

## CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512

**STATE OF CALIFORNIA**  
**State Energy Resources**  
**Conservation and Development Commission**

In the Matter of:	)	<b>Docket No. 99-AFC-5C</b>
	)	<b>Order No. 04-0121-08</b>
Calpine Corporation	)	
OTAY MESA GENERATING PROJECT	)	ORDER APPROVING a Petition
	)	to Modify the Project Description
	)	

The Calpine Corporation, the owner/operator of the Otay Mesa Generating Project, has requested to modify the facility by separating and increasing stack height of the HRSG/Turbines, and adding duct firing, an auxiliary boiler and a wet surface air condenser. These modifications will result in the addition of Conditions of Certification Biological Resource BIO-13 and BIO-14 and a revision to Facility Design GEN-2. Staff has also proposed revisions/deletions and additions to existing Air Quality Conditions of Certification AQ-5 through AQ-65, addition of AQ-77 through AQ-79 and the addition of the San Diego County Air Pollution Control District Conditions of Certification AQ-80 through AQ-88.

#### COMMISSION FINDINGS

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

- A. There will be no new or additional unmitigated significant environmental impacts associated with the proposed changes.
- B. The facility will remain in compliance with all applicable laws, ordinances, regulations, and standards, subject to the provisions of Public Resources Code section 25523.
- C. The changes will improve the performance and reliability of the project.
- D. The proposed modifications were not known to Calpine Corporation during the certification proceeding since Calpine acquired OMGP, LLC in July of 2001 approximatey 3 months following certification.

**CHANGE TO EXISTING CONDITIONS OF CERTIFICATION**

Added text is underlined, deleted text is shown in ~~strikethrough~~.

**Facility Design Table 1: Major Structures and Equipment List**

Equipment/System	Quantity (Plant)
Combustion gas turbine (CT) Foundation & Connection	2
Steam turbine Foundation & Connection	1
Combustion Turbine Generator Foundation & Connection	2
Steam Turbine Generator Foundation & Connection	1
Heat Recovery Steam Generator (HRSG) Structure, Foundation & Connection	2
HRSG Stack Structure, Foundation & Connection	2
Generator Step-up Transformer	2
Auxiliary Transformer Foundation & Connection	2
Generator Breaker Foundation & Connection	2
CT Inlet Air Plenum Structure, Foundation & Connection	2
CT Inlet Air Evaporative Cooler Structure, Foundation & Connection	2
Cooling Tower/Air Cooled Condenser Structure, Foundation & Connection	2
CT & ST Building Structure, Foundation & Connection including generator auxiliary compartment (GAC), primary electrical center (PEC) & mechanical accessory compartment	1
Secondary Unit Substation/Transformer Foundation & Connection	2
Electrical Control Center (Switchgear) Structure, Foundation & Connection	1
CEMS Building Structure, Foundation & Connection	1
Boiler Feed Water Pump Foundation & Connection	4
Condenser Foundation & Connection	2
Condensate Pump Foundation & Connection	4
CT Static Starter Motor Foundation & Connection	2
Fuel Gas Compressor Building Structure, Foundation & Connection	1
ST Lube Oil Package Foundation & Connection	1
Ammonia Tank Structure, Foundation & Connection	1
Ammonia Blower Injection Skid Structure, Foundation & Connection	1
Pipe Rack Structure, Foundation & Connection	N/A
Stairways, Ladders & Platforms	N/A
Fire/Service Water Storage Tank Structure, Foundation & Connection	2
Demineralized Water Storage Tank Structure, Foundation & Connection	2
<u>Auxiliary Boiler Structure, Foundation &amp; Connection</u>	<u>1</u>
<u>Auxiliary Boiler Stack Structure, Foundation &amp; Connection</u>	<u>1</u>
Fire Water Pump Skid Foundation & Connection	1
Demineralized Water Treatment Building Structure, Foundation & Connection	1
Demineralized Water Pump Foundation & Connection	2
Administration Building Structure, Foundation & Connection	1
Warehouse/Mechanical Shop Structure, Foundation & Connection	1

	Quantity (Plant)
Fire Pump Building Structure, Foundation & Connection	1
Switchyard Control Building Structure, Foundation & Connection	1
Switchyard, Busses & Towers	1 Lot
Boiler Feed Pump Building Structure, Foundation & Connection	1 Lot
High Pressure and Large Diameter Piping	1 Lot
Potable Water Systems	1 Lot
Drainage Systems (Including sanitary drain and waste)	1 Lot
Building Energy Conservation Systems	1 Lot
Temperature Control and Ventilation Systems (Including water and sewer connections)	1 Lot
HVAC and Refrigeration Systems	1 Lot
Permanent Eye Stations	1 Lot
Chemical Feed System Containment	1 Lot
Water Treatment System Chemical Containment	1 Lot
Ammonia System	1 Lot
Electrical Systems	1 Lot

## PROPOSED NEW BIOLOGICAL RESOURCES CONDITIONS OF CERTIFICATION

**BIO-13 For future modeled nitrogen increases, the project owner will provide additional compensation funds to the Quino checkerspot research endowment, unless otherwise specified by the CPM.**

The method to be used to calculate future mitigation fees, as proposed by the project owner and requested by the U.S. Fish and Wildlife Service, will use the following assumptions and methods.

Using the nitrogen deposition rate of 0.0594 kilograms per hectare per year, averaged over the entire critical habitat area, along with the mitigation fee of \$333.333, and normalizing the ratio of the two, produces the following mitigation calculation equation for each nitrogen deposition increase of 0.01 kilogram per hectare per year:

$$\frac{[0.0594 \text{ kilograms per hectare per year}/\$333.333]}{[0.01 \text{ kilograms per hectare per year}/X]} =$$

$$\text{Solving for } X = \$56.117$$

Thus, for each modeled increase of nitrogen deposition of 0.01 kilograms per hectare per year will require that \$56,117 be added to the research endowment by the project owner.

