

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512

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

DOCKET**84-AFC-4C**DATE Apr 06 2011RECD. Apr 19 2011

In the Matter of:)	Docket No. 84-AFC-4C
)	
CALPINE GILROY COGEN)	Order No. 11-0406-03
)	
CALPINE GILROY COGEN, L.P.)	ORDER APPROVING A PETITION TO
)	INSTALL DRY LOW NITROGEN OXIDE
)	COMBUSTOR UNIT

On September 13, 2010, Calpine Gilroy Cogen, L.P. filed a petition with the California Energy Commission (Energy Commission) requesting to modify the Gilroy Cogen Power Project's 1985 Decision to allow for installation of a Dry Low Nitrogen Oxide (DLN) combustor unit on the Project's S-100 General Electric Frame 7 Gas Turbine Generator (S-100 gas turbine). The modification will allow the California Energy Commission (Energy Commission) to comply with recent changes in the Bay Area Air Quality Management District (BAAQMD) Regulation 9, Rule 9 requirements regarding Nitrogen Oxides from Stationary Gas Turbines.

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 Calpine Gilroy Cogen, L.P.'s petition to modify the Calpine Gilroy Cogen 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 (LORS), subject to the provisions of Public Resources Code section 25525;
- The proposed modifications to the Air Quality Conditions of Certification will result in a beneficial change by adopting emission limits substantially lower than those

set in the previous 1985 Energy Commission Decision and is consistent with BAAQMD newer emission standards; and,

- There has been a substantial change in circumstances justifying the change in that the BAAQMD has made changes in their regulations since the last Energy Commission amendment was approved on July 13, 2005.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts staff's recommendations and approves revisions to the Decision, and the following changes to the Calpine Gilroy Cogen Project Decision. Deleted text is in ~~strikethrough~~, new text is **bold double-underlined**.

AIR QUALITY CONDITIONS OF CERTIFICATION

Changed Conditions of Certification:

- 1-1 ~~Except as provided in Condition 7, (a)~~ The oxides of nitrogen (NOx) concentrations in the gas turbine exhaust shall not exceed 25 ppmdv at 15 percent oxygen averaged over any 3-hour period ~~whether firing natural gas or fuel oil.~~ (b) This limit shall not apply during a cold start-up, which is not to exceed four hours, or shut-down procedure, which is not to exceed two hours. However, for daily start-ups after a shut-down of twelve (12) hours or less, the start-up period shall be limited to one (1) hour. (c) During any mode of operation, GEC shall inject steam for NOx control when steam of specified pressure and temperature is available. **Part (c) will no longer apply after the Dry Low NOx combustor is installed and operational.** ~~If within six months of initial start up of the subject facility the Applicant is unable to achieve the concentration limitation of 25 ppm, the Applicant shall take action to achieve the 25 ppm limit by retrofitting the heat recovery boiler with an APCO approved control device pursuant to a schedule approved by the District Hearing Board in an action for variance relief.~~ **Effective after the new Dry Low NOx combustor becomes operational, the oxides of nitrogen (NOx) concentration in the gas turbine exhaust shall not exceed 5 ppmvd at 15% oxygen or 0.15 lb/MW-hr averaged over any three-hour period excluding startup and shutdown periods. The Dry Low NOx combustor shall be installed at the next scheduled major maintenance or no later than January 1, 2012. (9-9-301.2)**

Verification: GEC shall monitor compliance with the NOx emission limitation with the continuous in-stack emission monitors described in Condition 1-12. ~~In the event that the NOx emissions limitations is not achieved within six months of initial start up of the facility, Gilroy Energy Company shall apply to the BAAQMD for a variance for the purpose of retrofitting the facility with Selective Catalytic Reduction (SCR) or other APCO~~

~~approved control device.~~ GEC shall forward to the CEC copies of all submittals made to and received from the BAAQMD.

