

CALIFORNIA ENERGY COMMISSION

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

DOCKET 84-AFC-6C	
DATE	MAY 21 2008
RECD.	MAY 21 2008

In the Matter of:)
SYCAMORE COGENERATION) **Docket No. 84-AFC-6C**
POWER PROJECT)

SYCAMORE COGENERATION) **Order No. 08-521-3**
COMPANY) **ORDER APPROVING PETITION TO**
) **INSTALL ENHANCED DRY LOW NOX**
) **COMBUSTORS**

The Sycamore Cogeneration Company has requested to modify Units 1, 2, 3 & 4 with enhanced dry low NOx combustors. The modifications will allow the Sycamore Cogeneration Power Project to comply with the San Joaquin Valley Air Pollution Control District Retrofit Rule 4703. The modification will also achieve a substantial reduction in oxides of nitrogen (NOx) emissions without increasing daily or annual emissions of other pollutants from the facility.

The modifications were approved by the San Joaquin Valley Air Pollution Control District and a revised Permit to Operate was issued in January 2008.

STAFF RECOMMENDATION

The Energy Commission staff reviewed the petition and finds that it complies with the requirements of Title 20, Section 1769(a) of the California Code of Regulations and recommends approval of the Sycamore Cogeneration Company petition to modify the Sycamore Cogeneration Power Project and amend related Conditions of Certification.

ENERGY COMMISSION FINDINGS

Based on staff's analysis, the Energy Commission concludes that the proposed changes will not result in any significant impact to public health and safety or the environment. The Energy Commission finds that:

- o The petition meets all the filing criteria of Title 20, section 1769(a) of the California Code of Regulations concerning post-certification project modifications;
- o The modification will not change the findings in the Energy Commission's Final Decision pursuant to Title 20, section 1755;

- o The project will remain in compliance with all applicable laws, ordinances, regulations, and standards, subject to the provisions of Public Resources Code section 25525;
- o The change will be beneficial to the public, the Sycamore Cogeneration Company and San Joaquin Valley air quality because NOx emission limits will decrease from 16.4 parts per million by volume (ppmv) to 3 ppmv at 15% O2.
- o There has been a substantial change in circumstances since the Energy Commission certification justifying the change, which is based on information and equipment that was not available to the parties prior to Energy Commission certification.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts Staff's recommendations and approves the following changes to the Sycamore Cogeneration Power Project's Decision. New language is shown **double-underlined and bolded**, and deleted language is shown in ~~strikeout~~.

CONDITION OF CERTIFICATION

AQ-19 Pollutant emissions from each combustion turbine prior to being retrofitted with the DLN combustors shall not exceed the following limits, except during times of start up or shutdown, as defined in Condition AQ-18 **or transitional periods as defined here in:**

Gas Fired Case:

- Particulates - 5.0 lbm/hr as PM10
- Sulfur Compounds - 0.5 lbm/hr as SO2
- 0.6 lbm/hr as SO4
- Oxides of Nitrogen - ~~140.0 lbm/hr as NO2~~
- Hydrocarbons - 2.5 lbm/hr (Non-meth)
- Carbon Monoxide - 392 lbm/day

Pollutant emissions from each DLN CTG shall not exceed the following limits, except during times of start up or shutdown, as defined in Condition AQ-18:

Gas Fired Case:

- Particulates - 5.0 lbm/hr as PM10
- 120.0 lbm/day as PM10
- Sulfur Compounds - 0.5 lbm/hr as SO2
- 0.6 lbm/hr as SO4
- Oxides of Nitrogen - ~~1629.6 lbm/day as NO2~~
- ~~67.9 lbm/hr as NO2, 3 hour rolling average~~
- ~~16.4 ppmv at 15% O2, 3 hour rolling average~~

Not to exceed
- 79.7lbm/hr, 1 hour average

Hydrocarbons - 2.5 lbm/hr (Non-methane)
Carbon Monoxide - 1056 lbm/day and 25 ppmv at 15% O₂

After April 30, 2008, the emissions of oxides of nitrogen from each combustion turbine shall not exceed the following limits (these limits are to supersede the NO_x emission limits shown above):

**Oxides of Nitrogen - 552.8 lbm/day and
- 12.4 lbm/hr as NO₂ and 3 ppmv at 15% O₂
calculated on a 3 hour rolling average.**

For nitrogen dioxide, the Sycamore Cogeneration Company (SCC) shall identify the following for each day of operation, except during times of start up or shutdown, as defined in Condition AQ-18:

- (1) The daily maximum hourly mass emission rate (lbs/hr),
- (2) The daily maximum rolling 3-hour average mass emission rate (lbs/hr) and
- (3) The total daily mass emissions (lbs/day).

For carbon monoxide, SCC shall identify the total daily mass emissions (lbs/day) for each day of operation, except during times of start up or shutdown, as defined in Condition AQ-18.

For particulate matter (PM₁₀), sulfur compounds (SO₂ and SO₄) and non-methane hydrocarbons, SCC shall determine through the initial source test, the fuel-based emission factors (lbs/mmBtu) for each pollutant. Using these factors, SCC shall determine the maximum allowable fuel input rate (mmBtu/hr) that would comply with the above stated emission limits (lbs/hr) (i.e., emission limit / emission factor = fuel input rate). SCC shall then compare these fuel input rates (as determined above) with the actual daily maximum fuel input rate (mmBtu/hr) for each day of operation, except during times of start up or shutdown, as defined in Condition AQ-18.

SCC shall submit all excess emission reports and break down reports to demonstrate compliance with all concentration limits.

A transitional period is defined as a primary re-ignition period which must meet the following three conditions:

- **shall not exceed one hour,**
- **NOx emissions shall not exceed 15 ppmvd @ 15% O2 during that hour and**
- **CO emissions shall not exceed 25 ppmvd @ 15% O2.**

Verification: SCC shall submit quarterly emission reports with all the information identified in the above protocol to the CEC compliance project manager.

IT IS SO ORDERED.

Date: May 21, 2008

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION



JACKALYNE PFANNENSTIEL, Chairman