DOCKETED

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CALIFORNIA ENERGY COMMISSION
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SACRAMENTO, CA 95814-5512
www.energy.ca.gov

DATE: June 3, 2015

TO: Interested Parties

FROM: Mary Dyas, Compliance Project Manager

SUBJECT: **SCA PROCTER & GAMBLE (93-AFC-2C)**
Staff Analysis of Amendment Proposal

On October 30, 2014, the Sacramento Cogeneration Authority (SCA) filed a petition with the California Energy Commission (Energy Commission) requesting to modify the Final Decision for the SCA Procter & Gamble Cogeneration project (PGCP). Data Request Set 1A was submitted on December 23, 2014. Cultural Resources staff requested additional information on February 5, 2015, and Responses were submitted by SCA on January 23, 2015 (Set 1A) and February 24, 2015 (Set 1B). Supplemental information was filed by SCA on May 14, 2015 and May 19, 2015. Energy Commission staff (staff) also received information from the Sacramento Metropolitan Air Quality Management District (District) on May 22, 2015. In addition, Energy Commission staff (staff) prepared an analysis of the proposed changes that can be reviewed on the Energy Commission website for this facility (see below).

The PGCP consists of two General Electric (GE) LM6000 SPRINT combined-cycle gas turbines, Units 1 and 2, which produce electricity and steam at the 171-megawatt facility. The PGCP facility was certified by the Energy Commission in its Decision in November 1994, and began commercial operation on March 1, 1997. The project's simple-cycle peaking gas turbine was later added and began commercial operation on May 1, 2001. The facility is located at 5000 83rd Street in the city of Sacramento.

Staff reviewed the petition and other pertinent information pertaining to the project to assess the impacts of this proposal on environmental quality and on public health and safety. In the Staff Analysis, staff proposes new and/or revised numerous Air Quality Conditions of Certification to ease cross reference to District documents. Staff also proposes to modify existing Cultural Resources Conditions of Certification **CUL-1**, and add new Conditions of Certification **CUL-4**, **CUL-5**, and **CUL-6**. It is staff's opinion that, with the implementation of these new and/or revised conditions, the facility would remain in compliance with applicable laws, ordinances, regulations, and standards, and the amended project would not result in any significant, adverse, direct, indirect, or cumulative impacts to the environment (Cal. Code of Regs., tit. 20, § 1769). Energy Commission staff intends to recommend approval of the petition at the July 8, 2015 Business Meeting of the Energy Commission.

The Energy Commission's webpage for this facility, http://www.energy.ca.gov/sitingcases/procter_gamble/, has a link to the petition and the

Staff Analysis on the right side of the webpage in the box labeled “Compliance Proceeding.” Click on the “Documents for this Proceeding (Docket Log)” option. After the Final Decision, the Energy Commission’s Order regarding this petition will also be available from the same webpage.

This notice has been mailed to the Commission’s list of interested parties and property owners adjacent to the facility site. It has also been e-mailed to the facility listserv. The listserv is an automated Energy Commission e-mail system by which information about this facility is e-mailed to parties who have subscribed. To subscribe, go to the Commission’s webpage for this facility, cited above, scroll down the right side of the project webpage to the box labeled “Subscribe,” and provide the requested contact information.

Any person may comment on the Staff Analysis. Those who wish to comment on the analysis are asked to submit their comments by 5:00 p.m., July 3, 2015. To use the Energy Commission’s electronic commenting feature, go to the Energy Commission’s webpage for this facility, cited above, click on the “Submit e-Comment” link, and follow the instructions in the on-line form. Be sure to include the facility name in your comments. Once submitted, the Energy Commission Dockets Unit reviews and approves your comments, and you will receive an e-mail with a link to them.

Written comments may also be mailed or hand-delivered to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 93-AFC-2C
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with and approved by the Dockets Unit will be added to the facility Docket Log and become publically accessible on the Energy Commission’s webpage for the facility.

If you have questions about this notice, please contact Mary Dyas, Compliance Project Manager, at (916) 651-8891, or by fax to (916) 654-3882, or via e-mail to Mary.Dyas@energy.ca.gov.

For information on participating in the Energy Commission's review of the petition, please call the Public Adviser at (800) 822-6228 (toll-free in California) or send your e-mail to publicadviser@energy.ca.gov. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail to mediaoffice@energy.ca.gov.

Mail List 783
Procter and Gamble Listserv

SCA PROCTER & GAMBLE COGENERATION PROJECT (93-AFC-2C)

Petition to Amend the Final Decision

Executive Summary

Mary Dyas

INTRODUCTION

On October 30, 2014, the Sacramento Cogeneration Authority (SCA) filed a petition with the California Energy Commission (Energy Commission) requesting to modify the Final Decision for the SCA Procter & Gamble Cogeneration project (PGCP). Data Request Set 1A was submitted on December 23, 2014. Cultural Resources staff requested additional information on February 5, 2015, and Responses were submitted by SCA on January 23, 2015 (Set 1A) and February 24, 2015 (Set 1B). Supplemental information was filed by SCA on May 14, 2015 and May 19, 2015. Energy Commission staff (staff) also received information from the Sacramento Metropolitan Air Quality Management District (District) on May 22, 2015. In addition, Energy Commission staff (staff) prepared an analysis of the proposed changes that can be reviewed on the Energy Commission website for this facility (see below). The modifications proposed in the petition would allow more flexibility during low electrical demand periods and it would allow SCA to shut down both combined-cycle gas turbines and rely solely on the two auxiliary boilers to meet its contractual steam supply requirements to the adjacent Procter & Gamble (P&G) manufacturing facility.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality and on public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Final Decision and an assessment of whether the project, as modified, would remain in compliance with applicable laws, ordinances, regulations, and standards (Cal. Code Regs., tit. 20, § 1769).