The ISCST3 model, or another model using similar assumptions and project parameters, will be used to calculate the deposition rate.

This calculation is independent of existing and future background nitrogen deposition rates and is only applied to modeled increases from future project related air emission modification(s).

Verification: No fewer than 30 days prior to commencement of project operation that will result in an increase in nitrogen emissions, the project owner will provide, to the CPM, written verification that the additional compensation funds have been provided to the San Diego Foundation or the current manager of the Quino checkerspot research endowment.

BIO-14 For each year that the Quino checkerspot research endowment account does not return the desired 4.5 percent payout, the project owner will 'true up' the endowment.

The project owner will begin to make required compensation payments, when appropriate, after the Otav Mesa Generating Project has started commercial operation. Only the remaining balance that is in the account at the time of the calculation will be used to calculate the annual payout. Payments will cease when the facility is closed or when the U. S. Fish and Wildlife Service and the Energy Commission convert the research endowment to a different use.

Verification: As part of the Annual Compliance Report, the project owner will provide a copy of the San Diego Foundation Fund Advisory Statement, or similar fund statement by the current fund manager, for the Quino checkerspot research endowment.

If the fund advisor statement indicates that less than the 4.5 percent payout has occurred for the calendar year, then within 30 days of filing the Annual Compliance Report, the project owner must provide written verification to the CPM that the required additional compensation has been provided to the San Diego Foundation, or the current fund manager, for the Quino checkerspot research endowment.

#### *PROPOSED NEW AND REVISED AIR QUALITY CONDITIONS OF CERTIFICATION*

**AQ-5** The project owner shall submit to the District the final selection and design details of the gas turbines and associated equipment to be installed, including all proposed post-combustion control systems and the auxiliary boiler (~~SCONO<sub>x</sub> or SCR~~). Such information may be submitted to the District ~~under~~ as Trade Secret and confidential provisions pursuant to District Rules 175 and 176.

Verification: At least 90 days prior to on-site delivery of equipment, the project owner shall provide copies of design details of the gas turbines and associated equipment to be installed, including all proposed post-combustion control systems (~~SCONO<sub>x</sub> or SCR~~) and the auxiliary boiler to the CPM and the District.

**AQ-6** The exhaust stacks for each turbine power station shall be at least ~~131~~160 feet (48.839.9 meters) in height and shall be positioned no more than one stack diameter away from each other.

**Verification:** The project owner shall provide copies of the design details of the gas turbines and associated equipment to be installed, including all proposed post-combustion control systems (~~SCONOx and SCR~~) to the CPM and the District at least 90 days prior to on-site delivery of equipment.

**AQ-7** The exhaust stacks for each turbine power station shall be equipped with source test ports and platforms to allow for the measurement and collection of stack gas samples consistent with all approved test protocols. The ports and platforms shall be constructed in accordance with District Method 3A, Appendix Figure 2.

**Verification:** The project owner shall provide copies of the design details of the gas turbines and associated equipment to be installed, including all proposed post-combustion control systems (~~SCONOx and SCR~~) to the CPM and the District at least 90 days prior to on-site delivery of equipment.

**AQ-9** Deleted. In the event the applicant elects to install the ~~SCONOx~~ system, the applicant shall undertake all reasonable efforts to achieve continuous NOx emissions below current BACT/LAER standards. The applicant shall submit to the District a protocol for achieving optimum operation of the ~~SCONOx~~ system and a NOx emission concentration of 1.0 ppmvd (at 15% oxygen, 3-hour average) for each turbine. This protocol shall include, at a minimum, the following:

- a. ~~The initial values for the regeneration cycle times.~~
- b. ~~The amount of natural gas or other source of hydrogen for the regeneration cycle (expressed as a concentration or percentage of total regeneration gas).~~
- c. ~~The testing scheme to vary the cycle times and the monitoring that will be done to determine the effectiveness of the changes on emission rates of NOx and CO.~~
- d. ~~The testing scheme to vary the concentrations of natural gas or other source of hydrogen for the regeneration.~~
- e. ~~Additional contingency measures to be taken to address possible failure modes.~~

**Verification:** The project owner shall provide copies of the protocol for achieving optimum operation of the ~~SCONOx~~ system to the District and to the CPM at least 30 days prior to initial firing.

**AQ-10** Prior to initial firing of each turbine, a Continuous Emission Monitoring System (CEMS) shall be installed and calibrated to measure the concentrations of oxides of nitrogen (NOx), carbon monoxide (CO), and oxygen (O<sub>2</sub>) in the exhaust gas on a dry basis, corrected to 15% oxygen. Upon initial firing and prior to final approval of the permanent CEMS system, a portable CEMS, which has been properly certified and calibrated, shall be operational. At least 60 days prior to the operation

of both the portable and permanent CEMS, the project owner shall submit an operating protocol to the District for written approval. The portable CEMS shall remain in full operation at all times when the turbine is in operation. ~~until the permanent CEMS, which has been~~ shall be properly installed, and certified, and is in full operation at all times when the turbine is in prior to on-going operations.

**Verification:** The project owner shall provide copies of the operating protocol for the CEMS system to the District, for written approval, and to the CPM at least 60 days prior to operation of the CEMS system.

**AQ-16** No later than 90 days after each unit commences commercial operation, a Relative Accuracy Test Audit (RATA) shall be performed on the permanent CEMS in accordance with 40 CFR Part 75 Appendix A Specifications and Test Procedures. At least 45 days prior to the test date, the project owner shall submit a test protocol to the District for approval. Additionally, the District shall be notified a minimum of 45 days prior to the test so that observers may be present. Within 45~~30~~ days of completion of the test, a written test report shall be submitted to the District for approval.

**Verification:** The project owner shall provide copies of the CEMS RATA test to the District and the CPM no later than 90 days after each unit commences commercial operation. The project owner shall provide notice of the CEMS RATA test date and provide a CEMS RATA test protocol to the District and the CPM at least 45 days prior to the tests. The project owner shall provide a written CEMS RATA test report to the District, for approval, and the CPM within 45~~30~~ days of the test.

