DOCKETED

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STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of: **PROCTER & GAMBLE COGENERATION PROJECT**	**Docket No. 93-AFC-2C**
	Order No. 15-0708-3
SACRAMENTO COGENERATION AUTHORITY	**ORDER APPROVING a Petition to Install a Second Auxiliary Boiler**

On October 30, 2014, the Sacramento Cogeneration Authority (SCA) filed a petition with the California Energy Commission (Energy Commission) proposing to install a second auxiliary boiler (Boiler 1) and associated facilities at the SCA Procter & Gamble Cogeneration Project (PGCP) facility to provide more operational flexibility during low electrical demand periods. During such periods, this change would allow SCA to shut down both combined-cycle gas turbines and rely solely on its two auxiliary boilers to generate and supply steam to the adjacent Procter & Gamble (P&G) manufacturing facility for its production needs, when it is not economically beneficial to operate the combustion turbines.

SCA's existing steam supply contract with Procter & Gamble Manufacturing requires it to maintain two separate steam generation sources in service at all times. The purpose of the new auxiliary boiler is to provide sufficient steam and steam backup capacity for the P&G facility processes such that SCA would not have to run at least one of its combined-cycle turbines at all times. This would allow the PGCP to reduce facility-wide emissions because it would be replacing the operation of a 500 million British Thermal Units (MMBtu) per hour gas turbine with a 108.7 MMBtu per hour boiler. The net result is that the new auxiliary boiler and associated facilities will not increase the maximum facility-wide emissions on an hourly, daily, quarterly, or annual basis.

The addition of the auxiliary boiler will result in new emissions and thus new Emission Reduction Credits are required. The District requires offsets for Volatile Organic Compounds, NOx, PM10 and PM2.5 and these would be provided from an emission reduction credit certificate for the reduction in rice straw burning originating in the Feather River Air Quality Management District. There will be no additional mitigation required beyond what the Sacramento Metropolitan Air Quality Management District requires.

On May 15, 2015, the Sacramento Metropolitan Air Quality Management District (District) issued a draft "Authority to Construct" (ATC) modifying the existing District permit conditions to allow for new Boiler 1B. The proposed revised District conditions trigger the need for new conditions of certification related to the addition of the new boiler. The SMAQMD has determined the proposed modifications at the Procter & Gamble Cogeneration facility would comply with SMAQMD rules and regulations. After the U.S. EPA comment period concludes on July 6, 2015, the SMAQMD will consider comments received, making changes as needed, and then issuing a final ATC.

STAFF RECOMMENDATION

Energy Commission staff reviewed the petition, finds that it complies with the requirements of Title 20, section 1769 (a) of the California Code of Regulations, and recommends approval of SCA's petition to modify the Procter & Gamble Cogeneration project and amend related Air Quality Conditions of Certification.

ENERGY COMMISSION FINDINGS

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

- The petition meets all the filing criteria of Title 20, section 1769 (a), of the California Code of Regulations, concerning post-certification project modifications;
- The modification will not change the findings in the Energy Commission's Final Decision, pursuant to Title 20, section 1755, of the California Code of Regulations;
- The project will remain in compliance with all applicable laws, ordinances, regulations, and standards, subject to the provisions of Public Resources Code, section 25525;
- The modification will be beneficial to the project owner in that it will provide more operational flexibility during low electrical demand periods. During such periods, this change would allow SCA to shut down both combined-cycle gas turbines and rely solely on its two auxiliary boilers to generate and supply steam to the adjacent P&G manufacturing facility for its production needs, when it is not economically beneficial to operate the combustion turbines; and
- There has been a substantial change in circumstances since the Energy Commission certification justifying the modifications based on information that was not available to the parties prior to Energy Commission certification. The proposed changes are required for efficiency and operational flexibility purposes, and were not determined to be necessary until after PGCP had been in operation for several years.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts staff's recommendations and approves the following changes to the Commission Decision for the [Project Name]. New language is shown as **bold and underlined**, and deleted language is shown in ~~strikethrough~~.

CONDITIONS OF CERTIFICATION

The California Energy Commission hereby adopts staff's recommendations and approves the changes to the Commission Decision for the Sacramento Cogeneration Authority's Procter & Gamble Cogeneration Project (see attached conditions of certification). New language is shown as **bold and underlined**, and deleted language is shown in ~~strikethrough~~.

IT IS SO ORDERED.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of an Order duly and regularly adopted at a meeting of the California Energy Commission held on July 8, 2015.

AYE: Weisenmiller, Douglas, McAllister, Scott
NAY: None
ABSENT: Hochschild
ABSTAIN: None

Tiffani Winter,
Secretariat

AMENDED CONDITIONS OF CERTIFICATION

Below is a list of conditions of certification all conditions of certification from those approved in the 1997 Energy Commission Final Decision and subsequent amendments. New conditions for this current petition to amend, shown in **underline** and **bold** below, are proposed to ensure that the PGCP complies with all applicable local, state, and federal regulations. These additional conditions of certification would be consistent with current District permit requirements. The new conditions of certification that apply to the new auxiliary boiler are numbered **AQ-AB1** through **AQ-AB32**. New conditions of certification required for startup requirements and are numbered **AQ-SU1** through **AQ-SU4**.

AQ-1 Facilities Operation: All equipment, facilities, or systems installed or used to achieve compliance with the Terms and Conditions of this Authority to Construct shall be maintained in good working order so as to minimize air pollution emissions and shall comply with all other applicable local, state and federal rules and regulations.

Verification: Refer to Condition **AQ-2**.

AQ-2 Malfunction: The Sacramento Metropolitan Air Quality Management District shall be notified of any breakdown of the emissions monitoring equipment, any engine equipment, or any process which results in an increase in emissions above the allowable emissions limits stated as a Condition of this permit or any applicable state or federal regulation which affects the ability for the emissions to be accurately determined. Such breakdowns shall be reported to the District in accordance with the procedures and reporting times specified in District Rule 602 - Breakdown Conditions; Emergency Variance.

Verification: The project owner shall provide the Commission Compliance Project Manager (CPM) with a copy of any report required by this Condition at the same time as the report is provided to the District.

AQ-3 Right of Entry: The Sacramento Metropolitan Air Quality Management District, the Executive Officer of the California Air Resources Board, the EPA Regional Administrator, and/or their authorized representatives, upon the presentation of credentials shall be permitted:

a. to enter upon the premises where the source is located or in which any records are required to be kept under the Terms and Conditions of this Determination of Compliance;

b. at reasonable times to have access to and copy any records required to be kept under Terms and Conditions of the Determination of Compliance;

c. to inspect any equipment, operation, or method required in the Determination of Compliance; and

d. to sample emissions from the source or require samples to be taken.

Verification: Within 30 days prior to first turbine roll, the project owner shall advise appropriate site personnel of this Condition, and provide the Commission CPM with a notification by letter that site personnel have been informed regarding the rights of entry described above.

AQ-4 Public Nuisance: No air contaminant shall be released into the atmosphere which causes a public nuisance.

Verification: Refer to Condition **AQ-2**.

AQ-5 The combustion gas turbines, duct burners, cooling tower, and auxiliary boiler shall not discharge into the atmosphere any visible air contaminant other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is 20 percent opacity or greater.

Verification: Refer to Condition **AQ-2**.

AQ-6 Only natural gas may be fired in the combustion turbines, duct burners, or auxiliary boiler at the P&G Cogeneration project.

Verification: The project owner shall verify compliance by the record keeping required by Condition **AQ-8**.

AQ-7 The project owner shall provide District approved stack sampling ports and platforms.

Verification: Refer to Condition **AQ-3**.

AQ-8 The project owner shall maintain appropriate records (including but not limited to: fuel usage rates, gas turbine loading levels, hours of operation, start-up and shutdown times, etc.) to verify compliance with all listed permit conditions. The project owner shall obtain District approval, 60 days prior to start-up, of the format of the records. These records shall be continuously maintained for the most recent two year period and shall be made available to the Air Pollution Control Officer upon request.

Verification: The project owner shall obtain District approval, within 60 days of start-up, of the format of the records. The records shall be made available to the Air Pollution Control Officer and the Commission CPM upon request.

