

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512

DATE: January 18, 2007

TO: Interested Parties

FROM: Ms. Jeri Zene Scott, Compliance Project Manager

SUBJECT: **Los Medanos Energy Center Project (98-AFC-1C)
Staff Analysis of Proposed Modifications To The Annual Particulate
Matter Smaller Than 10 Microns (PM10) Emission Limits And
Approval To Obtain An Emission Reduction Credit (ERC) Refund
from the Bay Area Air Quality Management District (BAAQMD)**

On October 3, 2006, the California Energy Commission received a petition from the Los Medanos Energy Center, LLC, to amend the Energy Commission Decision for the Los Medanos Energy Center Project (LMEC), formerly known as the Pittsburg District Energy Facility. The LMEC project is a 555-MW natural gas combined cycle power plant located in the City of Pittsburg in eastern Contra Costa County. The project was certified by the Energy Commission on August 17, 1999, and began commercial operation on July 9, 2001.

The proposed modifications would lower the PM10 annual emission limits and, as a result of the lower limits, would allow the Project Owner an opportunity to obtain a refund of ERCs surrendered to the BAAQMD during the certification process as mitigation for PM10 emissions.

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and proposes revisions to existing conditions of certification for Air Quality (AQ) -21(h), -32(d) and -33(d). It is staff's opinion that, with the implementation of the revised conditions and the addition of AQ-60, the project would remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

The amendment petition has been posted on the Energy Commission's webpage at www.energy.ca.gov/sitingcases. Staff's analysis is enclosed for your information and review. Staff's analysis and the order (if the amendment is approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the February 28, 2007, Business Meeting of the Energy Commission. If you have comments on this proposed modification, please submit them to me at the address below prior to February 14, 2007.

Ms. Jeri Zene Scott, Compliance Project Manager
California Energy Commission
1516 9th Street, MS-2000
Sacramento, CA 95814

Comments may be submitted by fax to (916) 654-3882, or by e-mail to
jscott@energy.state.ca.us. If you have any questions, please contact me at (916) 654-
4228

Enclosure

**REQUEST TO AMEND THE LOS MEDANOS
ENERGY CENTER (LMEC) 98-AFC-1C
(AMENDMENT REQUEST #8)**

Tuan Ngo

AMENDMENT REQUEST

On October 3, 2006, the Los Medanos Energy Center, LLC filed a request to amend Conditions of Certification AQ-21(h), 32(d) and 33(d), to reflect lower particulate matter less than 10 microns (PM10) emissions for the entire Los Medanos Energy Center project (LMEC).

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS)

Air Quality Table 1 summarizes the applicable LORS for the facility.

**AIR QUALITY Table 1
Laws, Ordinances, Regulations, and Standards**

<i>Applicable LORS</i>	<i>Description</i>
Federal	New Source Review : Best Available Control Technology (BACT) and Offset requirements
	Title V: Federal permit
	New Source Performance Standard: 75 parts per million (ppm) Nitrogen Oxides (NO _x) and 150 ppm Sulfur Oxides (SO _x) @ 15 percent oxygen (O ₂).
State	California Health and Safety Code: Permitting of source needs to be consistent with approved Clean Air Plan
Local	New Source Review: BACT and offsets
	Acid Rain: Requires continuous emission monitoring system
	Particulate Matter and Visible Emissions: Emissions shall not be darker than Ringelmann No. 1 for a continuous three-minutes, and no more than 0.15 grains PM per standard dry cubic foot.
	Nitrogen Oxides from Stationary Gas Turbines. 9 ppm NO _x @ 15 percent O ₂ .

STAFF ANALYSIS

Staff’s objectives in completing the air quality analysis for this amendment request are (1) to identify whether there is a potential for a significant air quality impact; (2) to ensure continued compliance with all applicable LORS; and (3) to assure that appropriate mitigation measures have been applied to avoid or mitigate the identified potential air quality impacts.

LMEC was licensed with two General Electric (GE) model 207FA gas turbine and heat recovery steam generator (HRSG) packages, two auxiliary boilers, a cooling tower and various support equipment. When the project was licensed in 1999, PM10 emissions on this type of gas turbine were estimated to be about 16.3 lbs/hr using manufacturer information. This emission rate may have been set high by the turbine manufacturer to protect them from potential liabilities due to missed performance guarantees. The facility started commercial operation in 2001. After five consecutive annual source tests that consistently showed that the turbines' PM10 emissions never exceeded 9 lbs/hr, the project owner is requesting that PM10 limits listed in conditions AQ-21(h), 32(d) and 33(d) be reduced to reflect the lower PM10 emissions.

Once the conditions AQ-21(h), 32(d) and 33(d) are revised, the project owner will request that the Bay Area Air Quality Management District (BAAQMD) revise the permit to operate and bank the emission reduction credits as the difference between the new PM10 limit and the emission reduction credits surrendered with the original PM10 limits.