**AQ-17** The total aggregate annual emissions from all emission units at the stationary source shall not exceed 100 tons of oxides of nitrogen (NO<sub>x</sub>) and shall not exceed 316 tons of carbon monoxide (CO), ~~calculated as nitrogen dioxide, from all emission units at the stationary source shall not exceed 100 tons, per~~ for each consecutive 12-calendar month period. -The NO<sub>x</sub> and CO emissions shall begin accruing at the initial firing of each turbine. Compliance with this limit shall be verified using the CEMS system on each gas turbine (Application Nos. 973880 and 973881) as well as EPA- or ARB-certified NO<sub>x</sub> emissions factors, testing results, or other representative emissions information for all other combustion equipment, including ~~emergency engine~~the auxiliary boiler.

**Verification:** The project owner shall maintain records, at least on a calendar monthly basis, of total aggregate mass emissions of NO<sub>x</sub> and CO, in tons per year, from all equipment, excluding exempt equipment, at this stationary source for the previous 12-month period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-18** The project owner shall maintain records, at least on a calendar monthly basis, of total aggregate mass emissions of NO<sub>x</sub>, CO, and VOC, in tons per year, from all

equipment, including ~~emergency equipment~~ the auxiliary boiler, at this stationary source for the previous 12-month period. These records shall be maintained on site for a minimum of five years and made available to District personnel upon request.

**Verification:** The project owner shall maintain records, at least on a calendar monthly basis, of total aggregate mass emissions of NO<sub>x</sub>, CO, and VOC, in tons per year, from all equipment, excluding exempt equipment, at this stationary source for the previous 12-month period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-21** ~~When operating without any post-combustion air pollution control equipment, the~~ total emissions from both turbines combined shall not exceed ~~1649~~ 1133 pounds per hour of oxides of nitrogen (NO<sub>x</sub>), calculated as nitrogen dioxide and averaged over a rolling continuous 1-hour period. ~~Additionally, when operating without any post-combustion air pollution control equipment, the total emissions when only one turbine is in operation shall not exceed 1133 pounds per hour of NO<sub>x</sub>. These emissions limits shall apply during startups and shutdowns.~~

**Verification:** The project owner shall maintain records of the NO<sub>x</sub> mass emissions of each gas turbine when operating without any post-combustion air pollution control equipment. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-22** When operating with post-combustion air pollution control equipment, the total emissions from both turbines combined shall not exceed 412 pounds per hour of oxides of nitrogen (NO<sub>x</sub>), calculated as nitrogen dioxide and averaged over a rolling continuous 1-hour period. Additionally, when operating with post-combustion air pollution control equipment, the total emissions when only one turbine is in operation shall not exceed 283 pounds per hour of NO<sub>x</sub>, calculated as nitrogen dioxide and averaged over a rolling continuous 1-hour period. These emissions limits shall apply during startups and shutdowns.

**Verification:** The project owner shall maintain records of the NO<sub>x</sub> emission concentrations of each gas turbine when operating with post-combustion air pollution control equipment. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-23** ~~When operating at less than 40% load, the~~ total emissions from both turbines combined ~~emissions of carbon monoxide (CO) shall not exceed 2738500 pounds per hour-ppm~~ of carbon monoxide (CO), averaged over a rolling continuous 1-hour period. ~~nor exceed 1000 ppm averaged over an 8-hour period. When operating at~~

~~40% load or greater, the emissions of carbon monoxide shall not exceed 1000 ppm averaged over a 1 hour period nor exceed 500 ppm averaged over an 8 hour period. All concentration limits shall be corrected to 15% oxygen. These limits shall apply during startups and shutdowns.~~

**Verification:** The project owner shall maintain records of the CO emission concentrations of each gas turbine when operating, including startup and shutdowns. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

## COMMISSIONING PERIOD CONDITIONS

**AQ-24** Beginning at initial firing of each turbine, a "Commissioning Period" for each turbine shall commence. This Commissioning Period shall end 120 days after initial firing or immediately after written acceptance of clear custody and control of the equipment is turned over to the project owner, whichever comes first. During this Commissioning Period, only the requirements ~~emission limits~~ specified in Condition Nos. AQ-10, -13, -17, -18, -19, -20, -21, -22, -23, -80 and -81~~25~~ shall apply.

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the commissioning period. These records shall be included in the Commissioning Period Progress Report required in AQ-24, and maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.

**AQ-25** Within 30 days after initial firing of each turbine, the project owner shall install post-combustion air pollution control equipment to minimize emissions from this equipment. The ~~applicant~~ project owner may request an extension, not to exceed an additional 30 days, in writing for District approval. This request shall include all technical reasons as to why the extension is needed. Such an extension will only be granted if the ~~applicant~~ project owner can demonstrate that such extension:

- is not the result of neglect or disregard of any air pollution control requirement;
- is not intentional or the result of negligence, as defined in District Rule 98;
- is not the result of improper maintenance;
- will not cause a nuisance;
- is not likely to create an immediate threat or hazard to public health or safety;
- will not interfere with the attainment or maintenance of any National or California Ambient Air Quality Standard; and
- good cause is shown for the extension.

Once installed, the post-combustion air pollution control equipment shall be maintained in good condition and shall be in full operation at all times when the turbine is in operation. Note that any day in which fuel is burned in this equipment shall be considered an operating day.



**Verification:** The project owner shall install post-combustion air pollution control equipment to minimize emissions from this equipment within 30 days after the initial firing of the gas turbines, unless the project owner requests an extension, not to exceed an additional 30 days, in writing for District approval.