AQ-9 Severability: If any provision, clause, sentence, paragraph, section, or part of these Conditions for any reason is judged to be unconstitutional or invalid, such judgment shall not affect or invalidate the remainder of these Conditions.

No Verification

EMISSION RATE LIMITATIONS

Energy Commission Order No. 08-0312-3

AQ-10 Emissions at the SCA Cogeneration facility, on a pound per hour basis, shall not exceed the following limits averaged over a three hour period, not including start-ups and shutdowns as defined in conditions **AQ-16, AQ-22** and **AQ-24**.

Prior to CTG upgrade to PC Sprint/EFS

Pollutant	Units	CTG + Duct Burner (each)	Simple Cycle CTG	Auxiliary Boiler	Cooling Tower
NOx	lb/hr	9.72	8.22	1.15	--
*CO	lb/hr	4.2	3.3	7.12	--
ROC	lb/hr	1.8	1.18	0.41	--
SOx	lb/hr	0.32	0.27	0.08	--
PM10	lb/hr	3.3	2.5	0.54	0.29

* The CO emissions from the combustion turbines were taken at a different temperature scenario which represented a worst case continuous operation Condition.

Following CTG upgrade to PC Sprint/EFS

Pollutant	Units	CTG + Duct Burner (each)	Simple Cycle CTG	Auxiliary Boiler	Cooling Tower
NOx	lb/hr	5.37	4.60	1.15	--
CO	lb/hr	7.85	6.73	7.12	--
ROC	lb/hr	1.8	1.18	0.41	--
SOx	lb/hr	0.35	0.30	0.08	--
PM10	lb/hr	3.3	2.5	0.54	0.29

The SMAQMD, in agreement with the project owner, may choose to decrease the above hourly emission limits to correspond to the source test results pursuant to Condition AQ-38.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8** and submit source test reports required under Condition **AQ-38**.

Energy Commission Order No. 08-0312-3

AQ-11 Emissions at the SCA Cogeneration facility, on a pounds per calendar day basis, shall not exceed the following limits.

Prior to CTG upgrade to PC Sprint/EFS

Pollutant	Units	Combined Cycle CTG with Supp. Fuel (each)	Simple Cycle CTG	Cooling Tower	Auxiliary Boiler	Total Emissions
NOx	lb/day	233	203.8		27.6	697.3
CO	lb/day	113.4	85.1		170.8	482.7
ROC	lb/day	43.2	28.3		9.8	124.5
SOx	lb/day	7.7	6.5		1.8	23.7
PM10	lb/day	79.2	60	7	13.1	238.5

Following CTG upgrade to PC Sprint/EFS

Pollutant	Units	Combined Cycle CTG with Supp. Fuel (each)	Simple Cycle CTG	Cooling Tower	Auxiliary Boiler	Total Emissions
NOx	lb/day	144.9	120.3		27.6	437.7
CO	lb/day	197.3	163.9		170.8	729.3
ROC	lb/day	43.2	28.3		9.8	124.5
SOx	lb/day	8.4	7.2		1.8	25.8
PM10	lb/day	79.2	60	7	13.1	238.5

The SMAQMD, in agreement with the project owner may choose to decrease the above daily emission limits to correspond to the source test results pursuant to Condition 38.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

Energy Commission Order No. 08-0312-3

AQ- 12 Emissions at the entire P&G Cogeneration project shall not exceed the following limits on a quarterly basis.

Prior to CTG upgrade to PC Sprint/EFS

Quarter	Unit	NOx	CO	ROC	SOx	PM10
Qtr 1	lb/qtr	49,051	29,758	8,287	1,722	17,220
Qtr 2	lb/qtr	49,590	30,082	8,380	1,741	17,411
Qtr 3	lb/qtr	50,128	30,407	8,472	1,760	17,603
Qtr 4	lb/qtr	50,128	30,407	8,472	1,760	17,603

Following First CTG upgrade to PC Sprint/EFS

Quarter	Unit	NOx	CO	ROC	SOx	PM10
Qtr 1	lb/qtr	41,207	37,041	8,287	1,791	17,220
Qtr 2	lb/qtr	41,658	37,447	8,380	1,811	17,411
Qtr 3	lb/qtr	42,110	37,852	8,472	1,831	17,603
Qtr 4	lb/qtr	42,110	37,852	8,472	1,831	17,603

Following Second CTG upgrade to PC Sprint/EFS

Quarter	Unit	NOx	CO	ROC	SOx	PM10
Qtr 1	lb/qtr	33,363	44,324	8,287	1,860	17,220
Qtr 2	lb/qtr	33,727	44,811	8,380	1,881	17,411
Qtr 3	lb/qtr	34,091	45,298	8,472	1,901	17,603
Qtr 4	lb/qtr	34,091	45,298	8,472	1,901	17,603

Following Final CTG upgrade to PC Sprint/EFS

Quarter	Unit	NOx	CO	ROC	SOx	PM10
Qtr 1	lb/qtr	28,993	48,994	8,287	1,901	17,220
Qtr 2	lb/qtr	29,305	49,535	8,380	1,923	17,411
Qtr 3	lb/qtr	29,618	50,075	8,472	1,944	17,603
Qtr 4	lb/qtr	29,618	50,075	8,472	1,944	17,603

The SMAQMD, in agreement with the applicant may choose to decrease the above quarterly emission limits to correspond to the source test results pursuant to Condition 38.

Verification: The project owner shall maintain appropriate emission data records as required by Condition AQ-8.

Energy Commission Order No. 08-0312-3

AQ-13 The combined cycle combustion turbines and their associated duct burner HRSGs shall not emit more than 5 ppmvd nitrogen oxides at 15 percent O2 each, averaged over any consecutive three hour period, excluding start-ups as defined in Condition 22 prior to upgrading to the PC Sprint/EFS.

The combined cycle combustion turbines and their associated duct burner HRSGs shall not emit more than 2.5 ppmvd nitrogen oxides at 15 percent O2 each, averaged over any consecutive three hour period, excluding start-ups as defined in Condition 22 after upgrading to the PC Sprint/EFS.

Verification: The project owner shall maintain appropriate emission data records as required by Condition AQ-8.

Energy Commission Order No. 08-0312-3

AQ-14 The simple cycle combustion turbine shall not emit more than 5 ppmvd nitrogen oxides at 15 percent O2, averaged over any consecutive three hour period, excluding start-ups as defined in Condition 24 prior to upgrading to the PC Sprint/EFS.

The simple cycle combustion turbine shall not emit more than 2.5 ppmvd nitrogen oxides at 15 percent O2, averaged over any consecutive three hour period, excluding start-ups as defined in Condition 24 after upgrading to the PC Sprint/EFS.

Verification: The project owner shall maintain appropriate emission data records as required by Condition AQ-8.

Energy Commission Order No. 08-0312-3

AQ-15 DELETED

Energy Commission Order No. 08-0312-3

AQ-16 The auxiliary boiler shall not emit more than 9 ppmvd nitrogen oxides at 3% O2 averaged over any consecutive three hour period except during periods of startup and shutdown. Startup is defined as the period of time, not to exceed two hours, in which the auxiliary boiler is brought to its operating temperature and pressure immediately after a period in which the gas flow is shut off for a continuous period of 30 minutes or

longer. Shutdown is defined as the period of time, not to exceed two hours, in which the auxiliary boiler is cooled from its normal operating temperature.

Verification: The project owner shall maintain appropriate emission data records as required by Condition AQ-8.

