

CALIFORNIA ENERGY COMMISSION

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STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)	Docket No. 00-AFC-1C
GATEWAY GENERATING)	Order No. 09-0826-5
STATION)	
PACIFIC GAS AND ELECTRIC)	ORDER AMENDING THE ENERGY
COMPANY)	COMMISSION DECISION TO MODIFY
)	EQUIPMENT AND CHANGE AIR
)	QUALITY CONDITIONS OF
)	CERTIFICATION

On May 8, 2009, Pacific Gas and Electric Company (PG&E) filed a petition with the California Energy Commission requesting to amend the Energy Commission Decision to modify several Air Quality conditions of certification and Air Quality definitions for the Gateway Generating Station Project (formerly known as the Contra Costa Power Plant Unit 8 Project). The petition also proposes minor project design changes.

The 530-megawatt project was certified by the Energy Commission on May 30, 2001. Mirant Corporation started construction of the facility late in 2001 and suspended it in February of 2002 due to financial difficulties, with approximately 7 percent of construction completed. The current owner, PG&E, restarted construction in February of 2007 and the facility began operating with construction approximately 99% complete on January 4, 2009. The facility is located east of the City of Antioch, in Contra Costa County.

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. Staff recommends approval of the PG&E petition to modify equipment and change air quality conditions of certification and air quality definitions.

FINDINGS

As mandated by Title 20, section 1769(a)(3) of the California Code of Regulations, the Energy Commission may only approve project modifications if specific findings are met. Following staff's review of the proposed amendment, Energy Commission staff recommends approval based on the following findings:

- A. There will be no new or additional unmitigated significant environmental impacts associated with the proposed changes.

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RECD.	<u>8/27/2009</u>

- B. Adherence to the proposed conditions and stipulations will ensure the facility's compliance with all applicable LORS.
- C. The facility design changes will be beneficial to PG&E, the project owner, and the public by updating the description of the project as built and updating conditions of certification which retain vestiges of the previous, now obsolete, design.
- D. There has been a substantial change in circumstances since the Commission certification justifying the modification to equipment and changes to air quality conditions of certification that was not contemplated during the certification process as the project was redesigned by PG&E.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts staff's recommendations and approves revisions to the Decision, and the following changes to the Gateway Generating Station Decision. Deleted text from the Decision is shown in ~~strike through~~ and added text is underlined.

Definitions:

- 1-hour period: Any continuous 60-minute period beginning on the hour.
- Calendar Day: Any continuous 24-hour period beginning at 12:00 AM or 0000 hours.
- Year: Any consecutive twelve-month period of time
- Heat Input: All heat inputs refer to the heat input at the higher heating value fuel, in Btu/scf.
- Rolling 3-hour period: Any three-hour period that begins on the hour and does not include start-up or shut down periods.
- Firing Hours: Period of time during which fuel is flowing to a unit, measured in fifteen-minute increments.
- MM Btu: million British thermal units
- Gas Turbine Start-up Mode: The lesser of the first 256 minutes of continuous fuel flow to the Gas Turbine after fuel flow is initiated or the period of time from Gas Turbine fuel flow initiation until the Gas Turbine achieves two consecutive CEM data points in compliance with the emission concentration limits of conditions 207(b) and 207(d).
- Gas Turbine Shutdown Mode: The lesser of the 30 minute period immediately prior to the termination of fuel flow to the Gas Turbine or the period of time from non-compliance with any requirement listed in Conditions 207(b) and 207(d) until termination of fuel flow to the Gas Turbine.
- Specified PAHs: The polycyclic aromatic hydrocarbons listed below shall be considered to Specified PAHs for these permit conditions. Any emission limits for Specified PAHs refer to the sum of the emissions for all six of the following compounds.
 - Benzo[a]anthracene
 - Benzo[b]fluoranthene
 - Benzo[k]fluoranthene
 - Benzo[a]pyrene

Dibenzo[a,h]anthracene

Indeno[1,2,3-cd]pyrene

Corrected Concentration: The concentration of any pollutant (generally NO_x, CO, or NH₃) corrected to a standard stack gas oxygen concentration. For emission point P-11 (combined exhaust of S-41 Gas Turbine and S-42 HRSG duct burners) and emission point P-12 (combined exhaust of S-43 Gas Turbine and S-44 HRSG duct burners) the standard stack gas oxygen concentration is 15% O₂ by volume on a dry basis.