**AQ-26** Within 10 days after the end of the Commissioning Period for each turbine, the project owner shall submit a written progress report to the District. This report shall include, at a minimum, the date that the Commissioning Period ended, the periods of startup, the emissions of NO<sub>x</sub> and CO during startup, and the emissions of NO<sub>x</sub> and CO during steady state operation with and without duct firing power augmentation. Emissions shall be in both ppmv and lbs/hr. This report shall also detail any turbine or emission control equipment malfunction, upsets, repairs, maintenance, modifications, or replacements affecting emissions of air contaminants that occurred during the Commissioning Period. ~~The report shall also describe all planned actions and tests to be conducted during the Optimization Period.~~

**Verification:** The project owner shall submit a Commissioning Period Progress Report for each gas turbine to the District and the CPM within 10 days after the end of each gas turbine commissioning period.

#### OPTIMIZATION PERIOD CONDITIONS

**AQ-27** Deleted. In the event that the project owner elects to install the SCONOX system, immediately upon the end of the Commissioning Period, the "Optimization Period" for each turbine shall commence. For the purposes of the District's Determination of Compliance and Authority to Construct, the Optimization Period shall be defined as a 6-calendar month period in which the facility shall undertake all reasonable efforts to achieve a NO<sub>x</sub> emission level of 1.0 ppmvd at 15% oxygen averaged over a three-hour period. In the event that the project owner elects to install an SCR system, the facility shall comply with the conditions for on-going operations.

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the optimization period. These records shall be maintained on-site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-59.

**AQ-28** Deleted. The emissions during the Optimization Period shall not exceed any of the following concentration limits, corrected to 15% oxygen on a dry basis, as determined by the Continuous Emissions Monitoring System (CEMS) and the District approved CO/VOC surrogate relationship, as well as the limits specified in Condition Nos. 17, 18, 19, 20, 21, 22, and 23:

Pollutant	Emission Limit, ppmvd
Oxides of Nitrogen, NO <sub>x</sub> (calculated as NO <sub>2</sub> )	2.0 (24 hr. average)
Carbon Monoxide, CO	10.0 (3-hr. average)
Volatile Organic Compounds, VOC	2.0 (3 hr. average)

~~Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the optimization period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-59.~~

~~AQ-29 Deleted. If the equipment is unable to meet the emission requirements of the Optimization Period, (with the exception of the 1.0 ppmvd target emission limit for NOx), the District or the project owner may end the Optimization Period, in writing. In such case, the project owner shall replace the SCONox system with a selective catalytic reduction (SCR) system combined with an oxidation catalyst system, as approved by the District, and enter into the Replacement Period. A District decision to end the Optimization Period may be appealed to the District Hearing Board.~~

~~Verification: The project owner shall written notice the District and the CEC CPM of termination of the Optimization Period and the intent to replace the SCONox system with SCR/oxidation catalyst systems.~~

~~AQ-30 Deleted. During the Optimization Period, the project owner shall submit a written 60 calendar day and 120 calendar day progress report to the District. This report shall include, at a minimum, the emissions of NOx and CO during startup and continuous steady state operation with and without power augmentation. These reports shall also detail any turbine or emission control equipment malfunction, upsets, repairs, maintenance, modifications, or replacements affecting emissions of air contaminants that occurred during the Optimization Period. These reports shall also describe all planned actions and tests to be conducted during the Optimization Period. Each report shall be submitted to the District, in writing, within 10 calendar days after the end of the 60 day and 120 day periods. In the event that the equipment cannot meet the requirements for on-going operations at the end of the Optimization Period, a final written report shall be submitted to the District within 10 calendar days after the end of the Optimization Period. This report shall include, at a minimum, the lowest sustainable NOx and CO concentrations observed during the Optimization Period and the reasons that the equipment could not meet the requirements for on-going operations.~~

~~Verification: The project owner shall submit an Optimization Period Progress Report for each gas turbine to the District and the CPM no later than 10 days after calendar day 60 and calendar day 120 of the optimization period of each gas turbine.~~

## REPLACEMENT PERIOD CONDITIONS

~~AQ-31 Deleted. In the event that the equipment cannot meet the requirements for on-going operations, the Replacement Period shall begin immediately upon the end of the Optimization Period and shall end upon completion of the installation of the selective catalytic reduction (SCR) system and the oxidation catalyst. The Replacement Period shall not exceed 90 days.~~

~~Verification: The project owner shall notify the District and the CPM that the SCONOX system cannot meet permit limits no later than 10 days after calendar day 120 of the optimization period. The project owner shall install a fully operational selective catalytic reduction (SCR) system within 90 days of the notification.~~

~~AQ-32 Deleted. During the Replacement Period, the concentrations of oxides of nitrogen (NO<sub>x</sub>), calculated as nitrogen dioxide, the concentrations of carbon monoxide (CO), and the concentrations of volatile organic compounds (VOCs) shall not exceed the lowest sustainable concentrations observed during the Optimization Period, as determined by the District. Additionally, the emission limits specified in Condition Nos. AQ 17, 18, 19, 20, 21, 22, 23, 42, 43, 44, 45, 46, 47, and 48 shall apply.~~

~~Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during the replacement period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ 59.~~

~~AQ-33 Deleted. Before operating an SCR system, continuous monitors shall be installed on each turbine to monitor or calculate and record the following:~~

- ~~□ ammonia stack concentration (ppmvd, corrected to 15% oxygen), and~~
- ~~□ ammonia injection rate (lbs/hr).~~

~~The monitors shall be installed, calibrated, and maintained in accordance with an approved protocol. This protocol, which shall include calculation methodology, shall be submitted to the District for written approval at least 60 days prior to initial firing of the gas turbines with the SCR system. The monitors shall be in full operation at all times when the turbine is in operation.~~

~~Verification: The project owner shall provide copies of the CEMS installation, calibration and maintenance protocol, including the calculation methodology, to the District, for written approval, and the CPM at least 60 days prior to initial firing of the gas turbines with the SCR system.~~

~~AQ-34 Deleted. If an SCR system is used for emission control, the emissions of ammonia (slippage) from each gas turbine exhaust stack, if controlled with an SCR system, shall not exceed 10.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen.~~

~~Verification: The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.~~

## CONDITIONS FOR ON-GOING OPERATIONS

**AQ-35** For the purposes of the District's Determination of Compliance and Authority to Construct, the period described as "on-going" operation of the turbines shall commence immediately following the end of the ~~Optimization Period, or Replacement Period if required,~~ or immediately upon the end of the Commissioning Period if the applicant elects to install an SCR system. Condition Nos. AQ-10, -13, -17, -18, -19, -20, -21, -22 and ~~—80, and -8123~~ shall continue to apply during on-going operations.