AQ-17 The combined cycle combustion turbines and their associated duct burner HRSGs shall not emit more than 10 ppmvd ammonia at 15 percent O2 each, measured as NH3, averaged over any consecutive three hour period, excluding start-ups as defined in Condition **AQ-22**.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

AQ-18 The simple cycle combustion turbine shall not emit more than 10 ppmvd ammonia at 15 percent O2, measured as NH3, averaged over any consecutive three hour period, excluding start-ups as defined in Condition **AQ-24**.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

AQ-19 The auxiliary boiler shall not emit more than 10 ppmvd ammonia at 3 percent O2, measured as NH3, averaged over any consecutive three hour period.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

EQUIPMENT CONDITIONS

Combined Cycle Combustion Turbines and Duct Burners (2 each)

AQ-20 The heat recovery steam generator (HRSG) duct burner shall not be operated unless the combustion turbine is operating and the selective catalytic reduction (SCR) is functional.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

AQ-21 The combined cycle combustion turbines shall not be operated without a functioning SCR and oxidizing catalyst system, excluding periods of start-ups and shutdowns.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

AQ-22 The duration of each of the combined cycle combustion turbine's start-up period shall not exceed 60 minutes. The start-up period is defined as the time when the fuel is first introduced to the turbine to the time when the emissions of NOx are controlled to 5 ppmvd @ 15 percent O2 or less.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

Simple Cycle Combustion Turbine

AQ-23 The simple cycle combustion turbine shall not be operated without a functioning selective catalytic reduction and oxidizing catalyst system, excluding periods of start-ups and shutdowns.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

AQ-24 The duration of the combustion turbine's start-up period shall not exceed 30 minutes. The start-up period is defined as the time when the fuel is first introduced to the turbine to the time when the emissions of NOx are controlled to 5 ppmvd @ 15% O2 or less.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

Auxiliary Boiler

AQ-25 The auxiliary boiler shall not be operated without a functioning selective catalytic reduction system when the boiler is operated at a load of 25 percent or above.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8.**

AQ-26 The auxiliary boiler shall not exceed an annual capacity factor of 80 percent based on heat input.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8.**

Cooling Towers

AQ-27 The cooling towers shall not use any chromium-containing water treatment chemicals.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8**.

AQ-28 The total dissolved solids content of the circulating cooling water shall not exceed 2000 ppmw, averaged over any consecutive three-hour period.

Verification: The project owner shall maintain appropriate emission data records as required by Condition **AQ-8** and Condition **AQ-29**.

AQ-29 The cooling towers drift rate shall not exceed 0.0006%. The project owner shall provide a written vendor statement, prior to installation, declaring that the cooling tower's make possessive mist eliminators used meet the drift criteria stated above.

Verification: At least 30 days prior to the installation of drift eliminators on the cooling towers, the project owner shall submit to the Commission CPM and District a written vendor statement declaring that the mist eliminators to be installed meet the drift rate stated above.

NEW SOURCE PERFORMANCE STANDARDS COMPLIANCE

AQ-30 The project owner shall provide written notification to the Air Pollution Control Officer of the following:

a. The date construction is commenced, postmarked no later than 30 days after such date.

b. The anticipated date of initial start-up of the plant not more than 60 days nor less than 30 days prior to such date.

c. The actual date of initial start-up of the plant, within 15 days after such date.

d. A notification of any physical or operational change to the facility which may increase the emission rate to which a standard applies except exempted modifications as defined in 40 CFR 60.14(e), postmarked 60 days or as soon as practicable before the change is commenced.

e. The date upon which the demonstration of the continuous monitoring system performance commences, postmarked not less than 30 days prior to such date.

Verification: The project owner shall submit to the District and the Commission CPM, on the schedules described above, the information contained in this Condition.

AQ-31 The following tests, reports and Conditions shall be met:

a. Within 60 days of achieving the maximum production rate but no later than 180 days after initial start-up, the owner or operator will conduct performance test(s) as per Condition 38 and furnish the Air Pollution Control Officer a written report of the results of such performance test(s).

b. The owner or operator shall provide the Air Pollution Control Officer 30 days prior notice of the performance test(s).

Verification: The project owner shall notify the District and perform the source tests described above and submit to the District and the Commission CPM the results of the source tests within 30 days from the completion of the tests, per the requirements of Condition **AQ-39**.

AQ-32 The following records shall be kept:

a. Maintain for a period of two years a record of the occurrence and duration of any start-up, shutdown, or malfunction in operation of any combustion turbine and a file of all measurements including continuous monitoring system, monitoring device and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices recorded in a permanent form suitable for inspection.

b. For each calendar quarter submit to the Air Pollution Control Officer a written report of excess emissions as defined in applicable rules and the date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

The report shall include the magnitude of excess emissions as measured by the required monitoring equipment reduced to the units of the applicable standard, the date, and time of commencement and completion of each period of excess emissions. Periods of excess emissions due to start-up, shutdown, and malfunction shall be specifically identified.

The nature and cause of any malfunction (if known), the corrective action taken, or preventive measures adopted shall be reported. Each quarterly report is due by the 30th day following the end of the calendar quarter. If there were no excess emissions for a quarter a report shall be submitted indicating that there were no excess emissions.

Verification: The project owner shall submit the quarterly report described in this Condition, no later than 30 days following the end of each calendar quarter, to the District Air Pollution Control Officer and the Commission CPM.

MONITORING SYSTEMS

AQ-33 The project owner shall install an Air Pollution Control Officer approved in-stack continuous emission monitoring system in the common exhaust of each combined cycle combustion turbine and HRSG as well as in the simple cycle combustion turbine exhaust and the auxiliary boiler's exhaust.

a. The continuous emission monitoring (CEM) system shall monitor and record nitrogen oxides, carbon monoxide, ammonia, and either oxygen or carbon dioxide concentrations. The project owner shall demonstrate that

compliance with the applicable emission concentrations can be achieved through the monitoring of carbon dioxide to the satisfaction of the Air Pollution Control Officer before monitoring of carbon dioxide can be used in this capacity.

b. The CEM system shall comply with the EPA Performance Specifications (Title 40, Code of Federal Regulations, Part 60, Appendix B, Performance Specifications 2, 3, and 4).

c. The project owner shall receive Air Pollution Control Officer approval before purchasing the CEM equipment.

Verification: Sixty (60) days prior to the planned purchase of the CEM system, the project owner shall submit a report to the District for approval describing the type of monitoring equipment that meet the requirements of this Condition. Prior to turbine roll, the project owner shall notify the Commission CPM in writing that the required emissions monitoring system has been installed.

AQ-34 The project owner shall install an Air Pollution Control Officer approved continuous monitoring system that either measures or calculates and records the fuel consumption in MMBtu/hr of all combustion turbines and duct burners. The project owner shall receive Air Pollution Control Officer approval before purchasing the monitoring equipment.

Verification: Sixty (60) days prior to the planned purchase of the CEM system, the project owner shall submit a report to the District for approval describing the type of monitoring equipment that meets the requirements of this Condition. Prior to turbine roll, the project owner shall notify the Commission CPM in writing that the required emissions monitoring system has been installed.

AQ-35 The project owner shall install an Air Pollution Control Officer approved continuous monitoring system that either measures or calculates and records the fuel consumption in MMBtu/hr of the auxiliary boiler.

Verification: Sixty (60) days prior to the planned purchase of the CEM system, the project owner shall submit a report to the District for approval describing the type of monitoring equipment that meets the requirements of this Condition. Prior to turbine roll, the project owner shall notify the Commission CPM in writing that the required emissions monitoring system has been installed.

AQ-36 The project owner shall install an Air Pollution Control Officer approved monitoring system that measures and records the conductivity/total dissolved solids (TDS) level of the circulating water in the cooling tower. The project owner shall receive Air Pollution Control Officer approval before purchasing the monitoring equipment.

Verification: Sixty (60) days prior to the planned purchase of the conductivity/total dissolved solids (TDS) monitoring system, the project owner shall submit a report to the

District for approval describing the type of monitoring equipment that meets the requirements of this Condition. The project owner shall receive Air Pollution Control Officer approval before purchasing the monitoring equipment. The project owner/operator shall receive Air Pollution Control Officer approval before purchasing the monitoring equipment.

AQ-37 The project owner shall install an Air Pollution Control Officer approved continuous monitoring system that either measures or calculates and records the exhaust gas flow of each exhaust stack (i.e. the two combined cycle CTG/duct burners, the simple cycle CTG, and the auxiliary boiler). The project owner/operator shall receive Air Pollution Control Officer approval before purchasing the monitoring equipment.

Verification: Sixty (60) days prior to the planned purchase of the CEM system, the project owner shall submit a report to the District for approval describing the type of monitoring equipment that meets the requirements of this Condition. The project owner/operator shall receive Air Pollution Control Officer approval before purchasing the monitoring equipment.

