT
Date determination entered in RBLC:	03/15/2004
Date determination last updated:	11/02/2005
Facility Description:	POWER GENERATION FACILITY

Process Information : KLAMATH GENERATION, LLC

*Process Name:	TURBINE, COMBINED CYCLE, DUCT BURNER, NAT GAS (2)

*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	480.00
Throughput Unit:	MW
Process Notes:	Throughput for both turbines and duct burners combined

Pollutant Information: KLAMATH GENERATION, LLC - TURBINE, COMBINED CYCLE, DUCT BURNER, NAT GAS (2)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	NATURAL GAS < 1 GR S/100 SCF OF GAS
Emission Limit 1:	0.0042
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	8-h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Oxides (SOx)
*Control Method Code:	P
*Control Method Description:	FUEL NOT TO EXCEED 0.8 % S BY WT
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1 Avg. Time/Condition:	see note
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX COMBUSTION, SCR
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	8-h rolling avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDATION
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	8-h rolling avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3-h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDATION
Emission Limit 1:	7.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	as methane, each, 3-h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : KLAMATH GENERATION, LLC

*Process Name:	DUCT BURNERS
*Process Type:	12.310
Primary Fuel:	NATURAL GAS
Throughput:	250.00
Throughput Unit:	MMBTU/H

Process Notes:	Throughput for each. Used to boost steam during peak generating periods.

Pollutant Information: KLAMATH GENERATION, LLC - DUCT BURNERS

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	B
*Control Method Description:	DLN COMBUSTION AND SCR
Emission Limit 1:	0.2000
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : KLAMATH GENERATION, LLC

*Process Name:	BOILER, AUXILIARY, NATURAL GAS
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	50000.00
Throughput Unit:	LB/H
Process Notes:	Throughput is lb/h of steam. Boiler provides steam for standby and startup conditions.

Pollutant Information: KLAMATH GENERATION, LLC - BOILER, AUXILIARY, NATURAL GAS

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0042
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method	

Description:	
Emission Limit 1:	30.0000
Emission Limit 1 Unit:	PPMVD @ 3% O2
Emission Limit 1 Avg. Time/Condition:	3-H AVG
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0350
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3-h avg
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: SALT RIVER PROJECT/SANTAN GEN. PLANT

RBLC ID:	AZ-0039
*Corporate/Company Name:	SALT RIVER PROJECT/SANTAN GEN. PLANT
*Facility Name:	SALT RIVER PROJECT/SANTAN GEN. PLANT
Facility State:	AZ
EPA Region:	9
Application Accepted Received Date:	05/08/2001 ACT
Permit Issuance Date:	03/07/2003 ACT
Date determination entered in RBLC:	11/10/2003
Date determination last updated:	05/24/2005
Facility Description:	POWER PLANT

Process Information : SALT RIVER PROJECT/SANTAN GEN. PLANT

*Process Name:	TURBINE, COMBINED CYCLE, DUCT BURNER, NATURAL GAS
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	175.00
Throughput Unit:	MW
Process Notes:	

Pollutant Information: SALT RIVER PROJECT/SANTAN GEN. PLANT - TURBINE, COMBINED CYCLE, DUCT BURNER, NATURAL GAS

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0100
Emission Limit 1 Unit:	LB/MMBTU
Emission Limit 1 Avg. Time/Condition:	3 h avg
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDIZER
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 h avg
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	1 h avg
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Cost Verified By	No

Agency (Y/N)?:	
*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDIZER
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPM @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 h avg
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: KALKASKA GENERATING, INC

RBLC ID:	MI-0357
*Corporate/Company Name:	KALKASKA GENERATING LLC
*Facility Name:	KALKASKA GENERATING, INC
Facility State:	MI
EPA Region:	5
Application Accepted Received Date:	05/20/2002 ACT
Permit Issuance Date:	02/04/2003 ACT
Date determination entered in RBLC:	12/09/2003
Date determination last updated:	01/16/2004
Facility Description:	ELECTRICAL POWER PRODUCTION FACILITY.

Process Information : KALKASKA GENERATING, INC

*Process Name:	TURBINE, COMBINED CYCLE, (2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	605.00
Throughput Unit:	MW
Process Notes:	Emissions are from two turbines and the HRSG and duct burners. Test results for VOC, PM10 and sulfuric acid will be used to develop emission factors in lb pollutant per MM cubic feet of gas.