Commissioning Activities: All testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the ~~CCPP Unit#8~~ **GGS** construction contractor to insure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems.

Commissioning Period: The Period shall commence when all mechanical, electrical, and control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The period shall terminate when the plant has completed performance testing, **and** is available for commercial operation ~~and has initiated sales to the power exchange.~~

Precursor Organic Compounds (POCs): Any compound of carbon, excluding methane, ethane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate

CEC CPM: California Energy Commission Compliance Program Manager

~~CCPP Unit#8: Contra Costa Power Plant Unit 8~~

GGS: Gateway Generating Station

Conditions of Certification

AQ-SC1 ~~AQ-C1~~ During construction of this facility, the following fugitive emission control measures shall be implemented at the plant site:

- a. Suspend all land clearing, grading, earth moving, or excavation activities when winds (including instantaneous gusts) exceed 20 miles per hour.
- b. Apply water to active construction sites and unpaved roads as frequently as necessary to control fugitive dust. The frequency of watering can be reduced or eliminated during periods of precipitation.
- c. Apply sufficient water or dust suppressants to all material excavated, stockpiled, or graded to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.
- d. Apply a non-toxic solid stabilizer to all inactive construction areas (previously graded areas which remain inactive for 96 hours).
- e. No on-site vehicle shall exceed a speed of 15 miles per hour on unpaved roads or areas.
- f. All trucks hauling dirt, sand, soil, or other loose material will be watered or covered and will maintain at least two feet of freeboard to prevent a public nuisance.

- g. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip.
- h. At least the first 500 feet of any public roadway exiting from the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when visible soil materials are carried onto adjacent public or private paved roads.
- i. Re-establish ground cover on the construction site through seeding and watering as soon as possible, but no later than final occupancy.
- j. Implement all dust control measures in a timely and effective manner during all phases of project development and construction.
- k. Place sandbags adjacent to roadways to prevent run off to public roadways.
- l. Install wind breaks at the windward sides of construction areas prior to the soil being disturbed. The wind breaks shall remain in place until the soil is stabilized or permanently covered.
- m. Provide gravel ramps of at least 20 feet in length at the tire washing/cleaning station.
- n. Gravel or treat all unpaved exits from the construction site to prevent track-out to public roadways.
- o. Ensure that all construction vehicles enter the construction site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the CPM.
- p. Sweep all paved roads within the construction site at least twice daily (or less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.

The project owner shall maintain a daily log of water truck activities, including record of the frequency of public road cleaning. These logs and records shall be available for inspection by the CPM during the construction period. The project owner shall identify in the monthly construction reports, the area(s) that the project owner shall cover or treat with dust suppressants. The project owner shall make the construction site available to the District staff and the CPM for inspection and monitoring.

AQ-SC2 ~~AQ-C2~~ The project owner shall employ the following measures to mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired construction equipment. These measures include the use of oxidizing soot filters, oxidizing catalysts, diesel fuel certified to CARB low sulfur fuel standards (sulfur content less than 15 ppm) and diesel engines that are either equipped with high pressure fuel injection, employ fuel injection timing retardation or are certified to EPA and CARB 1996 or better off-road equipment emission standards. Additionally, the project owner shall restrict idle time, to the extent practical, to no more than 5 minutes.

The use of each mitigation measure is to be determined by an Air Quality Construction Mitigation Manager (AQCMM). The AQCMM is to be approved by the CPM prior to the submission of any reports. The AQCMM will determine the mitigation measures to be used within the following framework.

Construction Mitigation Framework

1. No measure or combination of measures shall be allowed to significantly delay the project construction or construction of related linear facilities.
2. No measure or combination of measures shall be allowed to cause significant damage to the construction equipment or cause a significant risk to on site workers or the public.
3. Engines certified to EPA and CARB 1996 or better off-road equipment emission standards and CARB certified low sulfur diesel fuel may be used in lieu of oxidizing soot filter and oxidizing catalyst.