COMPLIANCE TESTING REQUIREMENTS

AQ-38 An oxides of nitrogen (NOx), reactive organic compounds (ROC), carbon monoxide (CO), particulate matter less than 10 microns (PM10), ammonia (NH3), and CEM accuracy source test of the auxiliary boiler, each of the combined cycle combustion turbines with duct fired HRSGs, and the simple cycle combustion turbine shall be performed during the time frame pursuant to Condition **AQ-31**.

a. Submit a test plan to the Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.

b. During the test(s), the turbine and HRSG are to be operated at their maximum total firing capacity. The auxiliary boiler must also be tested at its maximum firing capacity.

c. The turbines are also to be tested at 50 percent load for CO and ROC.

d. The source test results shall be submitted to the Air Pollution Control Officer within 30 days from the completion of the source test(s).

Verification: The project owner shall submit a test plan to the Air Pollution Control Officer for approval at least 30 days before the source test is to be performed. The source test results shall be submitted to the Air Pollution Control Officer and the Commission CPM within 30 days from the completion of the source test(s).

Energy Commission Order No. 08-0312-3

AQ-39 A NOx, ROC, CO, PM10, and ammonia source test of the auxiliary boiler, each of the combined cycle combustion turbines with duct fired HRSG, and the simple cycle combustion turbine shall be performed annually.

a. The project owner shall submit a test plan to the Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.

b. The Air pollution Control Officer shall be notified at least 7 days prior to the emission testing date.

c. During the test(s), all of the turbines and HRSGs are to be operated at their maximum total firing capacities. The auxiliary boiler must also be tested at its maximum firing capacity.

d. The turbines are also to be tested at 50 percent load for CO and ROC.

e. The source test results shall be submitted to the Air Pollution Control Officer within 60 days from the completion of the source test(s).

f. The Air Pollution Control Officer may waive the annual PM10 and/or ROC source test requirement if, in the Air Pollution Control Officer's sole judgment, prior test results indicate an adequate compliance margin has been maintained.

Verification: The project owner shall submit a test plan to the Air Pollution Control Officer for approval at least 30 days before the source tests are to be performed. The source test results shall be submitted to the Air Pollution Control Officer and the Commission CPM within 60 days from the completion of the source tests.

EMISSION REDUCTION CREDITS

AQ-40 Prior to construction of the Procter and Gamble Cogeneration Project, the project owner shall provide to the District emission reduction credit certificates in sufficient quantity to show compliance with the quarterly emission limits by the use of the following calculation procedure.

P_q = Emission offset credit for pollutant in lb/quarter

q = Quarter (1, 2, 3, or 4)

QTR = This is the quarterly emission limit specified in Condition 12.

<15 = Those emission reduction credit certificates whose point of origin was within 15 miles of the Procter and Gamble Cogeneration project.

>15 = Those emission reduction credit certificates whose point of origin was greater than 15 miles but less than 50 miles from the Procter and Gamble Cogeneration project.

Verification: Refer to Condition **AQ-42**.

AQ-41 ROC emission reduction credits may be traded for NOx emission reduction credits at a ratio of 2 lb of ROC to 1 lb of NOx.

Verification: Forty-five (45) days prior to the start-up of the project, the project owner shall submit to the Commission CPM copies of the District Banking Certificates that show all of ROC deductions for NOx (interpollutant trading) for the Procter and Gamble Cogeneration Project, and the calculations that the surrendered ROC Banking Certificates were traded at an interpollutant trading ratio of 2.0 lb of ROC for 1.0 lb of NOx.

Energy Commission Order No. 99-0825-08

AQ-42a The proposed NOx ERC's and their amounts are presented below.

	Face Value Of Certificates				I.P. Trading Ratio	Offset Ratio	Value Applied To The Emission Liability			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
Grace	20,080	19,171	19,542	19,760	1	1.2	16,733	15,976	16,285	16,467
UNOCAL	41,616	41,616	41,616	41,616	1	2.0	20,808	20,808	20,808	20,808
Formica	1,580	6,276	6,716	5,988	2	2.0	395	1,569	1,679	1,497
Total					Sub Total		37,936	38,353	38,772	38,772
					NO. Liability of the Project		37,936	38,353	38,772	38,772
* ERCs from Formica are ROC										

Verification: Forty-five (45) days prior to the start-up of the two combined cycle units, the two duct burners, auxiliary boiler and cooling tower, the project owner shall submit to the Commission CPM copies of the District Banking Certificates which show that the ROC and NOx reductions at Grace, Unocal, and Formica equal at least as much as the amounts specified in Condition **AQ-42a.**

Energy Commission Order No. 99-0825-08

AQ-42b Prior to May 3, 2001, the project owner shall provide the following proposed NOx ERCs for the simple cycle peaking unit or amend AQ-42 to reflect the as-built project and its air pollutant emissions:

	Face Value Of Certificates				I.P. Trading Ratio	Offset Ratio	Value Applied To The Emission Liability			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
Formica	34,597	34,975	35,342	35.343	2	2.0	8,649	8,744	8,835	8,836
Total					Sub Total		8,649	8,744	8,835	8,836
Total NOx liability of the simple cycle peaking unit							8,649	8,744	8,835	8,836
* ERCs from Formica are ROC										

Verification: By May 3, 2001, or forty-five (45) days prior to the start-up of the simple cycle peaking unit (whichever comes first), the project owner shall submit to the Commission CPM copies of the district Banking Certificates which show that the ROC reductions at Formica equal at least as much as the amounts specified in Condition AQ-42b. If the simple cycle peaking unit is not under construction (start of construction of the turbine pedestal in the field) by May 3, 2001, the project owner shall submit, within 60 days of that date, a petition to amend the project description and applicable conditions of certification.

Energy Commission Order No. 99-0825-08

AQ-43a The project owner shall provide the following proposed PM10 ERCs for the two combined-cycle units, two duct burners, auxiliary boiler and cooling tower:

	Face Value Of Certificates				I.P. Trading	Offset Ratio	Value Applied To The Emission Liability			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
Sierra Pine	27,376	27,680	27,982	27,982	1	2.0	13,688	13,840	13,991	13,991
					Sub Total		13,688	13,840	13,991	13,991
Total PM10 liability of the two combined cycles, two duct burners, auxiliary boiler and cooling tower							13,688	13,840	13,991	13,991

Verification: Forty-five (45) days prior to the start-up of the two combined cycle units, the two duct burners, auxiliary boiler and cooling tower, the project owner shall submit to the Commission CPM copies of the District Banking Certificates which show PM10 reductions at Sierra Pine equal at least the amounts specified in Condition **AQ-43b**.

Energy Commission Order No. 99-0825-08

AQ-43b Prior to May 3, 2001, the project owner shall provide the following proposed PM10 ERCs for the simple cycle peaking unit or amend **AQ-43** to reflect the as-built project and its air pollutant emissions:

	Face Value Of Certificates				I.P. Trading	Offset Ratio	Value Applied To The Emission Liability			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
Sierra Pine	5,399	5,459	5,521	5,521	1	2.0	2,699	2,729	2,760	2,760
						Sub Total	2,699	2,729	2,760	2,760
Total PM10 liability of the simple cycle peaking unit							2,699	2,729	2,760	2,760

Verification: By May 3, 2001, or forty-five (45) days prior to the start-up of the simple cycle peaking unit (whichever comes first), the project owner shall submit to the Commission CPM copies of the district Banking Certificates which show PM10 reductions at Sierra Pine equal at least as much as the amounts specified in Condition AQ-43b. If the simple cycle peaking unit is not under construction (start of construction of the turbine pedestal in the field) by May 3, 2001, the project owner shall submit, within 60 days of that date, a petition to amend the project description and applicable conditions of certification.

COMMISSION CONDITIONS

Energy Commission Order No. 99-0825-08

AQ-44 DELETED

AQ-45 The project owner shall obtain from the Commission CPM approval for the design and operation specifications for the gas turbine; including the water injection system; the SCR system, including all control modules; and the oxidation catalyst system.