Staff has completed its review of all materials received. The Staff Analysis below is staff's assessment of the project owner's proposal to install and operate another auxiliary boiler and associated facilities at PGCP.

PROJECT LOCATION AND DESCRIPTION

The PGCP consists of two General Electric (GE) LM6000 SPRINT combined-cycle gas turbines, Units 1 and 2, which produce electricity and steam at the 171-megawatt facility. The PGCP facility was certified by the Energy Commission in its Decision in November 1994, and began commercial operation on March 1, 1997. The project's simple-cycle peaking gas turbine was later added and began commercial operation on May 1, 2001. The facility is located at 5000 83rd Street in the city of Sacramento.

DESCRIPTION OF PROPOSED MODIFICATIONS

SCA proposes to install a second auxiliary boiler (Boiler 1B) and associated facilities at the 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 P&G manufacturing facility for its production needs, when it is not economically beneficial to operate the combustion turbines.

The proposed auxiliary boiler would be natural-gas-fired with a maximum rated heat input of approximately 108.7 MMBtu/hr. The installation of the auxiliary boiler would include the following tasks:

- Utility tie-in
- Site preparation (civil work)
- Boiler foundation construction
- Disassembly and transport of the boiler
- Boiler installation and mechanical/electrical tie-in to existing system
- Construction and installation of associated facilities
- Tie-in to substation

Responses to Data Requests Sets 1 and 1B included the following construction activities:

Removal of Boiler 1B

- Temporary removal and reinstallation of portions (doors, siding and roofing) of the Old Boiler House at the Campbell Soup Cogeneration facility to facilitate removal of Boiler 1B;

Construction at PGCP:

- Excavation for the Boiler 1B foundation not to exceed 48 inches
- Excavations for utility tie-ins not to exceed 24 inches
- New equipment required for the installation not to exceed 48 inches in depth of excavation.

NECESSITY FOR THE PROPOSED MODIFICATIONS

SCA's contract with Procter & Gamble requires operation of two sources of steam from SCA during the PGCP's operation in order to furnish the maximum flow rate of 120,000 pounds per hour; or, in the event that an unscheduled maintenance activity leaves SCA with only one steam source available, a reduction in the steam supply obligation to 80,000 pounds per hour for the duration of the event. This petition to amend proposes

to install a second auxiliary boiler (Boiler 1B) and associated facilities at the PGCP site, for a total of two boilers at the site. This action would provide more flexibility during low electrical demand periods; it would allow SCA to shut down both combined-cycle gas turbines and rely solely on the two auxiliary boilers to meet its contractual steam supply requirements to the adjacent P&G manufacturing facility. During periods of low electrical demand, it is not economically beneficial to operate the combined-cycle combustion turbines for the production of electricity in order to generate steam for P&G, and ultimately results in the unnecessary release of greenhouse gasses and criteria pollutants.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

Staff reviewed the petition for potential environmental effects and consistency with applicable LORS. Staff's conclusions in each technical area are summarized in **Executive Summary Table 1**, below.

Executive Summary Table 1
Summary of Impacts for Each Technical Area

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			Revised Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact*	Process As Amendment	
Air Quality			X	X
Biological Resources		X		
Cultural Resources			X	X
Efficiency		X		
Engineering Geology		X		
Facility Design		X		
Hazardous Materials Management			X	X
Land Use	X			
Noise		X		
Paleontological Resources		X		
Public Health		X		
Safety		X		
Socioeconomics		X		
Soils & Water Resources		X		
Traffic & Transportation		X		
Transmission Line Safety & Nuisance	X			
Transmission System Engineering	X			
Visual Resources		X		
Waste Management		X		

*There is no possibility that the proposed modifications may have a significant effect on the environment, and the modifications will not result in a change in or deletion of a condition adopted by the Commission

in the Final Decision, or make changes that would cause project noncompliance with any applicable laws, ordinances, regulations, or standards (20 Cal. Code Regs., § 1769 (a)(2)).

Staff determined that the technical area of Air Quality would be affected by the proposed project changes and has proposed modifications to numerous Air Quality Conditions of Certification. For Cultural Resources, staff determined there would be no significant impacts to historic buildings, nor would any known archaeological or ethnographic resources be affected. Staff is recommending changes to Condition of Certification **CUL-1** and new Conditions of Certification **CUL-4**, **CUL-5** and **CUL-6** to assure compliance with local LORS (city of Sacramento) that have changed since the project was licensed and to reduce the significance of inadvertent impacts on any unknown buried archaeological or ethnographic resources. Staff has also determined that in the technical area of Hazardous Materials Management the addition of the auxiliary boiler is fully mitigated with implementation of the existing conditions of certification, plus the addition of proposed Condition of Certification **HAZ-8** to address the safety in the commission of new or repaired gas plumbing and pipelines. Staff's analysis in the areas of Air Quality, Cultural Resources, and Hazardous Materials Management are attached below.