The AQCMM will, in consultation with the California Air Resources Board (CARB), submit for approval to the CPM a Construction Mitigation Plan, Verification Report and all Reports of Change as necessary, containing at a minimum the following:

Construction Mitigation Plan

The Construction Mitigation Plan shall be submitted to the CPM for approval will include:

1. A list of all diesel fuel burning, off-road stationary or portable construction related equipment to be used either on the project construction site or the construction sites of the related linear facilities.
2. All construction Diesel engines, which have a rating of 100 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless certified by the on-site AQCMM that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that item of equipment shall be equipped with a Tier 1 engine. In the event a Tier 1 item of equipment is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed Diesel particulate filter (soot filter), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposed of this condition, the use of such devices is "not practical" if, among other reasons:
 - a. There is no available soot filter that can be instead and operated in a safe and effective manner; or
 - b. The construction equipment is intended to be on-site for ten (10) days or less.
 - c. The CPM may grant relief from the requirement if the AQCMM can demonstrate that they have made a good faith effort to comply with this requirement and that compliance is not possible.
3. All heavy earthmoving equipment and heavy-duty construction related trucks with engines meeting the requirements of (2) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications.
4. All Diesel heavy construction equipment shall not remain at idle for more than five minutes, to the extent practical.

5. The sulfur content of all Diesel fuel to be burned in any equipment used at the construction site shall be ultra low sulfur Diesel; which contains no more than 15 ppm sulfur.

Verification Report

The AQCMM shall submit a Verification report for approval to the CPM following the initiation of construction activities which contains at a minimum any deviation from the Initial report (above) and the cause, as well as the verification of the Construction Mitigation Plan.

Verification shall include, but shall not be limited to, the following:

- 1 EPA or CARB engine certifications for item 2 of the **Construction Mitigation Plan**.
- 2 A copy of the contract agreement requiring subcontractors to comply with the elements under item 2 of the **Construction Mitigation Plan**.
- 3 Confirmation of the installation of either oxidizing catalysts or oxidizing soot filters as identified in items 2 and 3 of the **Construction Mitigation Plan** or the cause preventing the identified installations.
- 4 A copy of the contract agreement requiring subcontractors to comply with the elements under item 4 of the **Construction Mitigation Plan**.
- 5 A copy of receipts of purchase of diesel fuel indicating the sulfur content as identified in item 5 of the **Construction Mitigation Plan**.

Reports of Change and Mitigation Report

If a specific mitigation measure is determined to be detrimental to a piece of construction equipment or is determined to be causing significant delays in the construction schedule of the project or the associated linear facilities, the mitigation measure may be eliminated or terminated immediately. However, notification must be sent to the CPM for approval containing an explanation for the cause of the change. All such causes are restricted to one of the following justifications and must be identified in any Report of Change.

- 1. The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or power output due to an excessive increase in back pressure.
 2. The measure is causing or reasonably expected to cause significant damage to the construction equipment engine.
 3. The measure is causing or reasonably expected to cause a significant risk to nearby workers or the public.
 4. Any other seriously detrimental cause which has approval by the CPM prior to the change being implemented.

The project owner shall submit to the qualifications of the AQCMM and the Construction Mitigation Plan to the CPM for approval at least 30 days prior to rough grading on the project site. The project owner shall submit the Installation Report to the CPM for approval no later

than 10 working days following the use of the specific construction equipment on either the project site or the associated linear facilities. The project owner shall submit any subsequent reports to the CPM for approval, as required, no later than 10 working days following a change in the status of any identified mitigation measure. The CPM will monitor the approval of all reports submitted by the project owner in consultation with CARB, limiting the review time for any one report to no more than 20 working days.

AQ-SC3 ~~AQ-45~~ The wet surface air cooler (WSAC) shall be properly installed and maintained to minimize drift losses. The WSAC shall be equipped with drift eliminators with a maximum guaranteed drift rate of 0.003%. The maximum total dissolved solids (TDS) measured at the base of the WSAC or at the point of return to the wastewater facility shall not be higher than 2,500 ppmw (mg/l). The project owner/operator shall sample the water at least once in the month of July, once in the month of August and once in the month of September each year while the WSAC is in operation. (PSD)

Verification: At least 30 days prior to commencement of WSAC construction, the project owner/operator shall provide to the District and CEC CPM a copy of the WSAC manufacturer's specifications demonstrating the 0.003 percent drift rate. The project owner/operator shall submit the water sample test results with the Quarterly Emissions Report required by Condition of Certification AQ-14.