Verification: At least 120 days before construction of the facility commences, the project owner shall obtain approval from the Commission CPM of the design specifications and operation parameters for the water injection system, the selective catalytic reduction system including all control modules and the oxidation catalytic system.

AQ-46 The project owner shall obtain from the District Permits to Operate (PTO) for the facility as required by the District's rules and regulations.

Verification: Within six months after the beginning of commercial operation, the project owner shall submit a copy of the District Permits to Operate (PTO) to the Commission

CPM or, if the PTOs have not been issued, the project owner shall submit a status report indicating when the PTOs are likely to be issued.

AQ-47 As part of the grading and erosion control plans to be submitted to the Commission CPM under the requirement of Condition **SOILS-1**, the project owner shall include, but not be limited to the following fugitive dust mitigation measures as part of the grading and erosion control plans:

a. Area of disturbance within the construction site shall be watered so that it is visibly wet, twice or more daily, as necessary. This Condition shall not apply on rainy days where precipitation exceeds 0.1 inch.

b. Except for emergency and site surveyor vehicles, and activities in transmission line construction areas, vehicular movement on unpaved and undisturbed areas is prohibited.

c. All new unpaved roads and new unpaved parking areas and laydown areas shall be graveled. Newly graded areas within the plant site where construction ceases for more than 15 days shall be treated with dust suppressant compounds.

d. Except for trucks using the transmission corridor, all truck tires shall be cleaned of dirt using water spraying or operation of equivalent effectiveness subject to Commission CPM approval, prior to entering public roadways.

e. At least 500 yards of public roadways from the construction site entrances shall be cleaned on a weekly basis, or when there are visible dirt tracks on the public roadways, with either a mechanical sweeper or water flushing.

f. A speed limit sign shall be posted at the entrance of the construction site to limit vehicle speed to no more than 15 miles per hour on unpaved areas.

Verification: Not later than 60 days prior to the start of construction, the project owner shall submit a City of Sacramento approved copy of the Grading and Erosion Control Plan to the Commission CPM for review and approval. The project owner shall maintain a daily log of water truck activities, including the number of gallons of water used to reduce the dust at the construction sites. This log shall be available for inspection by the Commission CPM during the construction period. The project owner shall submit in its monthly construction reports the area that the project owner shall cover or treat with a dust suppressant. The project owner shall make the construction site available to the District and the Commission CPM for inspection and monitoring.

AQ-48 The vehicle emissions from the facility construction activities shall be minimized by applying the following practices:

a. All construction equipment shall be properly maintained to detect and prevent mechanical problems that may cause excess emissions.

b. Only on-road vehicle diesel fuel can be used for construction equipment.

c. No construction equipment shall be kept idling when not in use for more than 30 minutes.

Verification: The project owner shall maintain records of fuel purchases for construction equipment as required in Condition **AQ-48(b)**. The project owner shall also allow site inspection as per Condition **AQ-3**.

AQ-49 The project owner shall notify the project owner of the Sacramento Power Authority at Campbell Cogeneration Project of any modifications to the P&G Cogeneration Project Decision that would affect the emission reduction credits surrendered to the District.

Verification: Within 30 days of submitting an amendment request for modifications to the P&G Cogeneration Project Decision that would affect the emission reduction credits surrendered to the District, the project owner shall notify, in writing, the project owner of the Sacramento Power Authority at Campbell Cogeneration Project of the amendment request and send a copy of the notification to the Commission CPM.

Energy Commission Order No. 08-0312-3

AQ-50 As each combustion turbine is upgraded to a PC Sprint/EFS turbine, the owner/operator shall engage in a period of commissioning as defined within this condition.

a. The commissioning period shall begin when all mechanical, electrical and control systems are installed and individual system startup has been completed, or when the gas turbine is first fired, whichever occurs first.

b. The commissioning period shall end when the unit has completed initial performance testing as required in **AQ-51** and is available for commercial operation.

c. Commissioning activities include, but are not limited to, all testing, adjustments, tuning and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe reliable operation of the gas turbines, heat recovery steam generators, emission control equipment and other ancillary equipment.

d. During the commissioning period, hourly NOx emissions shall not exceed 21.4 lbs/hr and hourly CO emissions shall not exceed 16.8 lbs/hr.

e. The NOx concentration emission limits in conditions **AQ-13** and **AQ-14** shall not apply during the commissioning period.

f. The hourly emission limits as specified in condition **AQ-10**, with the exception of the NOx and CO emission limits, shall remain effective during the commissioning period.

g. The daily and quarterly emission limits as specified in conditions **AQ-11** and **AQ-12** shall remain effective during the commissioning period.

h. During the commissioning period, compliance with all emission limits, as indicated in this condition, shall be demonstrated through the use of

properly installed, operated and maintained continuous emissions monitors and recorders.

Verification: The owner/operator shall notify the Commission CPM at least 10 days prior to start of commissioning activities. The owner/operator shall collect and record all necessary information to verify the emission limits as specified within this condition. No later than 60 days following the completion of commissioning, the owner/operator shall submit a report for approval to the Commission CPM demonstrating compliance with all emission limits as specified within this condition.

Energy Commission Order No. 08-0312-3

AQ-51 Within 60 days of completion of each turbine's upgrade to a PC Sprint/EFS turbine, a NOx, ROC, CO, PM10, ammonia and CEMS accuracy source test shall be performed. A successful completion of this start-up test can qualify as the annual compliance test required in condition **AQ-39**.

a. The project owner shall submit a test plan to the Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.

b. The Air pollution Control Officer shall be notified at least 7 days prior to the emission testing date.

c. During the test(s), all of the turbines and HRSGs are to be operated at their maximum total firing capacities.

d. The turbines are also to be tested at 50 percent load for CO and ROC.

e. The source test results shall be submitted to the Air Pollution Control Officer within 60 days from the completion of the source test(s).

Verification: The project owner shall submit a test plan to the Air Pollution Control Officer for approval at least 30 days before the source tests are to be performed. The source test results shall be submitted to the Air Pollution Control Officer and the Commission CPM within 60 days from the completion of the source tests.

New proposed Air Quality Conditions of Certification AQ-AB1 through AQ-AB32 are as follows:

Conditions applicable to Proctor and Gamble Boiler 1B, Sacramento Metropolitan Air Quality Management District (SMAQMD) Application Numbers 24398 and 24399, consisting of proposed Proctor and Gamble Boiler 1B (24398) and Abatement Device (24399):

Installation Of New Boiler (ATC No. 24398): Boiler Unit 1B, Make: Cleaver Brooks, Model:LD-94-R,H, Serial Number: W-3549, 108.7 MMBtu/Hr Capacity With 4.9 MMBtu/Hr Pilot Burner, Natural Gas Fired, or equivalent as approved by the CPM and the District.

Abetment Device (ATC No. 24399): Selective Catalytic Reduction System For Boiler 1B (ATC No. 24398), or equivalent as approved by the CPM and the District.

STARTUP REQUIREMENTS

AQ-SU1 Upon installation of the equipment authorized in this Authority to Construct, the facility owner shall contact the Sacramento Metropolitan Air Quality Management District (SMAQMD) at (916) 874-4800 to arrange for a start-up inspection. [Basis: SMAQMD Rule 201, Section 405]

Verification: None

AQ-SU2 This Authority to Construct shall serve as a temporary Permit to Operate provided that:

A. The SMAQMD has been notified to conduct a start-up inspection.

B. The equipment installed matches the equipment authorized in this Authority to Construct.

C. The equipment is operated in compliance with all conditions listed within this Authority to Construct.

[Basis: SMAQMD Rule 201, Section 405]

Verification: None

AQ-SU3 This Authority to Construct has been reviewed through an Enhanced New Source Review process in accordance with the procedural requirements of Section 401 through 408 of Rule 207 Title V – Federal Operating Permit Program.

Verification: None

AQ-SU4 The Sacramento Cogeneration Authority shall submit to the Air Pollution Control Officer an application to modify the Title V permit with an Administrative Title V Permit Amendment prior to commencing operation with modifications authorized by this Authority to Construct.

Verification: Within fifteen (15) working days before the execution of the condition, the facility owner shall notify the SMAQMD and the CPM.

