

CALIFORNIA ENERGY COMMISSION

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

DOCKET**84-AFC-6C**DATE NOV 30 2011RECD. DEC 01 2011

In the Matter of:)

SYCAMORE COGENERATION)**Docket No. 84-AFC-6C****Order No. 11-1130-5****SYCAMORE COGENERATION
COMPANY**)**ORDER APPROVING a Petition to Modify
Air Quality Conditions of Certification to
Include 12-hour Start-up Period**

On July 14, 2011, Sycamore Cogeneration Company, the owner/operator of the Sycamore Cogeneration Project, submitted a petition requesting to modify the air quality conditions of certification to include a 12-hour startup period. The modifications will allow the Sycamore Cogeneration Company to operate all four of the combustion gas turbines units in an extended start-up period for the purpose of tuning the units following removal and replacement of combustion hardware.

The modifications were approved by the San Joaquin Valley Air Pollution Control District and a revised Authority to Construct Permit was issued on August 30, 2011.

STAFF RECOMMENDATION

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 Sycamore Cogeneration Company's petition to modify the Sycamore Cogeneration 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:

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

- The project will remain in compliance with all applicable laws, ordinances, regulations, and standards, subject to the provisions of Public Resources Code section 25525;

CONCLUSION AND ORDER

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

CONDITIONS OF CERTIFICATION

- AQ-18**
- a. Startup or ~~planned~~-shutdown of a CTG shall not exceed a time period of two (2) continuous hours, **except tuning startup periods as defined here in.**
 - b. For all CTGs the following emission limits shall apply during times of startup or shutdown **or tuning startup** and shall be averaged over the time period specified below:
 - NO2 140.0 lbm/hr (2-hour average)
 - CO 200 lbm/hr (1-hour average), and 140.0 lbm/hr (2-hour average)

Dynamic performance testing and corresponding operating optimization set point adjustments of the combustion system of the CTG shall be defined as a tuning start-up used to tune the CTG combustion system to meet permitted emission limits. A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence.

Verification: Sycamore Cogeneration Company shall maintain records necessary to submit quarterly reports to show start up, ~~or planned~~-shutdown **or tuning startup** days and daily emissions for those days. This information shall be included in the quarterly reports already submitted to the CEC and SJVUAPCD.

- 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 startup 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
Hydrocarbons	2.5 lbm/hr (Non-meth)
Carbon Monoxide	392 lbm/day

Pollutant emissions from each DLN1+ CTG shall not exceed the following limits, except during times of startup, ~~or shutdown,~~ **or tuning startup,** 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 <u>21.6 lbm/day as SO2</u>
Hydrocarbons	2.5 lbm/hr (Non-methane) <u>60.0 lbm/day</u>
Carbon Monoxide	1056 lbm/day and 25 ppmv at 15% O2 <u>44.0 lbm/hr on 3-hr avg.</u>

~~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 NOx 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.
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For nitrogen dioxide, the Sycamore Cogeneration Company (SCC) shall identify the following for each day of operation, except during times of startup, ~~or shutdown~~ **or tuning startup,** 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 startup, ~~or shutdown~~ **or tuning startup,** 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 startup 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.

CERTIFICATION

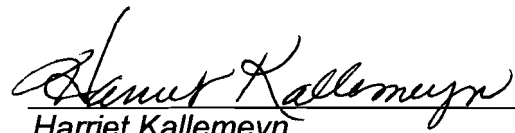
The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of an Order duly and regularly adopted at a meeting of the California Energy Commission held on November 30, 2011.

AYE: Weisenmuller, Boyd, Douglas, Peterman

NAY: None

ABSENT: None

ABSTAIN: None



Harriet Kallemeyn,
Secretariat