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-36** The emissions of oxides of nitrogen (NO<sub>x</sub>) from each turbine, calculated as nitrogen dioxide, shall not exceed 2.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen. Compliance with the limit shall be based on CEMS data for each unit and averaged over each rolling continuous ~~3-hour~~ 1-hour period, excluding ~~time~~ hours when the equipment is operated under startup or shutdown conditions and time that the equipment is not in operation. Compliance with this limit shall also be verified through an initial source test and annual source testing thereafter. This limit shall not apply to the first fifteen 1-hour average NO<sub>x</sub> emissions measurements above 2.0 ppmvd corrected to 15% oxygen in any rolling 12-month period for each gas turbine provided the following requirements are met:

- a. This equipment operates under any one of the following:
  - i) Rapid combustion turbine load changes due to the following conditions:
    - A) Load changes initiated by the California Independent Systems Operator (ISO) or a successor entity when the plant is operating under Automatic Generation Control; or
    - B) Activation of a plant automatic safety or equipment protection system which rapidly decreases turbine load
  - ii) The first two 1-hour reporting periods following the initiation or shutdown of a system injection pump
  - iii) The first two 1-hour reporting periods following the initiation of HRSG duct burners

- iv) Events as the result of technological limitation identified by the operator and approved in writing by the District.
  
- b. The 1-hour average NOx emissions above 2.0 ppmvd corrected to 15% oxygen did not occur as a result of operator neglect, improper operation or maintenance, or qualified breakdown under District Rule 98.
  
- c. The qualified operating conditions described in (a) above are recorded in the plant's operating log within 24 hours of the event, and in the CEMS by 5:00 pm the next business day following the qualified operating condition. The notations in the log and CEMS shall describe the data and time of entry into the log/CEMS and the plant operating conditions responsible for NOx emissions exceeding the 2.0 ppmvd 1-hour average limit.
  
- d. The 1-hour average NOx concentration for periods that result from a qualified operating condition does not exceed 25 ppmvd corrected to 15% oxygen.

All NOx emissions during these events shall be included in all calculations of hourly, daily, and annual mass emission rates as required by this FDOC.

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition, including documentation of compliance of any NOx limit excursions that are allowed under this condition, shall be included in the quarterly reports required in Condition AQ-62.

**AQ-37** The emissions of carbon monoxide (CO) from each turbine shall not exceed 6.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen. Compliance with these limits shall be based on CEMS data for each unit and averaged over each rolling continuous 3-hour period, excluding hours-time when the equipment is operated under startup or shutdown conditions and time that the equipment is not in operation. Compliance with this limit shall also be verified through an initial emissions source test and at least annual source testing thereafter.

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information

gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-38** The emissions of volatile organic compounds (VOC) from each turbine, calculated as methane, shall not exceed 2.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen. Compliance with this limit shall be based on the CO CEMS data for each unit, averaged over each rolling continuous 1-hour period or portion thereof, excluding time when the equipment is operated under startup or shutdown conditions and time that the equipment is not in operation, ~~emission limits~~ and the District approved CO/VOC surrogate relationship. The CO/VOC surrogate relationship shall be verified and/or modified, if necessary, based on an initial emissions source test and at least annual source testing thereafter. ~~deemed compliance with the VOC emission limits.~~

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-39** When operated without duct firing ~~power augmentation~~, the emissions from each turbine shall not exceed the following emission limits, except during startup and shutdown conditions, as determined by the Continuous Emissions Monitoring System (CEMS) and continuous monitors and/or District approved emission source testing. Compliance with the NOx and CO limits shall be based on a rolling continuous 3-hour averaging period and compliance with the VOC limit shall be based on a rolling continuous 1-hour averaging period:

<u>Pollutant</u>	<u>Emission Limit, lbs/hr</u>
Oxides of Nitrogen, NOx (calculated as NO2)	13.1414.0
Carbon Monoxide, CO	24.029.4
Volatile Organic Compounds, VOC	4.583.4

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating without duct firing ~~power augmentation~~. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-40** When operated with duct firing ~~power augmentation~~, the emissions from this equipment shall not exceed the following emission limits, except during startup or shutdown conditions, -as determined by the Continuous Emissions Monitoring System (CEMS), the District approved CO/VOC surrogate relationship, and

continuous monitors and/or District approved emission source testing. Compliance with the NOx and CO limits shall be based on a rolling continuous 3-hour averaging period and compliance with the VOC limit shall be based on a rolling continuous 1-hour averaging period.:

<u>Pollutant</u>	<u>Emission Limit, lbs/hr</u>
Oxides of Nitrogen, NOx (calculated as NO2)	15.9514.9
Carbon Monoxide, CO	29.1327.1
Volatile Organic Compounds, VOC	5.563.3

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating with duct firing ~~power augmentation~~. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-41** ~~This equipment shall not operate with power augmentation for more than 1800 hrs per turbine per rolling 365 day period.~~ Fuel consumption by the duct burners for both turbines shall not exceed 3,881,000 MMBtu (HHV) per rolling 12-month period. Each time one or both turbines are operated with duct firing the CEMS shall record dates and fuel consumption for each duct burner. The CEMS shall also record the total duct burner fuel usage for each rolling 12-month period (in MMBtu). The project owner shall maintain a log that contains, at a minimum, the dates and fuel usage ~~time~~ when one or both turbines are operated with ~~power augmentation~~ duct firing. ~~This log~~ These records shall be maintained on site for a minimum of five years and made available to District personnel upon request.

