

**CALIFORNIA ENERGY COMMISSION**1516 NINTH STREET - MS-32  
SACRAMENTO, CA 95814-5512

January 4, 2002

Mr. Colin Taylor  
Sacramento Municipal Utility District  
PO Box 15830  
Sacramento CA 95852-1830

**Re: COSUMNES POWER PLANT (01-AFC-19) - DATA REQUESTS (AIR QUALITY, HAZARDOUS MATERIALS, AND WASTE MANAGEMENT)**

Dear Mr. Taylor:

As stated in my letter dated December 10, 2001, data requests for air quality, hazardous materials, public health, hazardous waste management, and worker safety would be sent separately. Enclosed are those data requests. At this time, Energy Commission staff does not have any data requests for public health or worker safety. Please provide written responses to the enclosed data requests on or before February 4, 2002.

To eliminate confusion when referencing data requests, the enclosed data requests are numbered as a continuation of the data requests submitted on December 10, 2001, and begin with Data Request #166.

If you are unable to provide the information requested, need additional time to provide the information, or object to providing it, then please send a written notice to both the Committee and me within 10 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions regarding the enclosed data requests, please contact me at (916) 654-3929 or at [kchew@energy.state.ca.us](mailto:kchew@energy.state.ca.us).

Sincerely,

Kristy Chew  
Energy Facility Siting Project Manager

Enclosure – Data Requests #166-183

COSUMNES POWER PLANT (01-AFC-19)  
DATA REQUESTS

**Technical Area: Air Quality**

**Author:** Tuan Ngo, P.E.

**BACKGROUND**

Section 8.1.5 of the AFC indicates that the entire project will utilize four General Electric 7241FA gas turbine/heat recovery steam generator (HRSG) units. This section also indicates that dry low NO<sub>x</sub> combustor and selective catalytic reduction (SCR) systems will be utilized to control nitrogen oxide (NO<sub>x</sub>) emissions to 2 parts per million (ppm) on an annual basis, or 2.5 ppm over a shorter averaging time. Staff needs the following information to verify that the SCR system can maintain the NO<sub>x</sub> emissions at the lower proposed annual level of 2.0 ppm.

**DATA REQUEST**

166. Please provide vendor information related to the control efficiency of the SCR system proposed for the project. The information should include the type of catalyst, the bed depth, operating temperature range, scheduled maintenance and catalyst replacement, and a discussion of methods to be used to maintain the turbine NO<sub>x</sub> emissions on a continuous basis. If this information is not available, a vendor or manufacturer's performance guarantee can be used as a substitute.

**BACKGROUND**

Table 8.1-17 lists the typical characteristics and heating value of natural gas, and identifies a maximum sulfur content of 0.25 grain per 100 standard cubic feet (gr./100scf). PG&E has indicated in other power plant siting cases that their supplied natural gas sulfur content can go as high as 1 gr./100scf. Thus, the project's SO<sub>2</sub> emissions estimated may have been underestimated.

**DATA REQUEST**

167. Please revise the emissions calculations using the highest PG&E guaranteed sulfur content of 1gr./100scf. Alternatively, records of natural gas delivered to other SMUD facilities (on an annual basis) can be provided to demonstrate that the current proposed facility SO<sub>2</sub> emissions are correctly estimated.

**BACKGROUND**

Staff has reviewed the SMUD proposed analytical method to demonstrate that an interpollutant offset ratio of 1.5 pound SO<sub>2</sub> for each pound of PM<sub>10</sub> is appropriate. The proposed offset ratio was determined using the measured annual average PM<sub>10</sub> concentrations. Because the project is likely to contribute to existing violations of the state 24-hour PM<sub>10</sub> standard, staff believes that SMUD needs to demonstrate that the project, after mitigation, will not worsen the existing violations of this standard. Staff

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believes that the interpollutant offset ratio should be determined using the measured concentrations of PM10 during periods that the 24-hour standard were exceeded.

**DATA REQUEST**

168. Please provide a revised interpollutant offset analysis taking into account those circumstances when the measured ambient 24-hour PM10 concentrations were exceeded.

**BACKGROUND**

The AFC states that the project's SO2 emissions are not significant and that the Sacramento Metropolitan Air Quality Management District (District) rules and regulations do not require any SO2 emission offsets. Because SO2 is a precursor to PM10, and the area is designated as a non-attainment area for PM10, staff believes that mitigation of the project's SO2 emissions is necessary.

**DATA REQUEST**

169. Please identify the appropriate SO2 mitigation measures for the proposed SO2 emissions, such as providing SO2 emission reduction credits (ERCs) to mitigate the project's SO2 impacts on secondary PM10 formation.