Staff has determined that the technical or environmental areas of Biological Resources, Engineering Geology, Facility Design, Land Use, Noise, Paleontological Resources, Power Plant Efficiency, Power Plant Reliability, Public Health, Safety, Socioeconomics, Soil and Water Resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Transmission System Engineering, Visual Resources, and Waste Management are either not affected by the proposed changes, or no revisions or new conditions of certification are needed to ensure the project remains in compliance with all applicable LORS and would not cause significant impacts on the environment.

Biological Resources – Staff concluded the proposed amendment would reduce overall nitrogen emissions because it would replace the use of a large combustion turbine (500 MMBTU/hr) with an efficient boiler (108.7 MMBTU/hr), thus creating a net decrease in emissions. In addition, pre-construction bird surveys would be conducted by a qualified biologist for work activities occurring between February 1 and August 31 to reduce potential impacts to nesting birds.

Engineering Geology – Staff concluded that compliance with the existing conditions of certification in the Commission Decision will mitigate any impact to geological resources to less than significant and no changes to the conditions of certification would be needed.

Facility Design – Staff concluded that with the implementation of the existing conditions of certification contained in the Commission Decision, the impacts are expected to be less than significant and the installation of the new boiler would comply with the California Building Code CBC and related engineering LORS.

Noise – Staff concluded that with implementation of the existing conditions of certification contained in the Commission Decision, the noise impacts are expected to be less than significant.

Paleontological Resources – Staff concluded that compliance with the existing conditions of certification in the Commission Decision will mitigate any impact to paleontological resources to less than significant, should any paleontological resources be encountered.

Power Plant Efficiency – Staff concluded that with the implementation of the existing conditions of certification, the facility would continue to conform to the requirements for operating as a cogeneration power plant. PGCP would continue to comply with **RELI-1** which requires the project owner to maintain monthly data sets of power plant reliability and maintenance data. Staff also concludes that no changes to conditions of certification in Power Plant Efficiency are needed.

Power Plant Reliability - Staff concluded that with the implementation of the existing conditions of certification, the facility would continue to conform to the requirements for operating as a cogeneration power plant. Staff also concludes that no changes to conditions of certification in Power Plant Reliability are needed.

Public Health – Staff concluded the proposed amendment would reduce overall emissions because it would replace the use of a large combustion turbine (500 MMBTU/hr) with an efficient boiler (108.7 MMBTU/hr), thus creating a net decrease in emissions. Staff has analyzed potential public health risks associated with construction and operation of the modifications proposed in the SCA's PGCP Petition to Amend and does not expect any significant adverse, short-term, or long-term health effects to any members of the public, including low income and minority populations, from project toxic emissions. Staff also concludes that no changes to conditions of certification in Public Health are needed.

Safety – With the implementation of existing conditions of certification, staff concluded that the proposed modification would not have a significant effect on the environment and would continue to comply with all applicable LORS. The short duration of upgrade activities shall comply with worker safety and fire safety measures contained in health and safety plans utilized for construction of the main facility, reference specifically **SAFETY-1**.

Soils and Water Resources - Staff concluded that compliance with existing conditions of certification in the Commission Decision will mitigate any impact to less than significant and no changes to the conditions of certification are needed.

Socioeconomics – Staff concluded that the proposed amendment would have no significant socioeconomic impacts. **SOCIO-1** is applicable to this amendment; however, **SOCIO-2** is not applicable to this amendment because construction workers typically do not bring their families with them if they temporarily relocate closer to a work site.

Traffic & Transportation – Staff concluded that the additional trips generated by 20 construction workers and three to five trucks daily during an approximately 2-month period would be temporary in nature would not adversely impact the existing traffic conditions in the project area. The proposed amendment would have no significant effect to traffic and transportation nor would the existing traffic and transportation conditions of certification in the Commission Decision be affected.

Visual Resources – Staff concluded that the installation of an additional auxiliary boiler at the PGCP would not have a substantial adverse effect on a scenic vista or substantially degrade the existing visual character or quality of the site and its surroundings. With the implementation of existing conditions of certification, staff concluded that the proposed modification would not have a significant effect on the environment and would continue to comply with all applicable LORS.

Waste Management - With the implementation of existing conditions of certification, the proposed modification would not have a significant effect on the environment and would continue to comply with all applicable LORS. In accordance with **WASTE-3**, any construction waste generated by this short duration construction project shall comply with the existing Construction Waste Management Plan.

The data presented in the **Environmental Justice Population Figure**, at the end of this section, shows the population in a six-mile radius of the Procter & Gamble Cogeneration Project site constitutes an environmental justice population, as defined by *Environmental Justice: Guidance Under the National Environmental Policy Act*. Because the amended project would not cause any significant impacts, the identified environmental justice population would not be affected.

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that the following required findings, mandated by Title 20, California Code of Regulations, section 1769 (a)(3), can be made, and staff recommends approval of the petition by the Energy Commission:

