



DATE: May 21, 2002

TO: Interested Parties

FROM: Nancy Tronaas, Compliance Project Manager

SUBJECT: **Pastoria Energy Facility (99-AFC-7C)**  
**Staff Analysis of Proposed Project Modification:**  
**Request to Increase Cooling Tower PM<sub>10</sub> Emissions**

On April 18, 2002 the California Energy Commission (Energy Commission) received a petition to amend the Energy Commission Decision for the Pastoria Energy Facility (PEF). PEF is a nominally-rated 750MW combined-cycle natural gas power plant currently under construction and scheduled for commercial operation in summer 2003. The site is located approximately 30 miles south of Bakersfield, and 6.5 miles east of I-5 at Grapevine. The proposed project modification is to allow for an increase in PM<sub>10</sub> emission limits on a daily basis as a result of final engineering designs for the cooling tower and combustion turbines.

Energy Commission staff reviewed the petition to assess the impacts of this proposal on environmental quality, public health and safety. Staff has prepared revisions to existing air quality conditions of certification. It is staff's opinion that with the implementation of these conditions, the project will remain in compliance with applicable laws, ordinances, regulations, and standards (*Title 20, California Code of Regulations, Section 1769*), and that the modification will not result in any environmental impacts.

The attached staff analysis is provided for your information and review. Energy Commission staff intends to recommend approval of the petition at the June 12, 2002 Business Meeting of the Energy Commission. If you have comments on this proposed project change, please submit them to me at the address above prior to June 12, 2002. If you have any questions, please call me at (916) 654-3864 or e-mail at [ntronaas@energy.state.ca.us](mailto:ntronaas@energy.state.ca.us).

Attachment

**Pastoria Energy Facility (99-AFC-7)**  
**Request to Amend Conditions of Certification AQ-24, -55, -58, -64 and -67**  
**Joseph M. Loyer**  
**May 20, 2002**

**AMENDMENT REQUEST**

The Pastoria Energy Facility, LLC (PEF) is requesting several modifications to the Pastoria Energy Facility (Pastoria) permit in regards to a proposed PM10 emission increase from the cooling towers. PEF is requesting to increase the PM10 emission limits on a daily basis and to modify the offset package appropriately.

**BACKGROUND**

The Pastoria project is located in Pastoria California in Kern County and is under the local authority of the San Joaquin Valley Unified Air Pollution Control District (District). The Commission licensed Pastoria on December 20, 2000 as a natural gas fire combined cycle power plant 750 MW in capacity. The project includes PM10 emission from cooling towers to be constructed on-site.

**LAWS ORDINANCES REGULATIONS AND STATUTES (LORS)**

There will be no impact to any laws, ordinances, regulations or statues from the proposed amendment.

**ANALYSIS**

PEF is proposing to increase the PM10 emissions from the cooling tower in response to refined design elements in both the cooling tower design and the combustion turbine design. PEF proposes to increase the water throughput for the cooling tower in order to reject more heat from the combustion turbines.

PEF proposes to increase the PM10 emissions from cooling tower 1 from 17.46 lbs/day to 22.08 lbs/day; and from cooling tower 2 from 8.73 lbs/day to 11.12 lbs/day. This is a total net increase of 7.02 lbs/day.

PEF proposed to increase their mitigation (on a quarterly basis) as follows:

First Quarter:	630.9 lbs
Second Quarter:	637.9 lbs
Third Quarter:	644.9 lbs
Fourth Quarter:	<u>644.9 lbs</u>
Annual Total:	2,558.6 lbs

The applicant used modeling performed in June 2001 as the basis for estimating the impacts from this PM10 increase. Essentially, since nothing else was changed regarding the cooling towers except the emission rates, the impacts can be scaled up proportionally by the increase in emission rates. The estimated impacts from the proposed PM10 emission increase are as follows:

	Original PM10 Impact	After Proposed Increase
24-Hour PM10 Impact (ug/m <sup>3</sup> )	8.38	8.45
Annual PM10 Impact (ug/m <sup>3</sup> )	1.96	1.98

Even though these emission impacts are small, this area is in non-attainment for PM10 federal and state ambient air quality standards (both 24-hour and annual). However, PEF is proposing to fully mitigate the PM10 emission increases and has possession of sufficient PM10 ERCs to do so. Therefore, it is staff's opinion that this PM10 emission increase will be fully mitigated and thus does not represent a significant impact.