**BACKGROUND**

In the AFC and the confidential submittal, SMUD proposes to offset the proposed project's (the first 500 MW only) NOx, VOC, and PM10 emission increases with a number of emission reduction credit certificates. The provided information indicates that there is a shortfall of approximately 12,163 lbs. of NOx in the second quarter, and 8,339 lbs. of PM10 in the third quarter.

No emissions information or emission mitigation measures have been provided for the Phase II of the project.

**DATA REQUEST**

170. Please provide documentation that indicates that additional emission reduction credits will be secured for the NOx liability in the second quarter and the PM10 liability in the third quarter for Phase I of the project.
171. Please provide emissions information and emission mitigation measures for Phase II of the project.

**BACKGROUND**

District Rule 202, Section 304 states:

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"The Air Pollution Control Officer may approve interpollutant emission offsets ... provided that the applicant demonstrates through the use of an air quality model that the emission increases from the new or modified source will not cause or contribute to a violation of an ambient air quality standard."

The Elk Grove monitoring station ambient concentration data for ozone (Elk Grove) shows a trend of increasing ozone levels as well as an increasing number of violations of the state and federal ozone air quality standards. In addition, the ambient concentration data for PM10 (Sacramento) show that there is no trend in reduction of the number of violations of the state 24-hour PM10 air quality standard. Staff believes that emission increases from the proposed facility have the potential to contribute to the existing violations of ozone and PM10 air quality standards; therefore, the use of interpollutant offsets may not be consistent with the District Rule 202.

**DATA REQUEST**

- 172. Please provide a demonstration that the project's NOx emissions will not contribute to violations of ambient air quality standards.
- 173. Please provide a demonstration that the project's PM10 emissions will not contribute to violations of ambient air quality standards.

**BACKGROUND**

AFC Section 8.1.5.2.5 states that the project will utilize BACT such as SCR for the turbines, which will maintain the turbines' emissions of NOx and CO to 2.5 ppm and 6 ppm (on an hourly basis), respectively. The USEPA, in recent letters to the San Luis Obispo County Air Pollution Control District and the South Coast Air Quality Management District (attached) has commented that the BACT limit for gas turbines should be set at 2 ppm for NOx on an hourly basis while the NH3 slip be maintained at 5 ppm. In addition, the EPA stated that BACT for CO should be set at 2 ppm on a 3-hour rolling average.

**DATA REQUEST**

- 174. Please provide a revised BACT analysis that adequately responds to EPA's comments.

**BACKGROUND**

The gas turbines and SCR system are proposed to achieve a 10 ppm ammonia slip out the stacks. Recent power plant projects, using similar size turbines, have been licensed with an ammonia slip of 5 ppm. In addition, the ARB "Guidance for Power Plant Siting and Best Available Control Technology" (September 1999) has recommended that Districts should consider permit conditions that limit ammonia slip to 5 ppm.

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**DATA REQUEST**

175. Please provide documentation to demonstrate why an ammonia slip of 5 ppm is not an appropriate permit limit for this project.

**BACKGROUND**

A cumulative air quality impact analysis, which assesses the impacts of the project with other nearby projects that have been permitted or are being permitted, but not yet in operation, will need to be provided by the applicant.

176. Please advise as to the status of obtaining a list of projects that will be used for the cumulative impacts analysis. If the aforementioned list has been obtained, please submit the list of the emission sources to be included in the cumulative air quality impacts analysis. Upon staff's concurrence of the emission source list, perform a cumulative impact analysis using the modeling method proposed in the AFC.

**BACKGROUND**

The initial commissioning of the project may cause emissions that exceed the limits that would be required during normal operation. The AFC (pages 8.1-38 to 40) discusses the potential emissions of the project during this period. The discussion, however, seems to indicate that the emissions from only one turbine were considered. Information was not provided as to an estimate of the duration (weeks or months) of the initial commissioning period and whether any mitigation is proposed. In addition, the Applicant should propose specific emission limits and duration of these limits for consideration as permit limits.

**DATA REQUEST**

177. Please provide a description of the length of each commissioning activity or phase identified in the commissioning sequence, and the estimated emissions associated with each activity.
178. Please provide a discussion of any proposed mitigation. If no mitigation is provided, please explain why.
179. Please provide proposed language for consideration for permit conditions that would address hourly emission levels and/or emissions for specific commissioning events, and duration (hours, weeks or months) that these emission limits would be enforced.

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**Technical Area: Hazardous Materials**

**Author:** Alvin Greenberg, Ph.D.

**BACKGROUND**

Hazardous materials will be delivered to the power plant during operations. In order to evaluate the potential for impacts in the surrounding community, staff must have information on the number of deliveries.

