

**CALIFORNIA ENERGY COMMISSION**

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512

**DATE:** April 14, 2003

**TO:** Interested Parties

**FROM:** Nancy Tronaas, Compliance Project Manager

**SUBJECT:** Public Review of Staff Analysis for Proposed Modifications to the La Paloma Generating Project (98-AFC-2C) Reduction of PM<sub>10</sub> Emission Limits

The La Paloma Generating Project (LPGP) is a nominal 1,124 MW natural-gas-fired power plant that is located near the town of McKittrick in Kern County, California. On April 1, 2003 the La Paloma Generating Company filed a petition in accordance with Section 1769(a) of the California Code of Regulations to modify the Energy Commission Decision for the following:

**Description of Proposed Change:** The La Paloma Generating Company is requesting a reduction of the particulate matter (PM<sub>10</sub>) emission limits for all four turbines based on the outcome of initial source tests that were conducted in 2002. In March 2002, the Energy Commission approved an amendment to the LPGP allowing for the tendering, rather than surrendering, of PM<sub>10</sub> emission reduction credits to the San Joaquin Valley Air Pollution Control District (District) until the initial source tests had been completed. If the current petition is approved, the La Paloma Generating Company will surrender PM<sub>10</sub> emission reduction credits to the District based on the new emission limits.

Energy Commission staff reviewed the petition and prepared the enclosed analysis of the proposed changes. This analysis provides staff recommendations for revised/new air quality project conditions of certification that will ensure that the proposed modifications will not cause any new or additional significant environmental impacts, and that the project will remain in compliance with all applicable laws, ordinances, regulations, and standards. Based on the results of this analysis, Energy Commission staff intends to recommend approval of the petition at the April 30, 2003 Business Meeting of the Energy Commission.

If you have technical questions concerning the enclosed staff analysis, please contact Gabriel Taylor at (916) 654-4482 or by e-mail at [gtaylor@energy.state.ca.us](mailto:gtaylor@energy.state.ca.us). If you have questions concerning the amendment process, please call me at (916) 654-3864 or by e-mail at [ntronaas@energy.state.ca.us](mailto:ntronaas@energy.state.ca.us).

**If you wish to submit written comments concerning the enclosed staff analysis, your comments must be received no later than 5:00 P.M., April 29, 2003.**

Enclosure

**La Paloma Generating Project (98-AFC-2C)**  
**Petition to Reduce PM<sub>10</sub> Emission Limits**  
**Air Quality Staff Analysis**  
**Prepared by Gabriel Taylor**  
**April 14, 2003**

**AMENDMENT REQUEST**

The La Paloma Generating Company (La Paloma) requests an amendment to the Conditions of Certification for the La Paloma Generating Project (LPGP) to allow them to reduce hourly, daily, and annual PM<sub>10</sub> emission limits, and to lower the amount of PM<sub>10</sub> emission reduction credits (ERCs) they need to surrender to the San Joaquin Valley Air Pollution Control District (SJVAPCD or District) to mitigate the project's PM<sub>10</sub> emission impacts. The following assessment proposes to modify Conditions of Certification AQ-12, AQ-13 and AQ-14 as allowed by Condition of Certification AQ-79.

**BACKGROUND**

The LPGP is located approximately 1.5 miles east of the town of McKittrick, in western Kern County. The LPGP is a nominal 1,124 MW natural gas fired, combined cycle power plant. Construction has been completed and the project is fully available for commercial operations.

On March 5, 2002, the Commission amended the Conditions of Certification to add condition AQ-79, which allowed La Paloma to propose lower PM<sub>10</sub> emission limits for the LPGP, based on initial source test data. AQ-79 requires La Paloma to submit a Request to Amend Conditions of Certification AQ-12 through AQ-14, as needed, in the event that such a reduction of PM<sub>10</sub> emissions limits is deemed appropriate. This request is consistent with the requirements of AQ-79.

**LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)**

The applicable LORS are the same as those identified in the original La Paloma analysis, and the project will remain in compliance with all LORS if the amendment is approved.