Pollutant Information: KALKASKA GENERATING, INC - TURBINE, COMBINED CYCLE, (2)

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*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	B
*Control Method Description:	SCR AND LOW-NOX BURNERS.
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	Yes

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST.
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMVD @15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	Yes

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST ALSO CONTROL VOC, MOST OF WHICH IS FORMALDEHYDE.
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	CLEAN FUEL AND GOOD COMBUSTION PRACTICES.
Emission Limit 1:	38.0000

Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Oxides (SOx)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL; AVERAGE SULFUR CONTENT OF FUEL IS 0.75 GR/100 SCF.
Emission Limit 1:	5.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	N
*Control Method Description:	USE OF LOW SULFUR FUEL.
Emission Limit 1:	4.5000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Ammonia (NH3)
*Control Method Code:	N
*Control Method Description:	NONE
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By	No

Agency (Y/N)?:

Process Information : KALKASKA GENERATING, INC

*Process Name: DUCT BURNERS ON HRSGS, (2)
*Process Type: 11.310
Primary Fuel: NATURAL GAS
Throughput: 620.00
Throughput Unit: MMBTU/H
Process Notes:

Pollutant Information: KALKASKA GENERATING, INC - DUCT BURNERS ON HRSGS, (2)

*Pollutant Name: Particulate Matter < 10 • (PM10)
*Control Method Code: P
*Control Method Description: GOOD COMBUSTION PRACTICES AND CLEAN FUEL.
Emission Limit 1: 0.0100
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: USE OF LOW SULFUR FUEL.
Emission Limit 1: 0.0030
Emission Limit 1 Unit: LB/MMBTU
Emission Limit 1 Avg. Time/Condition:
*Case-by-Case Basis: BACT-PSD
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: SOUTH SHORE POWER LLC

RBLC ID: MI-0361

*Corporate/Company Name:	SOUTH SHORE POWER LLC
*Facility Name:	SOUTH SHORE POWER LLC
Facility State:	MI
EPA Region:	5
Application Accepted Received Date:	11/26/2001 ACT
Permit Issuance Date:	01/30/2003 ACT
Date determination entered in RBLC:	12/15/2003
Date determination last updated:	01/23/2004
Facility Description:	ELECTRIC POWER GENERATING FACILITY.

Process Information : SOUTH SHORE POWER LLC

*Process Name:	TURBINE, COMBINED CYCLE, (2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	172.00
Throughput Unit:	MW
Process Notes:	Each turbine has a power rating of 172 MW and are equipped with HRSGs and duct burners. The duct burners have a capacity of 507-529 MMBtu/hr. Results from VOC, PM10 and formaldehyde tests will be used to develop emission factors in terms of lb pollutant/MM cubic feet gas.

Pollutant Information: SOUTH SHORE POWER LLC - TURBINE, COMBINED CYCLE, (2)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX BURNERS AND SELECTIVE CATALYTIC REDUCTION (SCR). COSTS ONLY PROVIDED FOR SCONOX SYSTEM ($21,680/TON), AMOUNT OF REDUCTION IS SAME FOR SCR.
Emission Limit 1:	3.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	Yes

*Pollutant Name	Carbon Monoxide
*Control Method Code:	B
*Control Method Description:	CATALYTIC OXIDATION AND USE OF GOOD COMBUSTION PRACTICES.
Emission Limit 1:	4.0000
Emission Limit 1 Unit:	PPMVD @ 15% O2
Emission Limit 1	

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST USED FOR CO CONTROL CAN ALSO ACHIEVE 1.1 PPMVD @ 15% O2 AND 2.5 PPMVD @ 15% O2 (WITH DUCT FIRING) FOR VOC.
Emission Limit 1:	7.3000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	USE OF NATURAL GAS AND STATE OF THE ART COMBUSTION TECHNIQUES.
Emission Limit 1:	24.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	P
*Control Method Description:	GOOD STOICHIOMETRIC BALANCE OF NO2 AND NH3 TO PREVENT AMMONIA SLIP
Emission Limit 1:	3.3000
Emission Limit 1 Unit:	T/YR
Emission Limit 1 Avg. Time/Condition:	BOTH TURBINES
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Formaldehyde
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDIZER REDUCES VOC EMISSIONS (MOST OF WHICH ARE FORMALDEHYDE) IN ADDITION TO CO.
Emission Limit 1:	3.3000
Emission Limit 1 Unit:	T/YR
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	BACT FOR SO2 IS USE OF PIPELINE QUALITY NATURAL GAS WITH 0.2 GR SULFUR PER 100 CUBIC FEET OF GAS.
Emission Limit 1:	0.2000
Emission Limit 1 Unit:	GR/100 SCF
Emission Limit 1 Avg. Time/Condition:	NATURAL GAS SPECIFICATION
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: MIRANT WYANDOTTE LLC

RBLC ID:	MI-0365
*Corporate/Company Name:	MIRANT WYANDOTTE LLC
*Facility Name:	MIRANT WYANDOTTE LLC
Facility State:	MI
EPA Region:	5
Application Accepted Received Date:	01/03/2002 ACT
Permit Issuance Date:	01/28/2003 ACT
Date determination entered in RBLC:	12/22/2003
Date determination last updated:	08/30/2006
Facility Description:	COMBINED CYCLE POWER PLANT.