**CONCLUSIONS**

Staff concludes that the proposed amendment, when mitigated by appropriate offsets, will not cause a significant impact on the ambient air quality of the San Joaquin Valley and is based on information not available during the original licensing procedures. Therefore, staff recommends approval of the petition subject to the following changes to the Conditions of Certification for the Pastoria Energy Facility. The proposed language retains the intent of the original Commission Decision and Conditions of Certification.

**RECOMMENDED CHANGES TO CONDITIONS OF CERTIFICATION**

Deleted text is shown in ~~strikethrough~~ and new text is underlined.

**AQ-24** Prior to the commencement of construction, the project owner shall surrender offsets for S-3636-1-0, 2-0, 3-0, 4-0 and 5-0, for all calendar quarters in the following amounts, at the offset ratio specified in Rule 2201 (6/15/95 version) Table 1, PM10 - Q1: ~~57,674~~ 58,305 lb, Q2: ~~58,345~~ 58,953 lb, Q3: ~~58,956~~ 59,601 lb, and Q4: ~~58,956~~ 59,601 lb; SOx (as SO2) - Q1: 20,905 lb, Q2: 21,137 lb, Q3: 21,369 lb, and Q4: 21,369 lb; NOx (as NO2) - Q1: 80,010 lb, Q2: 80,899 lb, Q3: 81,788 lb, and Q4: 81,788 lb; and VOC - Q1: 51,193 lb, Q2: 51,762 lb, Q3: 52,331 lb, and Q4: 52,331 lb. [District Rule 2201]

**Verification:** The project owner shall submit copies of ERC surrendered to the SJVUAPCD in the totals shown to the CPM prior to no later than 30 days prior to the commencement of construction.

**AQ-55** PM10 emissions rate shall not exceed ~~47.4~~ 22.1 lb/day. [District Rule 2201]

**Verification:** Please refer to condition **AQ 56**.

**AQ-58** Prior to operation the project owner shall surrender offsets for S- 3636-1-0, 2-0, 3-0, 4-0 and 5-0, for all calendar quarters in the following amounts, at the offset ratio specified in Rule 2201 (6/15/95 version) Table 1, PM10 - Q1: ~~57,674~~ 58,305 lb, Q2: ~~58,315~~ 58,953 lb, Q3: ~~58,956~~ 59,601 lb, and Q4: ~~58,956~~ 59,601 lb; SOx (as SO2) - Q1: 20,905 lb, Q2: 21,137 lb, Q3: 21,369 lb, and Q4: 21,369 lb; NOx (as NO2) - Q1: 80,010 lb, Q2: 80,899 lb, Q3: 81,788 lb, and Q4: 81,788 lb; and VOC - Q1: 51,193 lb, Q2: 51,762 lb, Q3: 52,331 lb, and Q4: 52,331 lb. [District Rule 2201]

**Verification:** The owner/operator shall submit copies of ERC surrendered to the SJVUAPCD in the totals shown to the CPM prior to or upon startup of the CTGs or cooling tower.

**AQ-64** PM10 emissions rate shall not exceed ~~8.7~~ 11.1 lb/day. [District Rule 2201]

**Verification:** Please refer to condition **AQ 56**.

**AQ-67** Prior to operation the project owner shall surrender offsets for S- 3636-1-0, 2-0, 3-0, 4-0 and 5-0, for all calendar quarters in the following amounts, at the offset ratio specified in Rule 2201 (6/15/95 version) Table 1 PM10 - Q1: ~~57,674~~ 58,305 lb, Q2: ~~58,315~~ 58,953 lb, Q3: ~~58,956~~ 59,601 lb, and Q4: ~~58,956~~ 59,601 lb; SOx (as SO2) - Q1: 20,905 lb, Q2: 21,137 lb, Q3: 21,369 lb, and Q4: 21,369 lb; NOx (as NO2) - Q1: 80,010 lb, Q2: 80,899 lb, Q3: 81,788 lb, and Q4: 81,788 lb; and VOC - Q1: 51,193 lb, Q2: 51,762 lb, Q3: 52,331 lb, and Q4: 52,331 lb. [District Rule 2201]

**Verification:** The owner/operator shall submit copies of ERC surrendered to the SJVUAPCD in the totals shown to the CPM prior to or upon startup of the CTGs or cooling tower.