**DATA REQUEST**

180. Please list the total number of hazardous materials deliveries expected on a weekly, monthly, and annual basis. Include a break-down of deliveries into the following categories for any material listed in AFC Table 8.12-3:
- a. Tanker trucks carrying >1000 gallons of liquid hazardous materials.
  - b. Tanker trucks carrying <1000 gallons of liquid hazardous materials.
  - c. Trucks delivering carboy's or 55-gal drums of liquid hazardous materials.
  - d. Trucks delivering compressed gas.
  - e. Trucks delivering solid hazardous materials in any amount.

**BACKGROUND**

An Offsite Consequent Analysis (OCA) for aqueous ammonia is necessary for staff to determine if additional mitigation is needed.

**DATA REQUEST**

181. Please provide the OCA for aqueous ammonia described in AFC Section 8.12.5.
182. Please provide a schematic diagram and narrative describing the proposed catch basin under the aqueous ammonia storage tank and delivery vehicle transfer pad.

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**Technical Area: Waste Management**

**Author:** Alvin Greenberg, Ph.D.

**BACKGROUND**

The Phase I Environmental Site Assessment (ESA) that was prepared by SMUD is not complete for the 30-acre site or the 26-mile gas pipeline. Additionally, the Phase I ESA that was prepared states that 1993 ASTM guidelines were followed while the most recent standards are July 2000.

**DATA REQUEST**

183. Please provide a complete Phase I ESA for the 30-acre site, laydown areas, and 26-mile gas pipeline corridor according to ASTM 2000 guidelines.



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<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> BACT to be 2 ppmvd @ 15% O<sub>2</sub> 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<sub>x</sub> 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.

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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,

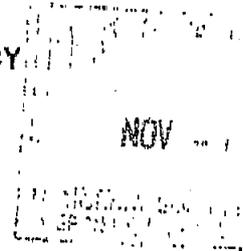


for Gerardo Rios  
Acting Chief  
Air Permits Office

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



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



October 25, 2001

Mohsen Nazemi, P.E.  
Assistant Deputy Executive Officer  
Engineering and Compliance  
South Coast Air Quality Management District  
21865 E. Copley Drive  
Diamond Bar, CA 91765-4182

Re: LAER for NOx and CO for Proposed Cogeneration at Miller Brewing Company

Dear Mr. Nazemi:

Thank you for the opportunity to review the above proposed permit. I am writing to comment on the BACT (federal LAER) determinations for NOx and CO. We understand that your staff is relying on the California Air Resources Board Guidance on establishing BACT levels in these determinations. In general, we do not disagree with using the guidance. However, we would like to inform you that other lower levels of BACT have been established nationally or in Region 9. Therefore, we are writing to request that you ask your staff to consider the following data in requesting BACT analysis in future applications.

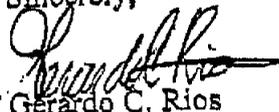
The present LAER (BACT under your rule) for both NOx and CO are 2 ppm. These levels have been used in recent permits issued to power plants proposed in the State of Massachusetts. We also have a Region 9 permit issued at 2 ppm NOx (Western Midway Sunset in San Joaquin Valley, a 500 MW gas-burning combined-cycle power plant with SCR for NOx control). A recent application for a similar combined-cycle power plant (580 MW Sunrise in San Joaquin Valley) is also proposing 2 ppm NOx. Therefore, we believe that LAER for NOx is 2 ppm. Moreover, since this level of NOx emission has been consistently achieved in a Region 9 facility (UC San Diego), we believe applicants must start their BACT analysis (federal LAER) with 2 ppm NOx level.

As far as CO level is concerned, we have already issued several permits at 4 ppm (Elk Hills and Midway Sunset in San Joaquin both to use oxidation catalyst to control CO emissions). However, since Massachusetts has determined that 2 ppm is LAER, we believe that analysis must start with this level.

Based on the above information, we think that for the proposed cogeneration units at Miller Brewing Company, the NOx level of 2.5 ppm and CO level of 6 ppm (originally proposed at 10 ppm) can be lowered to lower levels with the proposed controls of SCR and oxidation catalyst.

We appreciate the opportunity to review the district's proposed permits. We will continue to work together toward achieving improved air quality. Please call me at (415) 744-1259, or have your staff contact my staff Nahid Zoueshtiaagh at (415) 744-1261.

Sincerely,

  
Gerardo C. Rios  
Chief, Permits Office

cc: Pang Mueller  
John Yee  
David Schwien  
Becky Francisco, Miller Brewing Company