AQ-SC4 ~~AQ-46~~ The owner/operator shall perform a visual inspection of the wet surface air cooler (WSAC) drift eliminators at least once per calendar year, and repair or replace any drift eliminator components which are broken or missing. Prior to the initial operation of the WSAC the owner/operator shall have the WSAC vendor's field representative inspect the drift eliminators and certify that the installation was performed in a satisfactory manner. The owner operator shall verify that the PM10 emissions from the WSAC do not exceed 4.7 lbs/day based on the most recent total dissolved solids, measured in compliance with Condition of Certification AQ-45, and by the use of the following formula:

$$\text{PM10 (lb/day)} = 24 * \text{water flow rate (lbm/hour)} * \text{design drift rate (percent)} * \text{total dissolved solids (ppm)} / 10^8.$$

Verification: The project owner/operator shall keep records of all WSAC inspections and shall make them available for the CEC CPM upon request. The project owner/operator shall report the calculated PM10 emissions from the WSAC to the CPM in the Quarterly Emissions Report required in Condition of Certification AQ-14.

AQ-SC5 ~~AQ-47~~ The heat input to the ~~Fuel Gas Preheater~~ **Dewpoint Heater** (~~S-45~~) shall not be fired more than 192 exceed **156** MMBtu/day. (BACT)

See verification of Condition AQ-20.

AQ-SC6 The owner/operator shall not exceed 50 hours per year per engine for reliability-related testing. (Stationary Diesel Engine ATCM)

See verification in Condition AQ-1.

Verification:

AQ- C7 The owner/operator shall operate each emergency standby engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, State or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating hours while mitigating emergency conditions or while emission testing to show compliance with District, State or Federal emission limits are not limited. (Stationary Diesel Engine ATCM)

See verification in Condition AQ-1.

AQ-SC8 The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained. (Stationary Diesel Engine ATCM)

See verification in Condition AQ-1.

AQ-SC9 Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request. (Stationary Diesel Engine ATCM)

- a. Hours of operation for reliability-related activities (maintenance and testing).**
- b. Hours of operation for emission testing to show compliance with emission limits.**
- c. Hours of operation (emergency).**
- d. For each emergency, the nature of the emergency condition.**
- e. Fuel usage for each engine(s).**

See verification in Condition AQ-1.

AQ- SC10 At School and Near-School Operation: If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply: (Stationary Diesel Engine ATCM)

The owner/operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:

Whenever there is a school sponsored activity (if the engine is located on school grounds)

Between 7:30 a.m. and 3:30 p.m. on days when school is in session. "School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s). "School" or "School Grounds" includes any building or structure, playground, athletic field, or other areas of school property but does not include unimproved school property.

See verification in condition AQ-1

AQ- SC11 The owner/operator shall use the latest EPA Tier level engine available at the time of permit issuance for the diesel fire pump. (BACT)

The owner/operator shall submit any and all permits and certifications related to the diesel fire pump to CPM within 15 days of receipt.

Conditions for the Commissioning Period

AQ-1 The owner/operator of the ~~CCPP Unit 8 (CCPP Unit#8)~~ **GGS** shall minimize emissions of carbon monoxide and nitrogen oxides from S-41 and S-43 Gas Turbines and S-42 and S-44 Heat Recovery Steam Generators (HRSGs) to the maximum extent possible during the commissioning period. Conditions AQ-1 through 12 shall only apply during the commissioning period as defined above. Unless otherwise indicated, Conditions AQ-13 through 47 shall apply after the commissioning period has ended.

The owner/operator shall submit a monthly compliance report to the California Energy Commission (CEC) Compliance Project Manager (CPM). In this report the owner/operator shall indicate how this condition is being implemented.

AQ-5 The owner/operator of the ~~CCPP Unit#8~~ **GGS** shall submit a plan to the District Permit Services Division and the CEC CPM at least four weeks prior to first firing of S-41 or S-43 Gas Turbines describing the procedures to be followed during the commissioning of the gas turbines, **and HRSGs, and gas-fired preheater.** The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the Dry-Low-NOx combustors, the installation and operation of the SCR systems and oxidation catalysts, the installation, calibration, and testing of the CO and NOx continuous emission monitors, and any activities requiring the firing of the Gas Turbines (S-41 & S-43) and HRSGs (S-42 & S-44) without abatement by their respective SCR and CO Catalyst Systems.