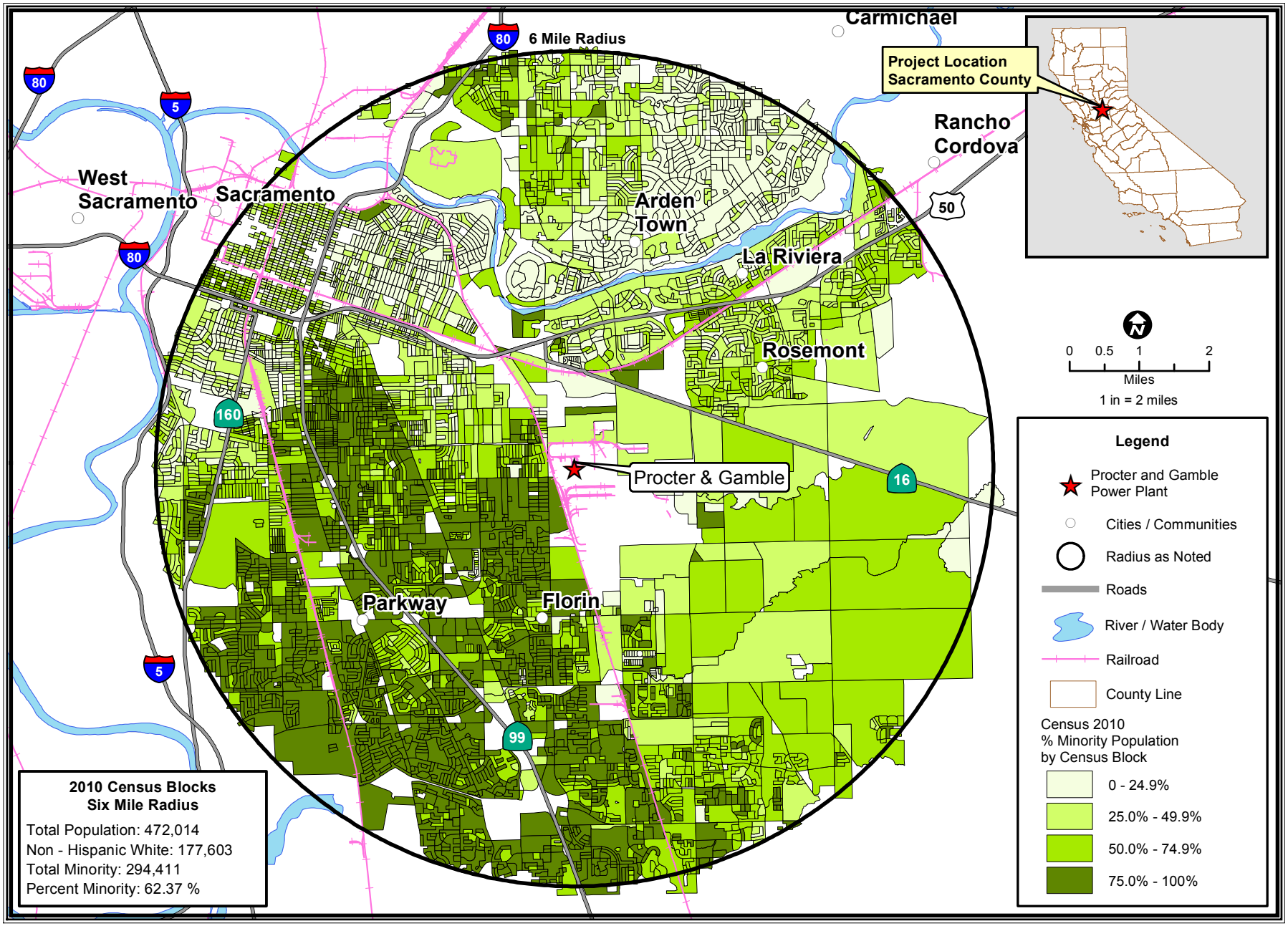
- The proposed modification(s) would not change the findings in the Energy Commission's Decision pursuant to Title 20, California Code of Regulations, section 1755;
- There would be no new or additional unmitigated, significant environmental impacts associated with the proposed modification(s);
- The facility would remain in compliance with all applicable laws, ordinances, regulations, and standards;
- The modifications proposed in the petition would allow more flexibility during low electrical demand periods and it would allow SCA to shut down both combined-cycle gas turbines and rely solely on the two auxiliary boilers to meet its contractual steam supply requirements to the adjacent P&G manufacturing facility. During periods of low electrical demand, it is not economically beneficial

to operate the combined-cycle combustion turbines for the production of electricity and ultimately results in the unnecessary release of greenhouse gasses and criteria pollutants;

- The proposed modifications would be beneficial to the public and the applicant because it would allow SCA to operate PGCP more efficiently and enable greater flexibility of operation by permitting both combustion turbines to be shut down concurrently. This would provide greater operational flexibility for both planned and unplanned outages, allow more efficient use of resources during periods of low electrical demand, and result in reduced air emissions. This change would also be consistent with SMUD's policies of improving energy efficiency, reducing water use, and reducing greenhouse gas emissions; and
- The proposed modifications are justified because there has been a substantial change in circumstances since the Energy Commission certification, in that during the early 1990s, at a time when low electricity demand was not contemplated, the PGCP was one of several projects proposed by SMUD to replace a portion of the 913 MW lost when the Rancho Seco Nuclear Power Plant was closed by the ratepayers/voters. The proposed changes would improve efficiency and operational flexibility, and were not determined to be necessary until after PGCP had been in operation for several years.