**Verification:** The project owner shall maintain records of the operation of the gas turbine with duct firing ~~power augmentation~~. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-42** When operated under ~~hot/warm~~ startup conditions, the emissions from each turbine shall not exceed the following emission limits, averaged over each rolling continuous 1-hour period, as determined by the Continuous Emissions Monitoring System (CEMS), the District approved CO/VOC surrogate relationship, and continuous monitors and/or District approved emission source testing:

<u>Pollutant</u>	<u>Emission Limit, lbs/hr</u>
Oxides of Nitrogen, NOx (calculated as NO2)	240.044.0
Carbon Monoxide, CO	2706600
Volatile Organic Compounds, VOC	48.039.0

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during startup conditions ~~the replacement period~~. These records shall be maintained on site for a minimum of five years and shall be

available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-43** ~~When operated under cold-startup or shutdown conditions, the emissions from each turbine shall not exceed the following emission limits, averaged over each rolling continuous 1-hour period~~ totaled per event, as determined by the Continuous Emissions Monitoring System (CEMS), the District approved CO/VOC surrogate relationship, and continuous monitors and/or District approved emission source testing:

<u>Pollutant (during startups)</u>	<u>Emission Limit, <del>(first hour)</del></u>
<u>lbs/event#</u>	
Oxides of Nitrogen, NOx (calculated as NO2)	48044.0
Carbon Monoxide, CO	5412887
Volatile Organic Compounds, VOC	9649.0

<u>Pollutant (during shutdowns)</u>	<u>Emission Limit, lbs/event</u>
Oxides of Nitrogen, NOx (calculated as NO2)	80
Carbon Monoxide, CO	902
Volatile Organic Compounds, VOC	16

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating during startup and shutdown conditions ~~the replacement period~~. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-44** ~~Hot/warm~~ Startup for each gas turbine shall be defined as the period beginning with the introduction of fuel to the equipment and ending when the CEMS records two consecutive data points in compliance with the emission concentration limits of Condition AQ-36, -37 and -38 for the gas turbine, not to exceed 6.0 hours. ~~time necessary to meet the emission limits specified in Conditions 36 and 37, not to exceed 0.75 hours, after an initial firing following a shutdown period of less than 48 hours. The total time operating under hot/warm startup conditions shall not exceed 30 hours per calendar year for each turbine.~~

**Verification:** The project owner shall maintain records of the duration of ~~hot/warm~~ startups and shutdowns of each gas turbine. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-45** ~~Cold-startup~~ Shutdown for each gas turbine shall be defined as the period beginning when the CEMS records a single data point not in compliance with the emission



concentration limits of Condition AQ-36, -37 and -38 and ending with the termination of fuel flow to the gas turbine, not to exceed 1.0 hours. ~~the time necessary to meet the emission limits specified in Conditions 36 and 37, not to exceed 2.0 hours, after an initial firing following a shutdown period of greater than or equal to 48 hours. The total time operating under cold start conditions shall not exceed 20 hours per calendar year for each turbine.~~

**Verification:** The project owner shall maintain records of the duration of ~~cold startups~~ shutdowns of each gas turbine. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-46** Both gas turbines shall not be operated simultaneously in ~~cold~~ startup mode. Additionally, the auxiliary boiler shall not be operated in startup mode simultaneously with either turbine.

**Verification:** The project owner shall maintain records of the duration of ~~cold~~ startups of each gas turbine and the auxiliary boiler. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-47** The project owner shall maintain a log of all startups and shutdowns for each turbine and the auxiliary boiler. The log shall contain, at a minimum, ~~the type of startup,~~ the dates and times of each startup or shutdown, and the duration of each startup or shutdown. This log shall be maintained on site for a minimum of five years and made available to District personnel upon request.

**Verification:** The project owner shall maintain records of the duration of all startups and shutdowns of each gas turbine. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-48** The emissions of particulate matter less than 10 microns (PM<sub>10</sub>) shall not exceed 9.0 ~~9.4~~ lbs/hr when operated without duct firing and shall not exceed 11.5 lbs/hr for each turbine when operated with duct firing. Compliance with this limit shall be based on an initial emissions source ~~compliance~~ test and at least annual source testing thereafter.

**Verification:** The project owner shall provide copies of the initial emissions source ~~test~~ ~~compliance~~ and annual source test reports to the District and the CEC CPM within 60 days after completion of the compliance or source tests.

**AQ-49** Within 30 days after completion of the ~~Optimization Period or Replacement Period~~ (if needed) if the project owner elects to install a ~~SCONOx system or within 30 days after completion of the Commissioning Period if the project owner elected to install an SCR system~~, an initial emissions source test shall be conducted on each turbine and on the auxiliary boiler by an independent, ARB approved tester at the project owner's expense to show compliance with all applicable emission limits. A source test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. The source test protocol shall comply with the following requirements:

- a. Measurements of oxides of nitrogen (NOx), carbon monoxide (CO), and stack gas oxygen content shall be conducted in accordance with the San Diego Air Pollution Control District Method 100, or equivalent, as approved by the U.S. Environmental Protection Agency (EPA).
- b. Measurements of particulate matter less than 10 microns shall be conducted in accordance with the U.S. Environmental Protection Agency (EPA) Methods 201A and 202, or equivalent, as approved by the U.S. Environmental Protection Agency (EPA).
- c. Measurements of volatile organic compounds (VOC) shall be conducted in accordance with San Diego Air Pollution Control District Methods 18 and 25A, or equivalent, as approved by the U.S. Environmental Protection Agency (EPA).
- d. Source testing shall be performed at no less than 80% of the turbine rating ~~without power augmentation~~ without duct firing, at no less than 80% of the turbine rating with duct firing, and at not less than 80% of the auxiliary boiler rating. If the project owner demonstrates to the satisfaction of the District that the turbine cannot operate at these conditions, then the source testing shall be performed at the highest achievable continuous power rating.
- e. The following additional operating characteristics shall also be measured or calculated and recorded:
  - natural gas flow rate (scfh),
  - fuel higher heating value (Btu/scf),
  - heat input rate (MMBtu/hr),
  - exhaust gas flow rate (dscfm),
  - exhaust gas temperature (°F),
  - power output (gross MW), if applicable.

