

October 5, 2005

DOCKET	
05-AFC-1	
DATE	OCT - 5 2005
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Dave Warner
Director of Permit Services
San Joaquin Valley Air Pollution Control District
1990 East Gettysburg Ave.
Fresno, CA 93726-0244

Re: Pastoria Energy Facility Expansion, Preliminary Determination of Compliance (PDOC)

Dear Mr. Warner:

I am writing to you concerning the Preliminary Determination of Compliance (PDOC) for the Pastoria Energy Facility Expansion. EPA appreciates the opportunity to comment on the PDOC for this project. After careful review, EPA has several comments concerning various aspects of the offsets and other permit requirements related to New Source Review. These issues are explained in detail in the attached comments.

We look forward to working with you and your staff to address these issues prior to the issuance of the Final Determination of Compliance. If you have any questions, please contact Laura Yannayon of my staff at (415) 972-3534.

Sincerely,

Gerardo Rios
Chief, Permits Office

Enclosure

cc: Keith Golden, CEC
Mike Tollstrup, CARB

**PROOF OF SERVICE (REVISED 7-25-05) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 10-6-05**

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EPA Comments on the Preliminary Determination Of Compliance for the Pastoria Energy Facility Expansion

1. Interpollutant Trading

Pastoria has proposed a trading ratio based on an analysis of currently available information on the formation of particulate matter in the San Joaquin Valley. Two methods were proposed to calculate the appropriate ratio for nitrate-to-PM₁₀ precursor trading. The ambient ratio method used the ambient air quality data in the vicinity of the project to determine the conversion of NO_x to particulate matter, and to convert this ratio to mass equivalents. The second method used air quality modeling to establish wintertime conversion rates of NO_x to ammonium nitrate. Simulations for the regional conditions were made using chemistry based on the Regional Atmospheric Chemistry Mechanism. The method used to determine the ratio is not identical to the method used for modeling in the District's SIP attainment plan, but the ratio is consistent with the ratio used in the plan.

EPA believes that this process was appropriate for this application because it is based on a supportable methodology, and because it used area-specific data. Future permit applicants proposing interpollutant trading should provide similar justification for the trade which incorporates any new technical information as well as information specific to the area where the trade will occur. In addition, any future interpollutant justifications must use data consistent with the data used to update the District's SIP attainment plan.

2. Offset Ratio for PM₁₀

EPA believes that the method the District proposed to combine the distance and interpollutant trading offset ratios for PM₁₀ is inappropriate. SJVUAPCD Rule 2201 states that a distance ratio of 1:1.5 is applied for offsets used by a facility more than 15 miles from the facility which generated the reductions. Pastoria then proposed an interpollutant trading ratio of 1 ton PM₁₀ to 2.22 tons NO_x. To combine these values, the District has taken that portion of both ratios considered to be "excess" and then added these to a base 1:1 ratio. In the PDOC, the combined offset ratio for PM₁₀ is determined by adding $1 + 0.5 + 1.22 = 2.72$.

EPA believes that this additive method is inappropriate, and that a multiplicative method should be used instead. Interpollutant and distance ratios are usually calculated by determining the level of emissions reductions which should be considered equivalent to providing reductions of the same pollutant from a nearby source. For example, it was determined in this case that reductions of 2.22 lbs of NO_x are required to provide an equivalent reduction of 1 lb of PM₁₀. Thus, for a hypothetical source with 100 tpy of PM₁₀ emissions and located farther than 15 miles from the source of the offsets would be required to surrender 150 tpy of PM₁₀ offsets after applying a distance ratio of 1:1.5. Using the interpollutant ratio of 1:2.22, for every 1 tpy of PM₁₀ required to be offset under the District's rules, it will take 2.22 tpy of NO_x to provide an equivalent reduction in PM₁₀ emissions. Thus the total number of NO_x offsets required would be

150 tpy x 2.22 = 333 tpy of NO_x. When this methodology is applied to this project, the necessary NO_x emission reduction credits required to offset the 39.42 tons of increased PM₁₀ emissions is: 39.42 x 1.5 x 2.22 = 131.3 tpy of NO_x ERC's, rather than the 107.2 tpy of NO_x ERC's determined in the Districts evaluation. EPA recommends correcting the interpollutant offset calculations in the PDOC and requiring the applicant to surrender an additional 24.1 tpy of NO_x offsets to fully meet the PM₁₀ offset requirements.

3. Permit Conditions Concerning Offsets

Condition 45 in the permit states that NO_x ERCs may be used to offset PM₁₀ emission increases using a ratio of 2.42:1 within a 15 mile radius and 2.72 outside of a 15 mile radius. EPA has two comments on this condition. First, according to page 21 of the evaluation, the NO_x/PM₁₀ offset ratio was determined to be 2.22:1, not 2.42:1. Second, as stated above in Comment 2, EPA believes that the calculation methodology for offsets in the evaluation is incorrect. When the indicated correction is made to the evaluation, please revise this condition accordingly.

Condition 43 specifies the emission increases for each pollutant for which emission reduction credits will be required. The condition goes on to state that they are to be provided at the distance offset ratio specified in Rule 2201 and the interpollutant offset ratio specified in the permit. Since each of these ratios are known, EPA suggests specifying the total number of ERC offsets to be surrendered by the applicant prior to issuance of the Final Determination of Compliance.