ENVIRONMENTAL JUSTICE POPULATION FIGURE

Procter and Gamble Power Plant - Census 2010 Minority Population by Census Block - Six Mile Radius



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION

SOURCE: OSM and Census 2010 PL 94-171 Data

PROCTER & GAMBLE (93-AFC-2C)
Petition to Install an Auxiliary Boiler 1B
Air Quality Analysis
Jacquelyn Record

INTRODUCTION

On October 30, 2014, Sacramento Cogen Authority (SCA), filed a Petition to Amend (PTA) the California Energy Commission's (Energy Commission) Final Decision (Decision) for the Proctor and Gamble Cogeneration Project (PGCP). SCA has been working with the Sacramento Metropolitan Air Quality Management District (SMAQMD or District) between late October 2014 and May 2015 to finalize district condition language. This process led to two subsequent amendments filed by SCA. Supplement 1 was docketed May 14th, 2015 and Supplement 2 was docketed May 19th, 2015. If approved, the PTA and supplements would:

- Decommission and uninstall one natural gas-fired, 108.7-million-British-thermal-units-per-hour (MMBtu/hr), auxiliary boiler (Boiler 1B) from Campbell Soup Sacramento Cogen project;
- Move, install and operate the natural gas-fired, 108.7-million-British-thermal-units-per-hour (MMBtu/hr), auxiliary boiler (Boiler 1B), which would allow PGCP to not operate the 500 MMBtu/hr gas turbine when it is uneconomical to produce electricity; and
- Change the general arrangement of the new Boiler 1B at the plant site as compared with the original amendment request submitted in October 2014.

In this analysis, staff evaluated the expected air quality impacts from these proposed modifications. The Sacramento Metropolitan Air Quality Management District (SMAQMD or District) issued an Engineering Evaluation of the proposed changes on May 14, 2015 (SMAQMD 2015a), and issued an "Authority to Construct" (ATC, SMAQMD 2015b) modifying the existing District permit conditions to allow for new Boiler 1B. The proposed revised conditions trigger the need for new conditions of certification (COCs) related to this new addition to the PGCP. This analysis shows how the COCs would change to reflect SCA's proposed modifications, and include SMAQMD's ATC changes.

This analysis includes updated setting information and analysis of the emissions and impacts related to the amendment. All of the District relevant original conditions and the complete revisions required by the District have been reviewed, and are shown in this analysis. All the conditions of certification, existing and modified, have been renumbered to allow better cross reference to the District numbering system. For example, the Conditions of Certification associated with SMAQMD's Authority to Construct (ATC) conditions "AQ-ABX" to mean Air Quality - Auxiliary Boiler followed by a numerical value. This analysis finds that changes requested by SCA would conform with applicable federal, state, and SMAQMD air quality laws, ordinances, regulations, and standards, and the amended project would not cause significant air quality

impacts, provided that staff-recommended Conditions of Certification are included as provided below.

BACKGROUND

The PGCP was originally certified by the Energy Commission on November 1994 (CEC 1994), and began commercial operation on March 1, 1997. The project's simple-cycle peaking gas turbine was later added and began commercial operation on May 1, 2001. The facility is located at 5000 83rd street situated adjacent to the P&G manufacturing facility located at 8201 Fruitridge Road, Sacramento California. The existing combined-cycle facility generates a total of 171 megawatts (MW).

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

The 1994 Decision and subsequently approved amendments concluded that contingent on its compliance with the Commission's conditions of certification, the PGCP would be in compliance with all applicable laws, ordinances, regulations, and standards (LORS). The proposed modifications would be subject to all the existing applicable LORS and conditions and any new rules that have been added to LORS since the Decision and previous amendments. The currently applicable LORS are listed below, and compliance of the proposed PGCP modifications with these LORS will be evaluated as part of this analysis.

Sacramento Metropolitan Air Quality Management District (SMAQMD) Rule 202 New Source Review

SMAQMD Rule 202 is for preconstruction review of new or modified facilities, to ensure that affected sources do not interfere with the attainment of ambient air quality standards. Rule 202 contains three separate elements.

- Best Available Control Technology (BACT)
- Emission Offsets
- Air Quality Impact Analysis

SMAQMD Rule 202, Section 301 applies BACT on a pollutant-by-pollutant basis to new and modified emissions units resulting in a quarterly emissions increase provided that the daily potential to emit for the unit is equal to or great than 10 lb/day (550 lb/day for CO). BACT would be required for oxides of nitrogen (NOx), particulate matter with a diameter less than 10 microns (PM10), particulate matter with a diameter less than 2.5 microns (PM2.5), and volatile organic compounds (VOCs).

SMAQMD Rule 202, Section 302 requires that emission offsets be provided on a per-pollutant basis for increases in quarterly emission from a new or modified emission unit if the stationary source's potential to emit (PTE) exceeds the levels specified in SMAQMD Rule 202, Section 302.1. The SMAQMD requires offsets for VOC, 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 (FRAQMD). The FRAQMD uses the term reactive organic gases (ROG) to define volatile organic pollutants rather than VOCs. Therefore, for purpose of this analysis, these two terms are interchangeable and equivalent.

The offset ratio requirements are defined in SMAQMD Rule 202, Section 411.4. The locations of the reduction in rice straw burning are located greater than 15 miles from PGCP but less than 50 miles from PGCP. Therefore, the total quantities of offsets that need to be surrendered for the project are at a 2.0 to 1.0 ratio, per SMAQMD rule. See **Air Quality Table 14** for more details.

Ambient Air Quality Impact Analysis (SMAQMD Rule 202, Section 305) prohibits a new or modified stationary source from interfering with the attainment of an applicable ambient air quality standard. This analysis was conducted by SCA and submitted in their amendment request (SCA 2014) used by Energy Commission staff.