GENERAL CONDITIONS

AQ-AB1 The equipment shall be properly maintained and operated in accordance with the manufacturer's recommendations at all times. [Basis: SMAQMD Rule 201, Section 405]

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB2 The Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials shall be permitted:

A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this Authority to Construct,

B. At reasonable times to have access to and copy any records required to be kept under terms and conditions of this Authority to Construct,

C. To inspect any equipment, operation, or method required in this Authority to Construct, and

D. To sample emissions from the source or require samples to be taken.

Verification: The facility owner shall make the site available for inspection by representatives of the SMAQMD, the ARB, and the CPM .

AQ-AB3 This Authority to Construct does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the Rules and Regulations of the SMAQMD. [Basis: SMAQMD Rule 201, Section 405]

Verification: Within 24 hours of any occurrence, the owner or operator shall notify the District and CPM. No later than thirty (30) days following the end of each calendar quarter, the project owner shall submit an excess emissions notification report to the CPM and the APCO listing any exceedances or stating that none occurred. This information shall be maintained on site for a minimum of five (5) years and shall be provided to the CPM and SMAQMD personnel upon request.

AQ-AB4 The equipment shall not discharge such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. [Basis: SMAQMD Rule 402, Section 301]

Verification: Within 24 hours of any occurrence, the owner or operator shall notify the District and CPM. No later than thirty (30) days following the end of each calendar quarter, the project owner shall submit an excess emissions notification report to the CPM and the APCO listing any exceedances or stating that none occurred. This information shall be maintained on site for a minimum of five (5) years and shall be provided to the CPM and SMAQMD personnel upon request.

AQ-AB5 A legible copy of this Authority to Construct shall be maintained on the premises with the equipment. [Basis: SMAQMD Rule 201, Section 401]

Verification: The facility owner shall make the site available for inspection by representatives of the SMAQMD, the ARB, and the CPM.

AQ-AB6 Malfunction: The SMAQMD Air Pollution Control Officer shall be notified of any breakdown of the emissions monitoring equipment, any equipment or any process which results in an increase in emissions above the allowable emissions limits stated as a condition of this permit or any applicable state or federal regulation which affects the ability of the emissions to be accurately determined. Such breakdowns shall be reported to the SMAQMD in accordance with the procedures and reporting times specified in SMAQMD Rule 602 - Breakdown Conditions; Emergency Variance. [Basis: SMAQMD Rule 602]

Verification: The facility owner shall provide the Energy Commission Compliance Project Manager (CPM) with a copy of any report required by this Condition at the same time as the report is provided to the District.

AQ-AB7 Severability: If any provision, clause, sentence, paragraph, section or part of these conditions for any reason is judged to be unconstitutional or invalid, such judgment shall not affect or invalidate the remainder of these conditions. [Basis: SMAQMD Rule 201, Section 405]

Verification: None

EMISSION LIMITATIONS

AQ-AB8 The boiler shall not discharge into the atmosphere any visible air contaminant other than uncombined water vapor for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity. [Basis: SMAQMD Rule 401, Section 301]

Verification: The facility owner shall make the site available for inspection by representatives of the SMAQMD, the ARB, and the CPM.

AQ-AB9 The boiler when burning natural gas, shall not emit:

A. Nitrogen Oxides (NOx) in excess of 5.0 ppmvd corrected to 3% Oxygen, averaged over any three hour period, excluding periods containing startups and shutdowns as defined in AQ-AB15.

B. Carbon Monoxide (CO) in excess of 283.8 ppmvd corrected to 3% Oxygen, averaged over any three hour period, excluding periods containing startups and shutdowns as defined in AQ-AB15.

[Basis: SMAQMD Rule 202, Section 301 and Rule 411, Section 301]

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB10 Emissions of VOC, NOx, SOx, PM10, PM2.5 and CO from the auxiliary boiler, including startups and shutdowns, shall not exceed the following limits:

[Basis: SMAQMD Rule 201, Section 405 and Rule 202]

Table 1

Pollutant	Maximum Allowable Daily Emissions (lb/day) (A)
VOC	9.8
NOx	23.0
SOx	1.6
PM10	13.0
PM2.5	13.0
CO	547.8

(A) Emissions are based on the main burner operating at 108.7 MMBtu/hr, 1,000 btu/scf, for 24 hr/day and the Emission Factors shown in Table 3 below. For NOx, for the first two hours the boiler is assumed to operate at 30 ppm at 3% O2, the next hour the boiler is assumed to operate at 9 ppm at 3% O2 and the remaining 21 hours the boiler is assumed to operate at 5 ppm at 3% O2.

Table 2

	Maximum Allowable Emissions (lb/day) (A)				
Pollutant	Quarter 1 (A)(lb/quarter)	Quarter 2 (B)(lb/quarter)	Quarter 3 (C)(lb/quarter)	Quarter 4 (D)(lb/quarter)	Year Lbs
VOC	742	835	235	285	2,097
NOx	1443	1550	737	658	4,388
Sox	118	133	37	45	333
PM10	978	1100	309	376	2,763
PM2.5	978	1100	309	376	2,763
CO	41,329	46,483	13,064	15,879	116,755

(A) Emissions are based on a quarterly fuel usage of 196.8 MMCF/qtr and the emission factors in Table 3.
(B) Emissions are based on a quarterly fuel usage of 221.3 MMCF/qtr and the emission factors in Table 3.
(C) Emissions are based on a quarterly fuel usage of 62.2 MMCF/qtr and the emission factors in Table 3.
(D) Emissions are based on a quarterly fuel usage of 75.6 MMCF/qtr and the emission factors in Table 3.

Table 3

The Following Emission Factors Are Used In Calculating The Daily And Quarterly Emissions Emission Factors

Pollutant	Pilot Burner (A)(lb/MMCF)	Main Burner (B)(lb/MMCF)
VOC	5.4	3.77
NOx (C)	As monitored by the CEM System	As monitored by the CEM System
Sox	0.6	0.6
PM10	7.5	4.97
PM2.5	7.5	4.97
CO (C)	As monitored by the CEM System	As monitored by the CEM System

(A) Emission factors for VOC, SOx, and PM10 (assume all of the PM10 is PM2.5) are from AP-42, Tables 1.4-1 & 1.4-2 (07/98)
(B) Emission factors for SOx are from AP-42, Tables 1.4-1 & 1.4-2 (07/98). VOC and PM10 (assume all of the PM10 is PM2.5) are per the applicant's request.
(C) NOx and CO emissions will be determined as monitored by the Continuous Emission Monitor System.

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB11 Emissions from all equipment at the Sacramento Cogeneration Authority facility (Gas Turbine 1A, 1B, 1C; Duct Burners 1A and 1B; Air Pollution Control (APC) NOx SCR System 1A, 1B, 1C; APC CO Oxidation Catalyst 1A and 1B; Auxiliary Boiler 1A and 1B; Cooling Tower), including periods of startups and shutdowns, shall not exceed the following limits:

	Maximum Allowable Emissions				
Pollutant	Quarter 1 (lb/quarter)	Quarter 2 (lb/quarter)	Quarter 3 (lb/quarter)	Quarter 4 (lb/quarter)	Year Lbs
CO	48,994	49,535	50,075	50,075	198,679

[Basis: SMAQMD Rule 201, Section 405 and Rule 202]

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB12 Emissions of ammonia (NH3) from the auxiliary boiler, including startups, shall not exceed the following limits: [Basis: SMAQMD Rule 201, Section 405 and Rule 202]

Maximum Ammonia Emissions (A)								
Pollutant	Emission Factor (ppmvd at 3% O2)	Hourly (lb/hr)	Daily (lb/day)	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)	Year (lb/yr)
NH3	20 ppmvd (B)	0.98	23.4	2107	2130	2154	2154	8545

Notes:
(A) Emissions are based on 20 ppmvd @ 3% O2, 24 hr/day, 90, 91, 92, and 92 days for quarters 1 through 4 respectively.
(B) Compliance with the 20 ppmvd corrected to 3% O2 NH3 limit is determined based on source test data as required by AQ-AB18.