AQ-21(h): The project owner requests that this condition be revised to reflect a proposed turbine PM10 emission limit of 9 pounds per hour (lbs/hr), or 0.0040 pound per million British Thermal Units (lb/MMBtu).

AQ-32(d): The project owner requests that this condition be revised to reflect a proposed facility maximum daily PM10 emission limit of 465 lbs.

AQ-33(d): The project owner requests that this condition be revised to reflect a proposed facility maximum annual PM10 emission limit of 69.2 tons, which reflects the most restrictive annual fuel use of 34,010,400 MMBTU and a PM10 emission limit of 0.0040 lb/MMBTU.

The proposed revisions to Conditions of Certification AQ-21(h), 32(d) and 33(d) can be simply viewed as administrative changes to the license because the actual PM10 emissions would not increase nor decrease. In simpler terms, the proposed amendment request is to reclaim the excess emission reduction credits that were originally provided to mitigate the project's expected PM10 emission impacts. As the facility was never emitting the original estimated PM10 emissions, staff believes that the project owner is entitled to reclaim the excess emission reduction credits that were surrendered.

Staff also reviewed the original Application for Certification and the Commission Decision for this project and found that the project's PM10 emission impacts were mitigated with a combination of PM10 and SOx emission reduction credits. In the original licensing, the project owner provided 98.13 tons of PM10 and 103.48 tons of SOx emission reduction credits as interpollutant trading of PM10 precursors, to mitigate the project's 123.55 tons of PM10 emissions. Since the project's PM10 emissions are proposed to be restricted to 69.2 tons per year, staff believes that the excess 28.93 tons of PM10 and 103.48 tons of SOx emission reduction credits can be returned to the project owner.

A review of the District Rules and Regulations indicates that the return of the excess emission reduction credits is consistent with the provision of Rule 2-4-301.7.

Staff reviewed the annual source test results for the facility and found that the facility is consistently operated below the proposed PM10 limit of 9 lbs/hr since it started operation in 2001. Therefore, the facility's continuing compliance with the proposed PM10 emission limits is expected.

As mentioned earlier, the project owner's request to amend condition AQ-21(h), 32(d) and 33(d) merely involves an administrative change of the permit limits and would not result in an increase nor decrease of the PM10 emissions at the facility; therefore, no significant impacts to the ambient air quality are expected. Staff has proposed a new Condition of Certification, AQ-60, to ensure that 69.2 tons of PM10 ERCs remain in the control of the BAAQMD to mitigate the annual PM10 emissions from the project.

CONCLUSIONS AND RECOMMENDATIONS

The request to amend conditions AQ-21(h), 32(d) and 33(d) would result in no significant impacts to the environment. Therefore, no additional mitigation is required.

The facility is expected to operate in compliance with the District applicable Rules and Regulations.

Staff recommends approval of the LMEC, LLC amendment request. Specifically, staff recommends revisions to Conditions of Certifications AQ-21(h), AQ-32(d), and AQ-33(d) and the addition of AQ-60. The specific revised Conditions of Certification are shown below in the underline/strikeout format. Underline indicates new language while strikeout indicates deleted language.

- AQ-21(h)** Particulate matter (PM₁₀) mass emissions at P-1 and P-2 each shall not exceed ~~16.3~~ 9 pounds per hour or ~~0.0073~~ 0.0040 lb/MM BTU of natural gas fired. (BACT for PM10)
- AQ-32(d)** Total combined emissions from the Gas Turbines, HRSGs, and Auxiliary Boiler (S-1, S-2, S-3, S-4, and S-5) including emissions generated during Gas Turbine Start-ups, Gas Turbine Shutdowns, Auxiliary Boiler Start-ups and Auxiliary Boiler Shutdowns, shall not exceed the following limits during any calendar day:
- a. 1347 pounds of NO_x (as NO₂) per day
 - b. 6835 pounds of CO per day
 - c. 274 pounds of POC (as CH₄) per day
 - d. ~~780~~ 465 pounds of PM₁₀ per day (PSD)
 - e. 272.4 pounds of SO₂ per day
- AQ-33(d)** Cumulative emissions from the Gas Turbines, HRSGs, and Auxiliary Boilers (S-1, S-2, S-3, S-4, and S-5) including emissions generated during Gas Turbine Start-ups, Gas Turbine Shutdowns, Auxiliary Boiler Start-ups and Auxiliary Boiler Shutdowns, shall not exceed the following limits during any consecutive twelve-month period:

- a. 176.2 tons of NO_x (as NO₂) per year
- b. 506.4 tons of CO per year
- c. 34.1 tons of POC (as CH₄) per year
- d. ~~131.6~~ 69.2 tons of PM₁₀ per year (Offsets, PSD)
- e. 39.86 tons of SO₂ per year

AQ-60 The project owner shall ensure that 69.2 tons of PM10 emission reduction credits (ERCs) remain in the control of the Bay Area Air Quality Management District (BAAQMD) to mitigate for the annual PM10 emissions of the project.

Verification: The project owner shall provide to the CPM a copy of the ERCs certificates within 30 days of receipt from the BAAQMD.