See verification in Condition AQ-1.

AQ-6 During the commissioning period, the owner/operator of the ~~CCPP Unit#8~~**GGS** shall demonstrate compliance with Conditions AQ-8 through 11 through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:

1. firing hours for each gas turbine and each HRSG
2. fuel flow rates to each train
3. stack gas nitrogen oxide emission concentrations at P-11 and P-12
4. stack gas carbon monoxide emission concentrations P-11 and P-12
5. stack gas carbon dioxide or oxygen concentrations P-11 and P-12.

The monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the Gas Turbines (S-41 & S-43) and HRSGs (S-42 & S-44). The owner/operator shall use District-approved methods to calculate heat input rates, NO_x mass emission rates, carbon monoxide mass emission rates, and NO_x and CO emission concentrations, summarized for each clock hour and each calendar day. All records shall be retained on site for at least 5 years from the date of entry and made available to District personnel upon request.

See verification in Condition AQ-1.

AQ-20 The Gas Turbines (S-41 & S-43) and HRSGs (S-42 & S-44) shall comply with requirements (a) through (h) under all operating scenarios, including duct burner firing mode ~~and steam injection power augmentation mode~~. Requirements (a) through (h) do not apply during a gas turbine start-up or shut down. (BACT, PSD, and Toxic Risk Management Policy)

- a. Nitrogen oxide mass emissions (calculated in accordance with District approved methods as NO₂) at P-11 (the combined exhaust point for the S-41 Gas Turbine and the S-42 HRSG after abatement by A-11 SCR System) shall not exceed 20 pounds per hour or 0.0090 lb./MM Btu (HHV) of natural gas fired. Nitrogen oxide mass emissions (calculated in accordance with District approved methods as NO₂) at P-12 (the combined exhaust point for the S-43 Gas Turbine and the S-44 HRSG after abatement by A-13 SCR System) shall not exceed 20 pounds per hour or 0.0090 lb./MM Btu (HHV) of natural gas fired. (PSD for NO_x)
- b. The nitrogen oxide emission concentration at emission points P-11 and P-12 each shall not exceed 2.5 ppmv, on a dry basis, corrected to 15% O₂, averaged over any 1-hour period. (BACT for NO_x)
- c. Carbon monoxide mass emissions at P-11 and P-12 each shall not exceed 0.013 lb./MM Btu (HHV) of natural gas fired or 29.22 pounds per hour, averaged over any rolling 3-hour period. (PSD for CO)

- d. The carbon monoxide emission concentration at P-11 and P-12 each shall not exceed 6 ppmv, on a dry basis, corrected to 15% O₂, averaged over any rolling 3-hour period. (BACT for CO)
- e. Ammonia (NH₃) emission concentrations at P-11 and P-12 each shall not exceed 5 ppmv, on a dry basis, corrected to 15% O₂, averaged over any rolling 3-hour period. This ammonia emission concentration shall be verified by the continuous recording of the ammonia injection rate to A-11 and A-13 SCR Systems. The correlation between the gas turbine and HRSG heat input rates, A-11 and A-13 SCR System ammonia injection rates, and corresponding ammonia emission concentration at emission points P-11 and P-12 shall be determined in accordance with permit condition #29. (TRMP for NH₃)
- f. Precursor organic compound (POC) mass emissions (as CH₄) at P-11 and P-12 each shall not exceed 5.6 pounds per hour or 0.0025 lb./MM Btu of natural gas fired. (BACT)
- g. Sulfur dioxide (SO₂) mass emissions at P-11 and P-12 each shall not exceed 6.18 pounds per hour or 0.0028 lb./MM Btu of natural gas fired. (BACT)
- h. Particulate matter (PM₁₀) mass emissions at P-11 and P-12 each shall not exceed 11 pounds per hour or 0.00588 lb./MM Btu of natural gas fired when the HRSG duct burners are not in operation. Particulate matter (PM₁₀) mass emissions at P-11 and P-12 each shall not exceed 13 pounds per hour or 0.005840 lb./MM Btu of natural gas fired when the HRSG duct burners are in operation. (BACT)

The project owner shall submit to the District and CEC CPM, via the quarterly reports required by condition AQ-14, the following information. In addition, this information shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.