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

EQUIPMENT OPERATION

AQ-AB13 The boiler shall be fired only on pipeline quality natural gas. [Basis: SMAQMD Rule 202, Section 301]

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB14 The maximum fuel usage shall not exceed the following [Basis: SMAQMD Rule 202, Section 301]

Natural Gas Fuel Usage				
Q1 MMCF	Q2 MMCF	Q3 MMCF	Q4 MMCF	Year MMCF
196.8	221.3	62.2	75.6	555.9

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB15 The auxiliary boiler is subject to two startup periods and a shutdown period.

A. The total duration of the auxiliary boiler's startup period shall not exceed 180 minutes. Startups are defined as time periods commencing with the introduction of fuel to the boiler (pilot burner and/or main burner), and ending at the time that the 15-minute average NOx and CO concentrations do not exceed 5.0 ppmvd at 3% O2 and 283.8 ppmvd at 3% O2 respectively, but in no case exceeding 180 consecutive minutes. During this startup period the NOx and CO mass emissions shall not exceed 9.1 lb and 68.5 lb respectively.

B. In order to determine compliance with startup provisions specified in Rule 411, the boiler shall be constrained to an additional startup period not to exceed 120 minutes. For this additional startup provision, the time period commences with the introduction of fuel to the boiler (pilot burner and/or main burner), and ending at the time that the 15-minute average NOx and CO concentrations do not exceed 9.0 ppmvd at 3% O2 and 283.8 ppmvd at 3% O2 respectively, but in no case exceeding 120 consecutive minutes. During this startup period the NOx and CO mass emissions shall not exceed 7.9 lb and 45.7 lb respectively.

C. The total duration of the auxiliary boiler's shutdown period shall not exceed 60 minutes. Shutdowns are defined as time periods commencing with the reduction of fuel flow to the boiler (pilot burner and/or main burner), and ending at the time that all fuel flow has ceased. During this shutdown period the NOx and CO mass emissions shall not exceed 0.7 lb and 22.8 lb respectively.

[Basis: SMAQMD Rule 202, Section 301 and Rule 411, Section 222]

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB16 The Sacramento Cogeneration Authority shall operate a continuous emission monitoring system (CEMS) that has been approved by the SMAQMD Air Pollution Control Officer, for the boiler emissions.

A. The CEM system shall monitor and record concentrations of NOx, CO and oxygen.

B. The CEM system shall comply with the U.S. EPA Performance Specifications (40 CFR 60, Appendix B, Performance Specifications 2, 3 and 4).

[Basis: SMAQMD Rule 201, Section 405 and Rule 202]

Verification: No more than thirty (30) days after installation, the facility owner shall submit to the CPM a written statement by a California registered professional engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate devices have been installed and are functioning properly. As required by other conditions, the facility owner shall submit all dates of operation, elapsed time in hours, and the reason for each operation in the Quarterly Operations Report (AQ-32).

AQ-AB17 The Sacramento Cogeneration Authority shall operate a continuous parameter monitoring system that has been approved by the SMAQMD Air Pollution Control Officer that either measures, or calculates and records the following. [Basis: SMAQMD Rule 201, Section 405 and Rule 202]

Parameter to be Monitored	Units
Fuel consumption of the boiler	MMCF/hr of natural gas

Verification: No later than thirty (30) days following the end of each calendar quarter, the project owner shall submit the report required by AQ-32 to the CPM and the APCO. This information shall be maintained on site for a minimum of five (5) years and shall be provided to the CPM and SMAQMD personnel upon request.

EMISSIONS TESTING

AQ-AB18 A VOC, NOx, PM10, PM2.5, CO, and NH3 source test and a CEM accuracy (RATA) test of the auxiliary boiler shall be performed once every calendar year.

A. Submit a Source Test Plan to the SMAQMD Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.

B. The SMAQMD Air Pollution Control Officer shall be notified at least 7 days prior to the emission testing date if the date has changed from that approved in the Source Test Plan.

C. During the source test the auxiliary boiler shall be operated at greater than 90% of the maximum firing capacity.

D. The Source Test Report shall be submitted to the SMAQMD Air Pollution Control Officer within 60 days from the completion of the source test(s).

E. The SMAQMD Air Pollution Control Officer may waive the annual PM10, PM2.5, and VOC source test requirement if, in the SMAQMD Air Pollution Control Officer's sole judgment, prior test results indicate an adequate compliance margin has been maintained.

[Basis: SMAQMD Rule 201, Section 405]

Verification: At least thirty (30) days before conducting a source test, the facility owner shall submit to the SMAQMD and the CPM for their review and approval, a source test plan. The facility owner shall notify the SMAQMD and the CPM within seven (7) working days before the project begins initial operation and/or plans to conduct a source test if the date changes from that in the Source Test Plan. All source test results shall be submitted to the CPM and the SMAQMD within sixty (60) days of the date of the tests.

RECORD KEEPING & REPORTING

AQ-AB19 The following record shall be continuously maintained on-site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available for inspection within 30 days of the end of the reporting period. [Basis: SMAQMD Rule 201, Section 405 and Rule 202]

Frequency	Information to be Recorded
At all times	A. Measurements from the continuous emissions monitoring system and the continuous parameter monitoring system. B. Monitoring device and performance testing measurements. C. Continuous monitoring system performance evaluations. D. Continuous monitoring system device calibration checks. E. Continuous monitoring system adjustments and maintenance.
Hourly	F. The boiler's natural gas fuel consumption (MMCF/hr). G. The boiler's NOx and CO concentration (ppmvd at 3% O2, 3 hour average). H. The boiler's NOx, VOC, SOx, PM10, PM2.5, and CO hourly emissions. i. For those pollutants directly monitored (NOx and CO), the hourly emissions shall be calculated based on the CEM system. ii. For those pollutants that are not directly monitored (VOC, SOx, PM10 and PM2.5), the hourly emissions shall be calculated based on the emission factors specified in AQ-AB10, Table 3 multiplied by the actual fuel flow rate of the auxiliary boiler.
Daily	I. Total daily VOC, NOx, SOx, PM10, PM2.5 and CO emissions from the auxiliary boiler (lb/day).
Monthly	J. The boiler's natural gas fuel consumption (MMCF/month).
Quarterly	K. Total quarterly VOC, NOx, SOx, PM10, PM2.5 and CO emissions from the auxiliary boiler (lb/quarter). L. The boiler's natural gas fuel consumption (MMCF/qtr).

Frequency	Information to be Recorded
Yearly	M. Total yearly VOC, NOx, SOx, PM10, PM2.5, and CO emissions from all equipment combined at the Sacramento Cogeneration Authority facility (lb/year).

Verification: The facility owner shall make the site available for inspection by representatives of the SMAQMD, the ARB, and the CPM to verify the continuous monitoring and recordkeeping system is properly installed and operational.

AQ-AB20 Submit to the SMAQMD Air Pollution Control Officer a written report which contains the following information. [Basis: SMAQMD Rule 201, Section 405 and Rule 202]

Frequency	Information to be Submitted
Quarterly – Due by: January 30 April 30 July 30 October 30	A. Whenever the CEM system is inoperative except for zero and span checks. i. Date and time of non-operation of the CEM system. ii. Nature of the CEM system repairs or adjustments. B. Whenever an emission occurs as measured by the required CEM system that is in excess of any emission limitation. i. Magnitude of the emission which has been determined to be in excess. ii. Date and time of the commencement and completion of each period of excess emissions. iii. Periods of excess emissions due to start-up, shutdown and malfunction shall be specifically identified. iv. The nature and cause of any malfunction (if known). v. The corrective action taken or preventive measures adopted. C. If there were no excess emissions during a reporting quarter. i. A report shall be submitted indicating that there were no excess emissions.

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB21 The permitee shall submit notification to EPA per NSPS 40 CFR 60 Subpart DB Section 60.49b(a) [Basis: 40 CFR 60 Subpart DB Section 60.49b(a)]

Verification: As part of the Quarterly Air Quality Report (as required by AQ-32), the facility owner shall submit to the and Energy Commission CPM a copy of a statement of compliance with the above federal applicable provisions and regulations.

AQ-AB22 The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health

and Safety Code Section 44300 et seq.) [Basis: SMAQMD Rule 201, Section 303.1]

Verification: The facility owner shall notify the SMAQMD and the CPM within fifteen (15) working days before the execution of this condition.