Process Information : MIRANT WYANDOTTE LLC

*Process Name:	TURBINE, COMBINED CYCLE, (2)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	2200.00
Throughput Unit:	MMBTU/H
Process Notes:	Turbines equipped with heat recovery steam generators. Test results will be used to develop emission factors for CO, VOC, PM10, H2SO4, and HCOH in terms of pound of pollutant per million cubic feet gas burned.

Pollutant Information: MIRANT WYANDOTTE LLC - TURBINE, COMBINED CYCLE, (2)

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	B
*Control Method Description:	DRY LOW NOX BURNERS AND SELECTIVE CATALYTIC REDUCTION.
Emission Limit 1:	3.5000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	PPM BY VOL
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	CATALYTIC OXIDATION SYSTEM.
Emission Limit 1:	3.8000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	PPM BY VOL
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES AND USE OF PIPELINE QUALITY NATURAL GAS REPRESENT BACT.
Emission Limit 1:	5.6000
Emission Limit 1 Unit:	MG/CM
Emission Limit 1 Avg.	MILLIGRAM PER CUBIC METER

Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Formaldehyde
*Control Method Code:	A
*Control Method Description:	USE OF CATALYTIC OXIDIZER IS BACT FOR TOXICS.
Emission Limit 1:	9.9000
Emission Limit 1 Unit:	T/YR
Emission Limit 1 Avg. Time/Condition:	BOTH TURBINE SETS COMBINED
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Ammonia (NH3)
*Control Method Code:	P
*Control Method Description:	PROPER MAINTENANCE OF SCR. PROPER STOICHIOMETRIC ADDITION OF NH3.
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	PPM BY VOL
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	B
*Control Method Description:	CATALYTIC OXIDIZER PROVIDES SOME CONTROL FOR VOC EMISSIONS, AS WELL AS GOOD COMBUSTION TECHNIQUES.
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPM
Emission Limit 1 Avg. Time/Condition:	PPM BY VOL
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method	P

Code:	
*Control Method Description:	USE OF SWEET NATURAL GAS WITH SULFUR CONTENT NOT TO EXCEED 0.8 GRAINS PER 100 SCF.
Emission Limit 1:	53.4000
Emission Limit 1 Unit:	T/YR
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	USE OF NATURAL GAS. LOW SULFUR FUEL
Emission Limit 1:	12.3000
Emission Limit 1 Unit:	T/YR
Emission Limit 1 Avg. Time/Condition:	SULFURIC ACID MIST
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Facility Information: BLUEWATER ENERGY CENTER LLC

RBLC ID:	MI-0363
*Corporate/Company Name:	BLUEWATER ENERGY CENTER LLC
*Facility Name:	BLUEWATER ENERGY CENTER LLC
Facility State:	MI
EPA Region:	5
Application Accepted Received Date:	01/19/2001 ACT
Permit Issuance Date:	01/07/2003 ACT
Date determination entered in RBLC:	12/16/2003
Date determination last updated:	01/23/2004
Facility Description:	COMBINED CYCLE ELECTRIC GENERATING POWER PLANT.

Process Information : BLUEWATER ENERGY CENTER LLC

*Process Name:	TURBINE, COMBINED CYCLE, (3)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	180.00
Throughput Unit:	MW
Process Notes:	Concentration and lb/hr limits apply to each individual turbine and duct burner set. Ton/yr limits apply to emissions from all 3 units combined. Test results will be used to develop emission factors for HCOH, CO, VOC, PM10 in lb/MM cubic feet gas.