- a. Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate and ammonia slip.
- b. Total plant operation time (hours), number of startups, hours in cold startup, hours in warm startup, hours in hot startup, hours in shutdown, combustor tuning hours and excursion hours.
- c. Date and time of the beginning and end of each startup, shutdown, combustor tuning and excursion period.
- d. Average plant operation schedule (hours per day, days per week, weeks per year).
- e. All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol.
- f. Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM₁₀, VOC and SO_x (including calculation protocol).
- g. Fuel sulfur content (quarterly laboratory analyses, quarterly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by the District.
- h. A log of all excess emissions, including the information regarding malfunctions/breakdowns.
- i. Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made.
- j. Any maintenance to any air pollutant control system (recorded on an as performed basis).

AQ-24 Cumulative combined emissions from the Gas Turbines and HRSGs (S-41, S-42, S-43, and S-44) ~~and the Fuel Gas Preheater (S-45) and the Cooling Tower~~ **Diesel Fire Pump Engine** (S-4648), including emissions generated during gas turbine start-ups, and shutdowns shall not exceed the following limits during any consecutive twelve-month period:

- a. 174.3 tons of NOx (as NO₂) per year (Offsets, PSD)
- b. 259.1 tons of CO per year (Cumulative Increase)
- c. 46.6 tons of POC (as CH₄) per year (Offsets)
- d. ~~112.2~~**105** tons of PM₁₀ per year (Offsets, PSD)
- e. 48.5 tons of SO₂ per year (Cumulative Increase)

See verification in Condition AQ-20.

AQ-26 The owner/operator shall demonstrate compliance with conditions AQ-14 through 17, 20(a) through 20(d), 21, 23(a), 23(b), 24(a), and 24(b) by using properly operated and maintained continuous monitors (during all hours of operation including equipment Start-up and Shutdown periods) for all of the following parameters:

- a. Firing Hours and Fuel Flow Rates for each of the following sources: S-41 & S-42 combined and S-43 & S-44 combined.
- b. Carbon Dioxide (CO₂) or Oxygen (O₂) concentrations, Nitrogen Oxides (NO_x) concentrations, and Carbon Monoxide (CO) concentrations at each of the following exhaust points: P-11 and P-12.
- c. Ammonia injection rate at A-11 and A-13 SCR Systems.
- d. ~~**Deleted** Steam injection rate at S-41 & S-43 Gas Turbine Combustors.~~

The owner/operator shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and average hourly pollutant emission concentrations.

The owner/operator shall use the parameters measured above and District-approved calculation methods to calculate the following parameters:

- e. Heat Input Rate for each of the following sources: S-41 & S-42 combined and S-43 & S-44 combined.
- f. Corrected NO_x concentrations, NO_x mass emissions (as NO₂), corrected CO concentrations, and CO mass emissions at each of the following exhaust points: P-11 and P-12.

Applicable to emission points P-11 and P-12, the owner/operator shall record the parameters specified in conditions 26(e) and 26(f) at least once every 15 minutes (excluding normal calibration periods). As specified below, the owner/operator shall calculate and record the following data:

- g. Total Heat Input Rate for every clock hour and the average hourly Heat Input Rate for every rolling 3-hour period.

- h. On an hourly basis, the cumulative total Heat Input Rate for each calendar day for the following: each Gas Turbine and associated HRSG combined and all four sources (S-41, S-42, S-43, and S-44) combined.
- i. The average NO_x mass emissions (as NO₂), CO mass emissions, and corrected NO_x and CO emission concentrations for every clock hour and for every rolling 3-hour period.
- j. On an hourly basis, the cumulative total NO_x mass emissions (as NO₂) and the cumulative total CO mass emissions, for each calendar day for the following: each Gas Turbine and associated HRSG combined, and all four sources (S-41, S-42, S-43, and S-44) combined.
- k. For each calendar day, the average hourly Heat Input Rates, Corrected NO_x emission concentrations, NO_x mass emissions (as NO₂), corrected CO emission concentrations, and CO mass emissions for each Gas Turbine and associated HRSG combined.
- l. On a daily basis, the cumulative total NO_x mass emissions (as NO₂) and cumulative total CO mass emissions, for the previous consecutive twelve month period for all four sources (S-41, S-42, S-43, and S-44) combined.
(1-520.1, 9-9-501, BACT, Offsets, NSPS, PSD, Cumulative Increase)

At least 60 days before the initial operation, the owner/operator shall submit to the CEC CPM a plan on how the measurements and recordings required by this condition will be performed.