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

AQ-AB23 Prior to construction, the permittee shall surrender sufficient ERCs to the SMAQMD Air Pollution Control Officer to offset the following amount of emissions: [Basis: SMAQMD Rule 202]

	Quarter 1 (lb/quarter)	Quarter 2 (lb/quarter)	Quarter 3 (lb/quarter)	Quarter 4 (lb/quarter)
VOC	742 lbs.	835 lbs.	235 lbs.	285 lbs.
NOx	1,443 lbs.	1,550 lbs.	737 lbs.	658 lbs.
PM10	978 lbs.	1,100 lbs.	309 lbs.	376 lbs.
PM2.5	978 lbs.	1,100 lbs.	309 lbs.	376 lbs.

Offsets for VOC, NOx, PM10 and PM2.5 will be provided from an emission reduction credit certificate for the reduction in rice straw burning originating in the Feather River Air Quality Management District (FRAQMD). The locations of the reduction in rice straw burning are located greater than 15 miles from SCA but less than 50 miles. Therefore, the total quantity of offsets that need to be surrendered for the project are as follows:

Emission Reduction Credit Certificate No. (A)	Pollutant	Amount of ERC's Surrendered lb/quarter				Offset Ratio	Value Applied To The Project Emission Liability lb/quarter			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
FRAQMD #99001-T2	VOC	1,484	1,670	470	570	2.0	742	835	235	285
	NOX	2,886	3,100	1,474	1,316	2.0	1,443	1,550	737	658
	PM10	1,956	2,200	618	752	2.0	978	1,100	309	376
	PM2.5	1,956	2,200	618	752	2.0	978	1,100	309	376

(A) Certificate #99001-T2 has been submitted by the applicant to the Feather River Air Quality Management District for recertification with Rule 10.9. Though the recertification has not been completed by FRAQMD, an analysis performed by the SMAQMD in support of this application determined that there are sufficient credits available to sufficiently offset the emissions shown above.

Verification: At least thirty (30) days prior to the start of operation, the facility owner shall provide to the CPM a copy of the documentation from the Feather River Air Quality Management District demonstrating approval of the ERC transfer and documentation from the Sacramento Metropolitan Air Quality Management District demonstrating approval of the use of banking certificate (Certificate FRAQMD #99001-T2) for the Auxiliary Boiler 1B Project.

COMMISSIONING CONDITIONS

AQ-AB24 The facility owner of the Sacramento Cogeneration Authority shall minimize emissions of carbon monoxide and nitrogen oxides to the maximum extent possible during the commissioning period. Condition AQ-AB24 through AQ-AB32 will only apply during the commissioning period. The commissioning period is defined as: "The Period shall commence when all mechanical, electrical, and control systems are installed and individual start-up has been completed, or when the boiler is first fired, whichever occurs first. The period shall terminate when the plant has successfully completed both performance and compliance testing." [Basis: SMAQMD Rule 201, Section 405]

Verification: The facility owner shall submit to the CPM a commissioning phase status report monthly, as needed, beginning one month after the time of the boiler's first fire. This commissioning status report shall demonstrate compliance with this condition. The Monthly Commissioning Status Report shall include criteria pollutant emission estimates for each commissioning activity and total commissioning emission estimates. The Monthly Commissioning Status Report shall be submitted to the CPM until the report includes the completion of all commissioning activities. The facility owner shall provide the SMAQMD and the CPM with written notification of the initial start-up date no later than 60 days prior to the startup date.

AQ-AB25 At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the boiler shall be tuned to minimize the emissions of carbon monoxide and nitrogen oxides. [Basis: SMAQMD Rule 201, Section 405]

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB26 At the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor, the Selective Catalytic Reduction (SCR) system shall be installed, adjusted, and operated to minimize the emissions of nitrogen oxides from the boiler. [Basis: SMAQMD Rule 201, Section 405]

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB27 The facility owner of the Sacramento Cogeneration Authority shall submit a plan to the District and the Energy Commission's CPM at least 4 weeks prior to first firing of the boiler describing the procedures to be followed during the commissioning of the boiler. 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 limited to, the tuning of the burners, the installation and operation of the SCR system, the installation, calibration, and testing of the NOx, CO and O2 continuous emission monitors, and any activities requiring the firing of boiler without abatement by its SCR system. [Basis: SMAQMD Rule 201, Section 405]

Verification: No later than four (4) weeks prior to first firing of the boiler describing the procedures to be followed during the commissioning of the boiler to the CPM and the APCO. This information shall be maintained on site for a minimum of five (5) years and shall be provided to the CPM and SMAQMD personnel upon request.

AQ-AB28 During the commissioning period, the facility owner of the boiler shall demonstrate compliance with AQ-AB31 through AQ-AB32 through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:

A. Firing hours of the boiler;

B. Fuel flow rates to the boiler;

C. Stack gas nitrogen oxide emission concentrations of the boiler;

D. Stack gas carbon monoxide emission concentrations of the boiler;

E. Stack gas oxygen concentrations of the boiler; and

F. 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 boiler. The facility owner shall use District approved methods to calculate heat input rates, VOC, NOx, SOx, PM10, PM2.5 and CO mass emission rates, and NOx 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. [Basis: SMAQMD Rule 201, Section 405]

Verification: The facility owner shall submit to the CPM a commissioning phase status report monthly, as needed, beginning one month after the time of the boiler's first fire. This commissioning status report shall demonstrate compliance

with this condition. The Monthly Commissioning Status Report shall include criteria pollutant emission estimates for each commissioning activity and total commissioning emission estimates. The Monthly Commissioning Status Report shall be submitted to the CPM until the report includes the completion of all commissioning activities and information A through F above. The facility owner shall provide the SMAQMD and the CPM with written notification of the initial start-up date no later than 60 days prior to the startup date.

AQ-AB29 The District approved continuous emission monitors specified in AQ-AB16 shall be installed, calibrated, and operational prior to first firing of the boiler. After first firing of the boiler, the detection range of these continuous emission monitors shall be adjusted as necessary to accurately measure the resulting range of NOx and CO emission concentrations. The type, specifications, and location of these monitors shall be subject to District review and approval. [Basis: SMAQMD Rule 201, Section 405]

Verification: No more than thirty (30) days after installation, the facility owner shall submit to the CPM a written statement by a California registered professional engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate devices have been installed and are functioning properly. As required by other conditions, the facility owner shall submit all dates of operation, elapsed time in hours, and the reason for each operation in the Quarterly Operations Report (AQ-32).

AQ-AB30 The total number of firing hours of the boiler without abatement of nitrogen oxide emissions by the SCR system shall not exceed 84 hours during the commissioning period. Such operation of the boiler shall be limited to discrete commissioning activities that can only be properly executed without the SCR systems fully operational. Upon completion of these activities, the facility owner shall provide written notice to the District and the unused balance of the 84 firing hours without abatement shall expire. [Basis: SMAQMD Rule 201, Section 405]

Verification: Upon completion of the above activities, the facility owner shall provide written notice to the District and the CPM and the unused balance of the 84 firing hours without abatement shall expire.

AQ-AB31 The total mass emissions of VOC, NOx, SOx, PM10, PM2.5 and CO that are emitted by the boiler during the commissioning period shall accrue towards the quarterly emission limitations specified in AQ-AB10, Table 2. [Basis: SMAQMD Rule 201, Section 405]

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.

AQ-AB32 The pollutant mass emissions from the boiler shall not exceed the following limits during the commissioning period: [Basis: SMAQMD Rule 201, Section 405]

Maximum Allowable Emissions During the Commissioning Period Including Start-ups and Shutdowns.		
Pollutant	lb/hr	lb/day
NOx	3.96	55.4
CO	32.13	547.8

Note: Hourly limits for NOx and CO will be monitored using CEMS. For those pollutants that are not directly monitored (VOC, SOx, and PM10), the mass emissions shall be calculated based on District approved emission factors contained in AQ-AB10, Table 3.

Verification: As part of the Quarterly Emissions Report required by Condition of Certification AQ-32, the facility owner shall assert that they comply with this condition and report any instances of noncompliance.