**Verification:** The project owner shall provide copies of the source test protocol to the District, written approval, and the CPM at least 60 days prior to source testing.

**AQ-50** Within 30 days after completion of the ~~Optimization Period or Replacement Period~~ (if needed) if the project owner elects to install a ~~SCONOx system or within 30 days after completion of the Commissioning Period if the project owner elected to install an SCR system~~, an initial emissions source test shall be conducted by an independent, ARB approved tester at the project owner's expense to determine the

emissions of toxic air contaminants and federal hazardous air pollutants (HAPs). A source test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. The source test shall demonstrate compliance with the following limits (for each turbine):

<u>Pollutant</u>	<u>Emission Limit, lbs/hr</u>
Acetaldehyde	0.090.08
Acrolein	0.010.03
Benzene	0.030.015
Ethyl Benzene	0.070.02
Formaldehyde	0.292.33
Naphthalene	3.66E-30.0019
Polyaromatic Hydrocarbons (PAHs) (excluding naphthalene)	3.4E-40.0017
Toluene	0.290.08
Xylene	0.140.03

**Verification:** The project owner shall provide copies of the source test protocol to the District, for written approval, and the CPM at least 60 days prior to source testing.

**AQ-53** This equipment shall be source tested on at least an annual basis to show continued compliance with all applicable emission limits, unless otherwise directed in writing by the District. If this testing will be performed by someone other than the District, a source test protocol shall be submitted to the District for written approval at least 60 days prior to source testing. The source test protocol shall comply with the following requirements:

- a. Measurements of oxides of nitrogen (NOx), carbon monoxide (CO), and stack gas oxygen content shall be conducted in accordance with the San Diego Air Pollution Control District Method 100, or equivalent, as approved by the U.S. Environmental Protection Agency (EPA).
- b. Measurements of particulate matter less than 10 microns shall be conducted in accordance with the U.S. Environmental Protection Agency (EPA) Methods 201A and 202, or equivalent, as approved by the U.S. Environmental Protection Agency (EPA).
- c. Measurements of volatile organic compounds (VOC) shall be conducted in accordance with San Diego Air Pollution Control District Methods 18 and 25A, or equivalent, as approved by the U.S. Environmental Protection Agency (EPA).
- d. Source testing shall be performed at no less than 80% of the turbine rating without ~~power augmentation~~ duct firing, at no less than 80% of the turbine rating with duct firing, and at not less than 80% of the auxiliary boiler rating. If the project owner demonstrates to the satisfaction of the District that the turbine cannot operate at these conditions, then the source testing shall be performed at the highest achievable continuous power rating.
- e. The following additional operating characteristics shall also be measured or calculated and recorded:

- natural gas flow rate (scfh),
- fuel higher heating value (Btu/scf),
- heat input rate (MMBtu/hr),
- exhaust gas flow rate (dscfm),
- exhaust gas temperature (°F),
- power output (gross MW), if applicable.

**Verification:** This project owner provide copies of the annual source test reports to the District for review and written approval, and the CPM within 60 days after the completion of the initial compliance testing.

**AQ-59** No later than 20 years after the initial firing of the equipment, the emissions of oxides of nitrogen (NO<sub>x</sub>) shall not exceed 1.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen. Compliance with this limit shall be based on CEMS data for each unit and averaged over each 3-hour period, excluding hours when the equipment is operated under any startup condition. Additionally, the total annual emissions of oxides of nitrogen (NO<sub>x</sub>), calculated as nitrogen dioxide, shall not exceed 50 tons per rolling 12-month period. Compliance with this limit shall be verified using the CEMS system on each gas turbine (Application Nos. 973880 and 973881)

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine during commissioning, startup/shutdown, ~~optimization,~~ ~~replacement~~ and operation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-60** For each emission limit expressed as pounds per hour or parts per million based on a 1-hour averaging period, compliance shall be based on each rolling continuous 1-hour period using data collected at least once every 15 minutes when compliance is based on continuous emissions monitoring data.

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine during commissioning, startup/shutdown ~~optimization,~~ ~~replacement~~ and operation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. Quarterly reports shall be sent to the CEC CPM within 60 days after each calendar quarter.

**AQ-61** For each emission limit expressed as pounds per hour or parts per million based on a 3-hour averaging period, compliance shall be based on each rolling continuous 3-hour period using data collected at least once every 15 minutes when compliance is based on continuous emissions monitoring data.

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine during commissioning, startup/shutdown, ~~optimization,~~

~~replacement~~ and operation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. Quarterly reports shall be sent to the CEC CPM within 60 days after each calendar quarter.

**AQ-62** All records required by these conditions shall be maintained on site for a minimum of five years and made available to District personnel upon request. In addition, quarterly reports of information recorded by these conditions, as specified, shall be sent to the CPM.

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine during commissioning, startup/shutdown, ~~optimization,~~ ~~replacement~~ and operation. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. Quarterly reports shall be sent to the CEC CPM within 60 days after each calendar quarter.

**AQ-65** The project owner shall submit an application to the District for a Federal (Title V) Operating Permit, in accordance with District Regulation XIV+4 within 12 months of initial startup of this equipment.

**Verification:** The project owner shall submit an application for a Title V Operating Permit to the District, and provide a copy of the application to the CPM, within 12 months prior to the initial startup.

**AQ-77** The emissions of particulate matter less than 10 microns (PM10) from the Wet Surface Air Cooler shall not exceed 0.1 lbs/hr, based on design specifications limiting circulating water flow rates to no more than 5 million gallons per hour and warranties limiting drift to no more than 0.0006% of the circulating water flow.