AQ-29 Within 60 days of start-up of the ~~CCPP Unit#8~~**GGS**, the owner/operator shall conduct a District-approved source test on exhaust point P-11 or P-12 to determine the corrected ammonia (NH₃) emission concentration to determine compliance with condition AQ-20(e). The source test shall determine the correlation between the heat input rates of the gas turbine and associated HRSG, A-11 or A-13 SCR System ammonia injection rate, and the corresponding NH₃ emission concentration at emission point P-11 or P-12. The source test shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to, minimum, 70%, 85%, and 100% load) to establish the range of ammonia injection rates necessary to achieve NO_x emission reductions while maintaining ammonia slip levels. Continuing compliance with condition AQ-20(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate. (TRMP)

Source test results shall be submitted to the District and the CEC CPM within 60 days of conducting the tests.

AQ-30 Within 60 days of start-up of the ~~CCPP Unit#8~~**GGS** and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-11 and P-12 while each Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum load (~~including steam injection power augmentation mode~~) to determine compliance with Conditions AQ-20(a), (b), (c), (d), (f), (g), and (h), while each Gas Turbine and associated Heat Recovery Steam Generator are operating at minimum load to determine compliance with Conditions AQ-20(c) and (d), and to verify the accuracy of the continuous emission monitors required in condition AQ-26. The owner/operator shall test for (as a minimum): water content, stack gas flow rate, oxygen concentration, precursor

organic compound concentration and mass emissions, nitrogen oxide concentration and mass emissions (as NO₂), carbon monoxide concentration and mass emissions, sulfur dioxide concentration and mass emissions, methane, ethane, and particulate matter (PM₁₀) emissions including condensable particulate matter. (BACT, offsets)

Approval of the source test protocols, as required in condition AQ- 31, and the source test reports shall be deemed as verification for this condition. The owner/operator shall notify the District and the CEC CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CEC CPM within 60 days of the date of the tests.

AQ-32 Within 60 days of start-up of the ~~CCPP Unit#8~~**GGS** and on an biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test on exhaust point P-11 or P-12 while the Gas Turbine and associated Heat Recovery Steam Generator are operating at maximum allowable operating rates to demonstrate compliance with Condition AQ-25. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to condition 28 for any of the compounds listed below are less than the BAAQMD Toxic Risk Management Policy trigger levels shown, then the owner/operator may discontinue future testing for that pollutant:

Benzene	≤	26.8 pounds/year
Formaldehyde	≤	132 pounds/year
Specified PAHs	≤	0.18 pounds/year (TRMP)

The owner/operator shall notify the District and the CEC CPM within seven (7) working days before the owner/operator plans to conduct source testing as required by this condition. Source test results shall be submitted to the District and the CEC CPM within 60 days of conducting the test.

AQ-33 The owner/operator of the ~~CCPP Unit#8~~**GGS** shall submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual. (Regulation 2-6-502)

See verification in Condition AQ-20.

AQ-34 The owner/operator of the ~~CCPP Unit#8~~**GGS** shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CEC CPM staff upon request. (Regulation 2-6-501)

During site inspection, the owner/operator shall make all records and reports available to the District, ARB, EPA and CEC staffs.

AQ-35 The owner/operator of the ~~CCPP Unit#8GGS~~ shall notify the District and the CEC CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules, Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition. (Regulation 2-1-403)

Submittal of these notifications as required by this condition is the verification of these permit conditions. In addition, as part of the Air Quality Reports of Condition AQ-20, the owner/operator shall include information on the dates when these violations occurred and when the owner/operator notified the District and the CEC CPM.