SMAQMD Rule 203 – Prevention of Significant Deterioration

For the purposes of SMAQMD Rule 203 major source applicability, the SCA facility is a fossil fuel fired steam electric plant greater than 250 million British Thermal Units per hour (MMBtu/hr) heat input and as such is subject to the 100 tons per year (TPY) Prevention of Significant Deterioration (PSD) major source threshold. The PTE of the source prior to the addition of the boiler is less than the PSD major source threshold (100 TPY) and thus PGCP is considered minor PSD source. Furthermore, since the PTEs from the new boiler are also less than the PSD threshold, PSD requirements are not triggered. Though PSD is not triggered for any pollutant, the applicant has requested that the entire facility (Gas Turbine 1A, 1B, 1C; Duct Burners 1A and 1B; Air Pollution Control (APC) NOx SCR System 1A, 1B, 1C; APC carbon monoxide (CO) Oxidation Catalyst 1A and 1B; Auxiliary Boiler 1A and 1B; and Cooling Tower) be capped at the existing facility emission cap for CO in order to preserve their minor PSD source status. Thus a condition would be added (SMAQMD 2015a).

SMAQMD Rule 207 Title V Permit, 40 CFR 64 and 70

SMAQMD Rule 207 includes a Federal Operating Permit Program to meet the requirements of Part 70 and to interface the Title V permitting effort with the SMAQMD's permit program. The PGCP is currently operating under the existing permit for all its sources. The review of this application is subject to Rule 207, Section 305 and Sections 401 through 408. An Enhanced New Source Review analysis will be conducted as a federal Title V requirement, outside the scope of the Energy Commission staff's evaluation. This Enhanced New Source Review process would allow the District to administratively amend the facility's Title V permit to reflect these changes at a later date. The SMAQMD would then issue a new Title V permit with both the existing turbines and the new boiler, which would be valid for five years. The permit conditions are not expected to change from those contained in this staff analysis.

SMAQMD Rule 214 – Federal New Source Review

This rule applies to either new major stationary sources, or modifications to existing major stationary sources. The addition of an auxiliary boiler to the SCA facility, which is considered an existing major new source review (NSR) stationary source, makes this modification subject to this rule.

Section 301 – BACT
See discussion in SMAQMD Rule 202, Section 301 above.

Section 302 – Offsets
See discussion in SMAQMD Rule 202, Section 302 above.

Section 404 – Enhanced New Source Review
The applicant has requested an Enhanced New Source review. Therefore, this review will be subject to SMAQMD's Rule 207, Section 305 and Sections 401 through 408.

SMAQMD Rule 411 and 420

SMAQMD Rule 411 – NOx from Boilers, Process Heaters and Steam Generators Rule 411 prohibits NOx and CO emissions in excess of 9 and 400 ppmv @ 3% O_2 respectively, from natural gas fired boilers with a maximum heat input rating greater than 20 MMBtu/hr. Rule 411 is applicable to this boiler, which has a maximum heat input of 108.7 MMBtu/hr. Boiler 1B would be conditioned to achieve NOx and CO concentrations of 5 and 283.8 ppmv @ 3% O_2 respectively. The boiler would comply with the Rule 411 NOx and CO limits. Additionally, Rule 411 limits startup to two hours and shutdown to two hours. The boiler would be conditioned to achieve the rule requirements within 2 hours of a startup. The emissions during a shutdown are not anticipated to be any higher than the boiler's steady state emissions. Therefore, there is no need to limit the duration of shutdowns.

SMAQMD Rule 420 - Sulfur Content of Fuels
This rule limits the sulfur content of all gaseous fuels to less than 50 grains per 100 cubic foot, calculated as hydrogen sulfide (H_2S). Pipeline natural gas in Sacramento County has an average sulfur content of 0.22 grains per 100 cubic foot. Therefore, the boiler would comply with the requirement of this rule.

SMAQMD Rule 801 New Source Performance Standards, 40 CFR 60, Subpart Db

Since the boiler has a maximum heat input rate of 108.7 MMBtu/hr, this subpart is applicable. The boiler combusts exclusively natural gas and would be subject to a NOx emission rate of 0.10 lb/MMBtu at low heat release rate or 0.20 lb/MMBtu at high heat release rate per Section 60.44b. A concentration of 30 ppm NOx at 3% O_2 is equivalent to 0.0364 lb/MMBtu and a concentration of 5 ppm NOx at 3% O_2 is equivalent to 0.006 lb/ MMBtu. Therefore, even in startup mode the boiler would comply with this standard.

AMBIENT AIR QUALITY STANDARD CHANGES

Air Quality Table 1 shows the current attainment status of the project area in the Sacramento Valley Air Basin. Since the PGCP's 1994 certification, changes to the federal and state Ambient Air Quality Standards (AAQSs) have caused changes in the attainment status in the PGCP area. The 1-hour nitrogen dioxide (NO_2) National Ambient Air Quality Standard (NAAQS) became effective on April 12, 2010. In addition, a 1-hour SO_2 NAAQS was established, and the existing 24-hour and annual SO_2 NAAQSs were revoked on June 2, 2010.

Air Quality Table 1
Federal and State Attainment Status Project Area in Sacramento Valley Air Basin

Pollutant	Attainment Status	
	Federal	State
Ozone	Unclassifiable/Attainment	Nonattainment
CO	Unclassifiable/Attainment	Attainment
NO2	Unclassifiable/Attainment [a]	Attainment
SO2	Unclassifiable/Attainment	Attainment
PM10	Unclassifiable/Attainment	Nonattainment
PM2.5	Nonattainment	Attainment

Source: ARB 2015, U.S. EPA 2015a

Notes:

a. On February 17, 2012 U.S. EPA designated all of California as "unclassifiable/attainment" for the short-term NO2 standard.