- ~~1-2 The heat recovery boiler shall be designed to accommodate a Selective Catalytic Reduction (SCR) system, capable of achieving 25 ppm_{dv} NO_x as an alternative to NO_x control by increased steam injection. The APCO may require installation of a SCR system if applicant fails to meet the NO_x emission limitation of DOC Condition No. 1.~~

~~**Verification:** GEC shall provide the BAAQMD drawings acceptable to the BAAQMD, for the heat recovery boiler 45 days prior to the date of their release for fabrication. GEC shall notify the CEC of the availability of drawings when they are provided to the BAAQMD.~~

- ~~1-5 Any fuel oil fired (except as provided in Condition 7) shall not exceed maximum sulfur content of 0.12 percent (by weight). GEC shall maintain records on the duration of fuel oil firing, the sulfur content, and in which operating sources fuel oil firing took place. All fuel receipts must be certified to 0.12 percent weight sulfur or less.~~

~~**Verification:** GEC shall issue quarterly reports to the BAAQMD and CEC and forward a copy to the ARB upon their request, detailing the contents of the fuel oil firing plant logs. During site inspections, GEC shall make the logs available to the BAAQMD, ARB, and CEC staffs. GEC shall provide the BAAQMD and CEC with copies of the fuel oil firing records upon request.~~

- ~~1-7 During periods of PGandE curtailment of natural gas, the maximum sulfur content of the fuel oil burned shall not exceed 0.25 percent (by weight), provided that the gas turbine was being fired on natural gas prior to the curtailment. During such periods, the NO_x emissions limit in Condition 1 shall not apply; NO_x will be controlled via steam injection at no less than the rate determined by the manufacturers recommended maximum steam/fuel ratio or 83,000 lb/hr (at 59°F).~~

~~**Verification:** GEC shall provide the BAAQMD and CEC upon request, with copies of the fuel oil firing records required by Condition 5 and steam injection records required by Condition 9.~~

- 1-8 The steam injection to control NO_x emissions shall be operated during all periods when injection steam is available at the specified pressure and temperature. GEC shall, during the start-up period, perform tests to determine the steam injection rate necessary to assure compliance with Condition 1-1. The steam injection rate will be controlled by the gas turbine control system at all times during the operation of the gas turbine. **This part will no longer apply after the Dry Low NO_x combustor is installed and operational. (BACT)**

Verification: **Until such time that the Dry Low NOx combustor is installed and operational,** GEC shall provide the BAAQMD and CEC, upon request, steam injection records required by Condition 1-9. **This condition will no longer apply after the Dry Low NOx combustor is installed and operational.**

1-9a Pursuant to ~~the PSD permit Regulation 10, Rule 26, Section 504,~~ GEC shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of steam injection to fuel fired in the turbine. **This part shall apply until installation of the Dry Low NOx combustor. (PSD, 2-1-403)**

Verification: GEC shall issue quarterly reports to the BAAQMD and CEC and forward a copy to the ARB upon their request, ~~detailing the contents of the steam injection and fuel consumption logs.~~ During site inspection GEC shall make the logs available to the BAAQMD, ARB, and CEC staffs. GEC shall provide the BAAQMD and CEC with copies of ~~the steam injection and fuel consumption logs~~ upon request.

1-9b Pursuant to ~~the PSD permit Regulation 10, Rule 26, Section 504,~~ GEC shall install and operate a continuous monitoring system to monitor and record the ~~fuel consumption and the ratio of steam injection to fuel fired~~ in the turbine. **This part shall apply after installation of the Dry Low NOx combustor. (PSD, 2-1-403)**

Verification: GEC shall issue quarterly reports to the BAAQMD and CEC and forward a copy to the ARB upon their request, ~~detailing the contents of the steam injection and fuel consumption logs.~~ During site inspection GEC shall make the logs available to the BAAQMD, ARB, and CEC staffs. GEC shall provide the BAAQMD and CEC with copies of ~~the steam injection and fuel consumption logs~~ upon request.

1-16 ~~Prior to burning fuel oil as the primary fuel in the gas turbine, GEC shall demonstrate to the satisfaction of the APCO and the CEC, during an approved test period that the "quiet combustor" is capable of meeting the emission requirements of Condition 1. If within six months of initial start up of fuel oil as a discretionary fuel, the application is unable to achieve the concentration limitation of 25 ppm, the applicant shall take action to install a selective catalytic reduction system or another APCO approved equivalent control system capable of satisfying the emission limit in Condition 1.~~

~~**Verification:** Action to install a selective catalytic reduction system or another approved equivalent shall include immediate submittal to the BAAQMD and the CEC of the design details of the proposed change and a discussion of the potential change in air emissions from the project. GEC may not implement any major change without prior written approval from the CEC.~~

April 6, 2011
Page 5

IT IS SO ORDERED.

Date: April 6, 2011

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

A handwritten signature in black ink, appearing to read "Robert B. Weisenmiller". The signature is written in a cursive style with a large initial "R".

ROBERT WEISENMILLER, Chairman