**Verification:** The project owner shall provide copies of Wet Surface Air Cooler specifications and a vendor warranty of the drift efficiency to the CPM 60 days prior to WSAC equipment delivery on-site.

**AQ-78** Compliance with the WSAC PM<sub>10</sub> emission limit shall be determined by circulating water sample analysis by independent laboratory within 60 days of initial operation and quarterly thereafter.

**Verification:** The results and field data collected from cooling tower blowdown water samples analysis shall be submitted to the CPM and the District as part of the quarterly reports required in Condition AQ-62.

**AQ-79** The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the

District or EPA, and any revised permit issued by the District or EPA, for the project.

**Verification:** The project owner shall submit any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

**AQ-80** The total aggregate emissions of volatile organic compounds (VOC) from all emission units at the stationary source shall not exceed 47.5 tons for each consecutive 12-calendar month period. The VOC emissions shall begin accruing at the initial firing of each piece of equipment. Compliance shall be verified using testing results, EPA- or ARB-certified VOC emissions factors, and/or other representative emissions information for all other combustion equipment, including the auxiliary boiler.

**Verification:** The project owner shall maintain records, at least on a calendar monthly basis, of total aggregate mass emissions of VOC, in tons per year, from all equipment, excluding exempt equipment, at this stationary source for the previous 12-month period. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-81** To ensure compliance with District Rule 69.2 and except during any period of time for which a variance from Rule 69.2 has been granted by the Air Pollution Control District Hearing Board, the emissions of oxides of nitrogen (NO<sub>x</sub>), calculated as nitrogen dioxide, from the auxiliary boiler shall not exceed 30 parts per million by volume on a dry basis (ppmvd) calculated over a 1-hour averaging period and corrected to 3% oxygen and the emissions of carbon monoxide (CO) from the auxiliary boiler shall not exceed 400 parts per million by volume on a dry basis (ppmvd) calculated over a 1-hour averaging period and corrected to 3% oxygen.

**Verification:** The project owner shall maintain records of the NO<sub>x</sub> and CO emission concentrations from the auxiliary boiler for all operating conditions. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-82** Continuous monitors shall be installed on each turbine to monitor or calculate and record the following:

- ammonia stack concentration (ppmvd, corrected to 15% oxygen), and
- ammonia injection rate (lbs/hr).

The monitors shall be installed, calibrated, and maintained in accordance with an approved protocol. This protocol, which shall include calculation methodology, shall be submitted to the District for written approval at least 60 days prior to initial firing of the gas turbines with the SCR system. The monitors shall be in full operation at all times when the turbine is in operation.

**Verification:** The project owner shall provide copies of the CEMS installation, calibration and maintenance protocol, including the calculation methodology, to the District, for written approval, and the CPM at least 60 days prior to initial firing of the gas turbines with the SCR system.

**AQ-83** The emissions of ammonia (slippage) from each gas turbine exhaust stack shall not exceed 10.0 parts per million by volume on a dry basis (ppmvd) corrected to 15% oxygen and averaged over a rolling continuous 1-hour period.

**Verification:** The project owner shall maintain records of the mass emissions and concentrations of each gas turbine when operating. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-84** Fuel consumption by the auxiliary boiler shall not exceed 762,120 MMBtu (HHV) per rolling 12-month period. The CEMS shall record the total auxiliary boiler fuel usage for each rolling 12-month period (in MMBtu). The project owner shall maintain a log that contains, at a minimum, the dates, times and fuel consumption during each auxiliary boiler startup and shutdown and the total auxiliary boiler fuel consumption for each rolling 12-month period. These records shall be maintained on site for a minimum of five years and made available to District personnel upon request.

**Verification:** The project owner shall maintain records of the operation of the auxiliary boiler. These records shall be maintained on site for a minimum of five years and shall be available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission. The information gathered in this condition shall be included in the quarterly reports required in Condition AQ-62.

**AQ-85** Once final selection and design details of the auxiliary boiler have been submitted to the District, specific operating parameters defining auxiliary boiler startups and shutdowns shall be established.

**Verification:** At least 90 days prior to on-site delivery of equipment, the project owner shall provide copies of design details of the auxiliary boiler, including any proposed post-combustion control systems, to the CPM and the District.

**AQ-86** The emissions of oxides of nitrogen (NOx) from the auxiliary boiler, calculated as nitrogen dioxide, shall not exceed 9.0 parts per million by volume on a dry basis

(ppmvd) corrected to 3% oxygen. Compliance with this limit shall be based on an initial emissions source test and annual source testing thereafter. The limit shall not apply during startups and shutdowns of the auxiliary boiler.

**Verification:** The project owner shall provide copies of the initial emissions source test and annual source test reports to the District and the CEC CPM within 60 days after completion of the compliance or source tests.

**AQ-87** The emissions of carbon monoxide (CO) from the auxiliary boiler shall not exceed 50 parts per million by volume on a dry basis (ppmvd) corrected to 3% oxygen. Compliance with this limit shall be based on an initial emissions source test and annual source testing thereafter. The limit shall not apply during startups and shutdowns of the auxiliary boiler.

**Verification:** The project owner shall provide copies of the initial emissions source test and annual source test reports to the District and the CEC CPM within 60 days after completion of the compliance or source tests.

**AQ-88** The emissions of volatile organic compounds (VOC) from the auxiliary boiler, calculated as methane, shall not exceed 10.0 parts per million by volume on a dry basis (ppmvd) corrected to 3% oxygen. Compliance with this limit shall be based on an initial emissions source test and annual source testing thereafter. The limit shall not apply during startups and shutdowns of the auxiliary boiler.

**Verification:** The project owner shall provide copies of the initial emissions source test and annual source test reports to the District and the CEC CPM within 60 days after completion of the compliance or source tests.

IT IS SO ORDERED.

Date: January 21, 2004

STATE OF CALIFORNIA  
ENERGY RESOURCES  
CONSERVATION AND  
DEVELOPMENT COMMISSION



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WILLIAM J. KEESE  
Chairman