Since the adoption of the Commission Decision for PGCP in 1994 (CEC 1994a), additional ambient air quality data have become available. **Air Quality Table 2** reflects the current background data from 2012 through 2014. Values above the applicable limiting standards are shown in bold with background shading in the table. The 24-hour PM10 values are above the allowable standards.

All CO and SO_2 data are from the El Camino/Watt and Sacramento Del Paso Manor monitoring stations, respectively and are located in a more urban area situated approximately 6 miles northeast of the project site; all PM10, PM2.5 and NO_2 data are from the Sacramento T Street monitoring station located approximately 6 miles northwest of the project site.

Staff recommends using the background ambient air concentrations in **Air Quality Table 2** in the impacts analysis. The recommended background concentrations are based on the maximum criteria pollutant concentrations from the past three years of

available data collected at the most representative monitoring stations surrounding the PGCP site.

Air Quality Table 2
Staff-Recommended Background Concentrations (µg/m3)

Pollutant	Averaging Time	Recommended Background	Limiting Standard	Percent of Standard
NO_2	1-hour	116.6	339	34%
	1-hour federal	98.1[a]	188	52%
	annual	24.4	57	43%
PM10	24-hour State	**92.3**	**50**	**184%**
	annual	17.8	20	89%
PM2.5	24-hour	33 [a]	35	94%
	annual	10.1	12	84%
CO	1-hour	2,600	23,000	11%
	8-hour	3,100	10,000	31%
SO_2	1-hour	13.1[b]	655	2%
	1-hour Federal	7.8	196	3.9%
	24-hour	5.3	80	6.6%

Source: Energy Commission staff analysis

Notes: California Air Resource Board (ARB) 2015 Maximum Values shown for 2012-2014 for NO2, PM10, and PM2.5 are from T Street, SO2 values are from Del Paso Manor and CO values are from El Camino and Watt monitoring stations.

a. 3 year average of the annual 98th percentile of the 1 hour daily maximum concentrations.

b. 3 year average of the annual 99th percentile of the 1 hour daily maximum concentrations.

The background 24-hour concentrations for PM10, shown in bold and shading in **Air Quality Table 2**, is above the most restrictive existing ambient air quality standards, while the background concentrations for other pollutants and averaging times are below the most restrictive existing ambient air quality standards.

ANALYSIS OF POTENTIAL AIR QUALITY IMPACTS

PROJECT CONSTRUCTION

The total duration of project construction for the proposed PGCP modifications is expected to be approximately five months of non-continuous construction as follows: 1 month to disassemble the auxiliary boiler at the former Campbell Soup Sacramento Cogen (CSSC) plant, followed by 4 months to prepare, construct, and install the boiler at the PGCP site. It is anticipated that installation of Boiler 1B would require one trip via a lowboy semi-trailer from the CSSC's plant to the PGCP site (a distance of

approximately 4.8 to 5.4 miles, depending on the route used). The boiler delivery trip would occur during off-hours (between 10:00 p.m. and 4:00 a.m.). Construction would occur in the following phases:

- Site preparation;
- Boiler foundation work;
- Disassembly and transport of the boiler; and
- Construction and installation of the auxiliary boiler and new associated connection activities.

Combustion emissions would result from the off-road construction equipment, including diesel construction equipment used for site grading, excavation, and construction of on-site structures. Construction emissions would also occur from use of on-road vehicles, including heavy-duty diesel trucks used to deliver materials, other on-road diesel trucks used during construction, and personal vehicles used to transport workers to and from and around the construction site. Fugitive dust emissions would result from site grading and excavation activities, construction and installation of the auxiliary boiler and associated equipment along with vehicle travel on paved and unpaved roads.

Given that the location of the PGCP is a designated nonattainment area for the state ozone, and the state PM10 and Federal PM2.5 standards as seen in **Air Quality Table 1,** staff considers any unmitigated construction NOx and VOC (ozone precursors) and PM emissions (and their precursors, NOx and SOx) to be potentially significant. Therefore, staff recommends that the NOx, VOC, and PM emissions (and their precursors) from construction be mitigated, pursuant to the California Environmental Quality Act (CEQA).

Existing Conditions of Certification **AQ-47** and **AQ-48** require the PGCP project owner to provide an Air Quality Construction Mitigation Plan, control fugitive dust, and have a dust plume response to prevent the transport of dust from the site. Under current California regulations, SPA must also use vehicles that meet the ARB Regulation for In-Use Off-Road Diesel Fueled Fleet Tier engine requirements. Staff concludes that air quality impacts during construction would be negligible, short-term and unavoidable provided these existing conditions of certification continue to be implemented. Therefore, while there would be air quality impacts during construction, they are expected to be less than significant after implementation of existing Air Quality Conditions of Certification **AQ-47** and **AQ-48**.

PROPOSED NATURAL GAS-FIRED AUXILIARY BOILER 1B

The addition of a natural gas-fired auxiliary boiler would allow the plant to provide operational flexibility during low electrical demand periods. This change would allow SCA to shut down both combined cycle gas turbines and rely on its two auxiliary boilers to generate and supply steam to the adjacent Proctor and Gamble (P&G)

manufacturing facility for its production needs. The proposed boiler, an existing installed boiler are CSSC, would consist of the following:

- Manufacturer: Cleaver Brooks;
- Model: LD-94-R,H;
- Serial No: W-3549;
- Nominal Heat Input: 108.7 MMBtu/hr;
- Fuel: natural gas only; and
- Emission Controls; Ultra Low-NOx Burner, Selective Catalytic Reduction (SCR).