4. Emission Reduction Credit Analysis

The PDOC lacks a detailed discussion of the source of the ERCs the applicant has secured as emissions offsets for this project. While the District did provide copies of the ERC certificates, they are not sufficient to determine if the credits met all of the federal requirements for ERCs. Pursuant to the requirements of District Rule 2201 Section 7.1.1 and 7.1.3, please provide a copy of the required analyses regarding the amount of offsets otherwise required under federal NSR and the amount of the actual ERCs that would be considered surplus under federal requirements.

The amount NO_x offsets required, as indicated on the line labelled "PE2" on page 18, are not the same as the number of offsets required by Condition 42 of the PDOC. EPA believes the values on page 18 are the ones in need of correction, since they are not consistent with the post-project Stationary Source Potential to Emit shown on page 10. Please review and revise as necessary.

5. Short-term Excursions

On page 7 of the evaluation, the District notes in a footnote that the NO_x BACT limits are

not applicable during short-term excursions limited to a total of 10 hrs/yr and combustion tuning events limited to no more than 6 hrs per year. The evaluation contains no further discussion as to why these short-term excursions from the BACT limits are necessary. The requirement to apply BACT applies at all times, although a different level of BACT may be permissible under various operating conditions. EPA notes that Condition 32 does set a 1-hour NO_x emission limit of 30 ppmvd @ 15 percent oxygen during an excursion, but the evaluation does not contain a justification for this limit. Please provide a justification for allowing these alternative emission limits in the PDOC evaluation.

6. Startups, Shutdowns, and Operating Hours

Condition 49 specifies the source test requirements for measuring NO_x, CO and VOC emissions during startup operations. The condition currently specifies a source test frequency of once every 7 years. Since this facility is already subject to Title V and this emission unit will need to be incorporated into their Title V permit, please revise the testing frequency to no less than once every 5 years, consistent with Title V source test requirements.

Condition 29 currently limits the duration of a startup or shutdown to one hour per occurrence, but there is no limit in the permit as to the number of occurrences allowed. EPA notes on page 9 of the evaluation that the District assumed a worst case startup rate of 300 hrs per year. Since these numbers were used in estimating the project's emissions and, hence, the offsets required, the permit must contain a condition limiting the total hours of startup operations to 300 hours per year.

7. 40 CFR Subpart GG

The Subpart GG analysis which starts on page 30 uses an outdated version of the rule for the evaluation. Please revise this section using the current version of Subpart GG, last revised on July 7, 2004 as the basis for the evaluation.

On page 26, the two paragraphs which discuss 40 CFR Part 60 requirements are outdated. Since these provisions are no longer applicable requirements, please remove them from this section. Likewise, the 2nd and 3rd paragraphs of page 27 are also outdated and should be removed or updated.

8. Sulfur Content of Fuel

On page 7, the worst case SO_x emission rate is calculated assuming natural gas with a sulfur content of 0.75 gr S/100 scf. The calculated emission rate is 3.76 lb/hr, which is higher than the 3.50 lb/hr value used for modeling. The permit must be limited to the same emission rates used for modeling and determining offset requirements. EPA suggests calculating the allowable sulfur content for natural gas that results in an emission rate of 3.50 lbs/hr or less of sulfur, or if the 3.76 lb/hr emission rate is used, revise the SO_x modeling to reflect this value.

The permit will also need to include the calculated sulfur content limit and the appropriate monitoring and recordkeeping requirements.

9. Acid Rain Provisions

Condition 66 requires the applicant to submit an Acid Rain application 24 months prior to commencing operation. Since the source is currently obtaining the necessary construction permits for this project, it appears the source is currently within the specified 24 month period. The source must submit an Acid Rain application as soon as possible, and prior to the issuance of the PDOC. The Acid Rain regulations state that a source must comply with their Acid Rain application until these requirements are incorporated into their Title V permit. Accordingly, please revise Condition 66 to require compliance with the applicant's Acid Rain application.

10. Other Minor Comments

On pg 20, please revise the last sentence of the page to state "nitrogen oxides are a precursor to the nitrate fraction of PM₁₀," rather than the sulfate fraction of PM₁₀.

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

IN THE MATTER OF:

**APPLICATION FOR CERTIFICATION FOR THE
PASTORIA ENERGY FACILITY (PEF)
160 MW EXPANSION
BY CALPINE CORPORATION**

**DOCKET No. 05-AFC-1
PROOF OF SERVICE LIST
[ESTABLISHED 7/25/05]**

DOCKET UNIT

Instructions: Send an original signed document plus 12 copies or an electronic copy plus one original paper copy to the address below:

CALIFORNIA ENERGY COMMISSION
DOCKET UNIT, MS-4
Attn: Docket No. 05-AFC-1
1516 Ninth Street
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Also send a printed or electronic copy of all documents to each of the following:

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INTERVENORS

No Intervenors to date.

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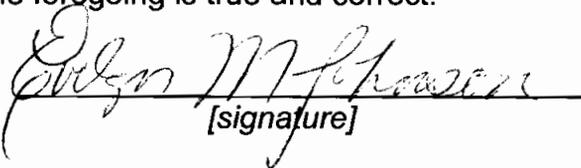
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DECLARATION OF SERVICE

I, **Evelyn M Johnson** declare that on **October 6, 2005**, I deposited copies of the attached **Letter from Gerardo Rios, Chief, Permits Office, re: Preliminary Determination of Compliance (05-AFC-1)** in the United States mail at **Sacramento, CA** with first class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above. Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210.

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


[signature]

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