Pollutant Information: BLUEWATER ENERGY CENTER LLC - TURBINE, COMBINED CYCLE, (3)

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	P
*Control Method Description:	EXCLUSIVE USE OF NATURAL GAS.
Emission Limit 1:	19.6000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	A
*Control Method Description:	CATALYTIC AFTERBURNER.
Emission Limit 1:	28.0000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Nitrogen Dioxide (NO2)
*Control Method Code:	B
*Control Method Description:	DRY LOW-NOX BURNERS AND SELECTIVE CATALYTIC REDUCTION.
Emission Limit 1:	4.5000
Emission Limit 1 Unit:	PPMV
Emission Limit 1	

Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	Yes
*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	CATALYTIC AFTERBURNER
Emission Limit 1:	41.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	Yes
*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	USE OF PIPELINE QUALITY GAS AND GOOD COMBUSTION TECHNIQUES.
Emission Limit 1:	177.0000
Emission Limit 1 Unit:	T/YR
Emission Limit 1 Avg. Time/Condition:	3 TURBINES COMBINED
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Formaldehyde
*Control Method Code:	A
*Control Method Description:	CATALYTIC AFTERBURNER IS BACT FOR TOXIC POLLUTANTS.
Emission Limit 1:	9.0000
Emission Limit 1 Unit:	T/YR
Emission Limit 1 Avg. Time/Condition:	3 TURBINES COMBINED
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)

*Control Method Code:	P
*Control Method Description:	EXCLUSIVE USE OF NATURAL GAS.
Emission Limit 1:	8.2000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	BACT-PSD
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Ammonia (NH3)
*Control Method Code:	P
*Control Method Description:	GOOD STOICHIOMETRIC BALANCE OF NO2 AND NH3
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	PPMVD
Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

NOTE: Draft determinations are marked with a " * " beside the RBLC ID.

Report Date: 03/20/2007 Control Technology Determinations (Freeform)

Facility Information: WALLULA POWER PLANT

RBLC ID:	WA-0291
*Corporate/Company Name:	WALLULA GENERATION, LLC
*Facility Name:	WALLULA POWER PLANT
Facility State:	WA
EPA Region:	10
Application Accepted Received Date:	09/07/2001 ACT
Permit Issuance Date:	01/03/2003 EST
Date determination entered in RBLC:	02/06/2003
Date determination last updated:	08/31/2006
Facility Description:	WALLULA GENERATION, LLC, PROPOSES TO CONSTRUCT AND OPERATE A 1,300 MW COMBINED CYCLE ELECTRIC POWER PLANT. THE PROJECT WILL CONSIST OF TWO INDEPENDENT POWER BLOCKS WITH CRITICAL BACK-UP SYSTEMS TO MAINTAIN OVERALL PLANT

RELIABILITY AND AVAILABILITY.

Process Information : WALLULA POWER PLANT

*Process Name:	TURBINE, COMBINED CYCLE, NATURAL GAS (4)
*Process Type:	15.210
Primary Fuel:	NATURAL GAS
Throughput:	1300.00
Throughput Unit:	MW
Process Notes:	Throughput is total for 2 power blocks of 2 turbines each (4 turbines).

Pollutant Information: WALLULA POWER PLANT - TURBINE, COMBINED CYCLE, NATURAL GAS (4)

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	A
*Control Method Description:	SCR
Emission Limit 1:	2.5000
Emission Limit 1 Unit:	PPMDV @15%02
Emission Limit 1 Avg. Time/Condition:	3 HR AVG
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	A
*Control Method Description:	OXIDATION CATALYST
Emission Limit 1:	2.0000
Emission Limit 1 Unit:	PPMDV @ 15% 02
Emission Limit 1 Avg. Time/Condition:	3 HR AVG
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	0.0029
Emission Limit 1 Unit:	GR/DSCF

Emission Limit 1 Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	EXCLUSIVE USE OF NATURAL GAS HAS BEEN SELECTED TO BE THE LOWEST AVAILABLE EMISSION RATE (LAER) FOR THE CONTROL OF PM10 EMISSIONS FROM EACH PGU.
Emission Limit 1:	0.0029
Emission Limit 1 Unit:	GR/DSCF
Emission Limit 1 Avg. Time/Condition:	1 hr ave
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Volatile Organic Compounds (VOC)
*Control Method Code:	P
*Control Method Description:	GOOD COMBUSTION PRACTICES
Emission Limit 1:	5.0000
Emission Limit 1 Unit:	PPMDV @ 15% O2
Emission Limit 1 Avg. Time/Condition:	1 hr ave
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No
*Pollutant Name	Sulfuric Acid (mist, vapors, etc)
*Control Method Code:	P
*Control Method Description:	EXCLUSIVE USE OF NATURAL GAS
Emission Limit 1:	0.0002
Emission Limit 1 Unit:	GR/DSCF
Emission Limit 1 Avg. Time/Condition:	1 HR AVE
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name: Visible Emissions (VE)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 5.0000
Emission Limit 1 Unit: % OPACITY
Emission Limit 1 Avg. Time/Condition: 6 MIN AVG
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Sulfur Dioxide (SO2)
*Control Method Code: P
*Control Method Description: LOW - SULFUR FUEL: NATURAL GAS
Emission Limit 1: 0.3500
Emission Limit 1 Unit: PPMDV @ 15% O2
Emission Limit 1 Avg. Time/Condition: 1 hr ave
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