**ANALYSIS**

La Paloma, in compliance with AQ-79, requests that the Conditions of Certification for the LPGP be modified to reduce the hourly, daily and annual PM<sub>10</sub> emissions limits. The proposed new PM<sub>10</sub> emissions limits, along with the current PM<sub>10</sub> emissions limits, are presented in AIR QUALITY Table 1 below:

**AIR QUALITY Table 1**  
**Proposed Changes to LPGP PM<sub>10</sub> Emissions Limits**

<b>Averaging Period</b>	<b>Original Limit</b>	<b>Proposed Limit</b>	<b>CEC Condition</b>
Hourly (lb/hr)	17.2	11.0	AQ-12
Daily (lb/day)	412.8	264.0	AQ-13
Annual (lb/yr)	142,320	96,360	AQ-14

The proposed new PM<sub>10</sub> hourly emissions limit is based on the average of 12 compliance source test runs using EPA Method 5 to measure total Particulate Matter (PM). The proposed daily and annual emissions levels are simply linear multiples of the hourly 11.0 lb/hr value. A summary of the 12 compliance source testing results is presented in AIR QUALITY Table 2 below:

**AIR QUALITY Table 2  
Summary of Compliance Source Test Results**

<b>Turbine</b>	<b>Run</b>	<b>Total PM (lb/hr)</b>
Turbine 1	1	6.82
	2	4.08
	3	3.40
	<b>Average</b>	4.77
Turbine 2	1	8.70
	2	10.66
	3	10.46
	<b>Average</b>	9.94
Turbine 3	1	12.78
	2	6.37
	3	9.00
	<b>Average</b>	9.38
Turbine 4	1	6.44
	2	4.43
	3	4.48
	<b>Average</b>	5.08
<b>Overall</b>	Std. Dev.	3.02
	<b>Average</b>	7.29

Staff believes the data demonstrates that LPGP will be able to comply with these proposed new emissions limits.

## CONCLUSIONS

Since the reduction of PM<sub>10</sub> emissions limits for the La Paloma project will reduce the allowed emissions from the facility over all averaging periods, staff concludes that the change will not cause a significant negative impact on air quality. The proposed changes to Conditions of Certification AQ-12, AQ-13 and AQ-14 presented below are identical to the requested changes from La Paloma and will bring the Commission's conditions into agreement with the corresponding changes to the District's Authorities to Construct (ATC) expected to be issued by the end of April 2003.

Staff has analyzed the proposed changes to the La Paloma Power Project and concludes that there will be no significant negative air quality impacts associated with approving the request with staff's recommended language in the conditions to follow. Staff concludes that the proposed changes are based on new information that was not available during the

original licensing proceedings. Staff concludes that the proposed language by Staff retains the intent of the original Commission Decision and Conditions of Certification.

#### PROPOSED CHANGES TO THE CONDITIONS OF CERTIFICATION

(~~Strikethrough~~ indicates deleted text and new text is underlined.)

**AQ-12** Emission rates from each gas turbine engine heat recovery steam generator exhaust, except during startup and/or shutdown, shall not exceed the following:

PM10: ~~47.20~~ 11.0 lb/hr  
SOx (as SO2): 3.89 lb/hr  
NOx (as NO2): 17.30 lb/hr and 2.5 ppmvd @ 15% O2  
VOC: as propane 2.80 lb/hr and 0.7 ppmvd @ 15% O2  
CO: 31.40 lb/hr and either 10 ppmvd @ 15% O2 at operating loads less than or equal to 221 MW (gross three hour average), or 6 ppmvd @ 15% O2 at operating loads greater than 221 MW (gross three hour average)  
ammonia: 10 ppmvd @ 15% O2 (except for the SCONOx equipped unit).

NOx (as NO2) emission limit is a one hour rolling average. Ammonia emission limit is a twenty four hour rolling average. All other emission limits are three hour rolling averages. [District Rules 2201, 4001, and 4703]

**Verification:** The project owner shall provide records of the emissions as part of the quarterly reports of Condition AQ-28.

**AQ-13** Emission rates from each gas turbine engine heat recovery steam generator exhaust, on days when a startup or shutdown occurs, shall not exceed the following:

PM10: ~~412.8~~ 264.0 lb/day  
Sox (as SO2): 89.5 lb/day  
NOx (as NO2): 511.4 lb/day  
VOC: 139.8 lb/day  
CO: 1,873.0 lb/day  
[District Rule 2201]

**Verification:** The project owner shall provide records of the emissions as part of the quarterly reports of Condition AQ-28.

**AQ-14** Twelve month rolling average emissions from each gas turbine engine heat recovery steam generator exhaust shall not exceed the following:

PM10: ~~142,320~~ 96,360 lb/year  
SOx (as SO2): 29,959 lb/year  
NOx (as NO2): 144,093 lb/year  
VOC: 24,865 lb/year

CO: 209,029 lb/year  
[District Rule 2201]

**Verification:** The project owner shall provide records of the emissions as part of the quarterly reports of Condition AQ-28.