AQ-36 The stack height of emission points P-11 and P-12 shall each be at least 195 feet above grade level at the stack base. (PSD, TRMP)

Thirty (30) days prior to start of construction, the project owner/operator shall provide the District and CEC CPM an "approved for construction" drawing showing the appropriate stack height and location of sampling ports and platforms. The project owner/operator shall make the site available to the District, EPA and CEC staff for inspection.

AQ-37 The Owner/Operator of ~~CCPP Unit#8GGS~~ shall provide adequate stack sampling ports and platforms to enable the performance of source testing. The location and configuration of the stack sampling ports shall be subject to BAAQMD review and approval. (Regulation 1-501)

See verification of Condition AQ-36.

AQ-38 Within 180 days of the issuance of the Authority to Construct for the ~~CCPP Unit#8GGS~~, the Owner/Operator shall contact the BAAQMD Technical Services Division regarding requirements for the continuous monitors, sampling ports, platforms, and source tests required by conditions AQ-26, 29, 30 and 32. All source testing and monitoring shall be conducted in accordance with the BAAQMD Manual of Procedures. (Regulation 1-501)

Verification: The project owner/operator shall notify the CEC CPM within 7 days of receiving the District's approval for the source testing and monitoring plan.

AQ-39 Prior to the issuance of the BAAQMD Authority to Construct for the ~~CCPP Unit#8GGS~~, the Owner/Operator shall demonstrate that valid emission reduction credits in the amount of 200.5 tons/year of Nitrogen Oxides, 53.6 tons/year of Precursor Organic Compounds or equivalent (as defined by District Regulations 2-2-302.1 and 2-2-302.2), and ~~337~~**315** tons of Sulfur Oxides are under their control through enforceable contracts, option to purchase agreements, or equivalent binding legal documents. (Offsets)

Prior to the issuance of an Authority to Construct, the Owner/Operator shall provide copies of all emission reduction credits certificates to the District and the CEC CPM.

AQ-40 Prior to the start of construction of the ~~CCPP Unit#8GGS~~, the Owner/Operator shall provide to the District valid emission reduction credit banking certificates in the amount of

200.5 tons/year of Nitrogen Oxides, 53.6 tons/year of Precursor Organic Compounds or equivalent as defined by District Regulations 2-2-302.1 and 2-2-302.2 and ~~337~~**315** tons of Sulfur Oxides. (Offsets)

See verification of Condition AQ-39.

AQ-41 Pursuant to BAAQMD Regulation 2, Rule 6, section 404.3, the owner/operator of the ~~CCPP Unit #8~~**GGS** shall submit an application to the BAAQMD for a significant revision to the Major Facility Review Permit prior to commencing operation. (Regulation 2-6-404.3)

The owner/operator shall submit to the CEC CPM copies of the Federal (Title IV) Acid Rain and (Title V) Operating Permit within 30 days after they are issued by the District.

AQ-42 Pursuant to 40 CFR Part 72.30(b)(2)(ii) of the Federal Acid Rain Program, the owner/operator of the ~~CCPP Unit #8~~**GGS** shall not operate either of the gas turbines until either: 1) a Title IV Operating Permit has been issued; 2) 24 months after a Title IV Operating Permit Application has been submitted, whichever is earlier. (Regulation 2, Rule 7)

See verification of Condition AQ-41.

AQ-43 The ~~CCPP Unit #8~~**GGS** shall comply with the continuous emission monitoring requirements of 40 CFR Part 75. (Regulation 2, Rule 7)

At least 45 days prior to commencement of construction, the project owner/operator shall seek approval from the District for an emission monitoring plan.

AQ-44 The owner/operator shall take monthly samples of the natural gas combusted at the ~~CCPP Unit #8~~**GGS**. The samples shall be analyzed for sulfur content using District- approved laboratory methods or the owner/operator shall obtain certified analytical results from the gas supplier. The sulfur content test results shall be retained on site for a minimum of five years from the test date and shall be utilized to satisfy the requirements of 40 CFR Part 60, subpart GG. Sulfur content shall be no more than 1.0 grains/100 scf. (cumulative increase)

See verification of Condition AQ-19.

AQ-45 to AQ-47 Renumbered as AQ-SC3 to AQ-SC5

IT IS SO ORDERED.

Date: August 26, 2009

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION



KAREN DOUGLAS, Chairman