*Pollutant Name: Ammonia (NH3)
*Control Method Code: N
*Control Method Description:
Emission Limit 1: 5.0000
Emission Limit 1 Unit: PPMDV @ 15% O2
Emission Limit 1 Avg. Time/Condition: 24 hr ave
*Case-by-Case Basis: Other Case-by-Case
Other Applicable Requirements:
Cost Verified By Agency (Y/N)?: No

Process Information : WALLULA POWER PLANT

*Process Name: COOLING TOWER
*Process Type: 99.003
Primary Fuel:
Throughput:
Throughput Unit:

Process Notes:

Pollutant Information: WALLULA POWER PLANT - COOLING TOWER

*Pollutant Name	Particulate Matter (PM)
*Control Method Code:	N
*Control Method Description:	WATER PRETREATMENT PLUS A 0.0005% DRIFT RATE
Emission Limit 1:	3.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	each, 24 hr ave
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Particulate Matter < 10 • (PM10)
*Control Method Code:	N
*Control Method Description:	WATER TREATMENT PLUS A 0.0005% DRIFT RATE HAS BEEN SELECTED TO BE LAER FOR THE CONTROL OF PM10 EMISSIONS FROM THE COOLING TOWERS.
Emission Limit 1:	3.7000
Emission Limit 1 Unit:	LB/H
Emission Limit 1 Avg. Time/Condition:	each, 24 hr ave
*Case-by-Case Basis:	LAER
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : WALLULA POWER PLANT

*Process Name:	BOILER, AUXILIARY
*Process Type:	13.310
Primary Fuel:	NATURAL GAS
Throughput:	55.30
Throughput Unit:	MMBTU/H
Process Notes:	Operational limit of 4,000 hr per year

Pollutant Information: WALLULA POWER PLANT - BOILER, AUXILIARY

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	LNB PLUS FGR
Emission Limit 1:	30.0000

Emission Limit 1 Unit:	PPMDV @ 3% O2
Emission Limit 1 Avg. Time/Condition:	3 hr ave
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Carbon Monoxide
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	111.0000
Emission Limit 1 Unit:	PPMDV @ 3% O2
Emission Limit 1 Avg. Time/Condition:	3 hr ave
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	10.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6 min ave
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : WALLULA POWER PLANT

*Process Name:	IC GENERATOR, EMERGENCY DIESEL
*Process Type:	17.210
Primary Fuel:	DIESEL
Throughput:	
Throughput Unit:	
Process Notes:	The emergency diesel generator shall be limited to 200 hours of operation per calendar year

Pollutant Information: WALLULA POWER PLANT - IC GENERATOR, EMERGENCY DIESEL

*Pollutant Name	Nitrogen Oxides (NOx)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	568.0000
Emission Limit 1 Unit:	PPMDV @ 15% O2
Emission Limit 1 Avg. Time/Condition:	3 hr ave
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

*Pollutant Name	Visible Emissions (VE)
*Control Method Code:	N
*Control Method Description:	
Emission Limit 1:	15.0000
Emission Limit 1 Unit:	% OPACITY
Emission Limit 1 Avg. Time/Condition:	6 min ave
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No

Process Information : WALLULA POWER PLANT

*Process Name:	IC ENGINE, FIRE PUMP, DIESEL
*Process Type:	17.210
Primary Fuel:	DIESEL
Throughput:	
Throughput Unit:	
Process Notes:	The diesel fire pump shall be limited to 100 hours of operation per calendar year. EFSEC selected reduced operating hours as BACT for this unit for CO, NOx, and PM10. Bact for SO2 is low sulfur fuel.

Pollutant Information: WALLULA POWER PLANT - IC ENGINE, FIRE PUMP, DIESEL

*Pollutant Name	Sulfur Dioxide (SO2)
*Control Method Code:	P
*Control Method Description:	LOW SULFUR FUEL. < 0.05 % BY WT (#2 DIESEL)
Emission Limit 1:	
Emission Limit 1 Unit:	
Emission Limit 1	see Pollutant note

Avg. Time/Condition:	
*Case-by-Case Basis:	Other Case-by-Case
Other Applicable Requirements:	
Cost Verified By Agency (Y/N)?:	No