As shown in **Air Quality Tables 3** and **4**, the permitted operating scenario for the new boiler would be based on a maximum daily fuel usage, measured in million cubic feet (MMCF), and hours of operation by quarter, up to 24 hours per day of operation of the main burner. Maximum allowable quarterly and annual fuel usage is based on the fuel usage that equates to the proposed criteria pollutant offset submissions (SMAQMD 2015a).

Air Quality Table 3
Process Rate/Fuel Usage

Equipment	Fuel Usage [a]		
	MMCF/Day	MMCF/calendar quarter	MMCF/calendar year
108.7 MMBtu/hr Boiler 1B	2.6	48.4 – 221.3	555.9

Source: SMAQMD 2015b

a. Calculated based on the emissions that would be offset by the applicant.

Air Quality Table 4
Operating Schedule

Equipment	Maximum Hours of Operation (hr) [a]			
	Q1	Q2	Q3	Q4
108.7 MMBtu/hr Boiler 1B	1810	2036	572	695
	Maximum Fuel Usage (MMCF) [b]			
	196.8	221.3	62.2	75.6

Source: SMAQMD 2015b

a. Hours are calculated based on the emissions that would be offset by the applicant.

b. Based on new Condition of Certification AQ-AB14

This boiler would be subject to New Source Performance Standard (NSPS) 40 CFR 60, subpart Db. This federal regulation is primarily applicable to steam generating units, such as boilers, with a maximum rated capacity of 100-250 MMBtu/hr if constructed after June 19, 1984. Such boilers are required to meet certain emission limits for NOx and SOx, and have monitoring and recordkeeping requirements to demonstrate compliance.

The proposed emission limits, shown in **Air Quality Table 5**, for this auxiliary boiler are well below the NOx and SOx standards, as listed in 40 CFR section 60.42b(k)(1) and section 60.44b(a). As for the monitoring requirements, SCA has opted to install a Continuous Emission Monitoring System (CEMS) for NOx, CO, and O_2, which would meet the requirements of Section 60.48b(b).

Air Quality Table 5
Proctor and Gamble Boiler 1B Emission Limits and Annual Emissions

Pollutant	Emission Factors [f]	lbs/day [d,e]	tons/year
VOC	0.0037 lb/MMBtu	9.8*	1.8
NOxa	30 ppmvd @3% O_2	23.0*	--
NOxb	5.0 ppmvd @3% O_2	13.9	2.9
SOx	0.0006 lb/MMBtu	1.6*	0.3
PM10/PM2.5c	0.00497 lb/MMBtu	13.0*	2.4
CO	7.12 lb/hr	547.8*	59

Source: SMAQMD 2015b; SCA 2014

Notes:

a. Worst-case emissions, including startups and shutdowns.

b. Steady-state operations, excluding startups and shutdowns.

c. Assume PM=PM10=PM2.5.

d. Calendar day.

e. COC AQ-AB10

f. SCA 2014 proposed emission factors

* Used to compare against BACT evaluation thresholds in Air Quality Table 6, below

The auxiliary boiler would have a potential to emit (PTE) of criteria pollutants up to the amounts shown in **Air Quality Table 6,** below. The values in **Air Quality Table 5**, above, represent the maximum emission concentrations and rates from the boiler during normal steady-state and startup/shutdown operations. SMAQMD Rule 202, Section 301 requires emission-permitted units to use the BACT to control NOx, CO, VOC, PM10, or SOx emissions, if the emissions exceed specified thresholds, as shown in the rightmost column of **Air Quality Table 6**.

Air Quality Table 6
Best Available Control Technology Evaluation

Pollutant	Proposed Boiler Emissions (lbs/day)	SMAQMD Threshold (lbs/day)
VOC	9.8	0
NOx	23.0	0
SOx	1.6	0
PM10/PM2.5	13.0	0
CO	547.8	550

Source: SMAQMD 2015a

Air Quality Table 6 shows that the proposed boiler emissions would exceed the SMAQMD's threshold for most pollutants and thus would require a BACT analysis for the proposed boiler. The District evaluated BACT by reviewing BACT determinations made by five other districts in the state and determined the applicant is proposing levels that are the same or better than other BACT determinations made throughout the state. The applicant is proposing 5 ppmvd of NOx at 3% O_2 with the use of SCR. The applicant has proposed emission standards for PM10 and PM2.5 at 4.97 lb/MMCF and VOC at 3.77 lb/MMCF. SOx and lead emission rates were derived from AP-42, Tables 1.4-1 & 1.4-2 (07/98). The boiler would have up to a 2 hour startup period during which time the boiler would be limited to a NOx mass emission rate that is equivalent to a NOx concentration of 30 ppmvd at 3% O_2, and then an additional hour where the NOx mass emission rate is equivalent to a NOx concentration of 9 ppmvd at 3% O_2 (SMAQMD 2015a). Energy Commission permit conditions would have enforceable limits to make sure the control equipment is adequately maintained and SMAQMD BACT requirements are met.

COMMISSIONING

The commissioning period begins when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when the boiler is first fired, whichever occurs first. The commissioning period ends when the plant has completed initial performance testing and is available for commercial operation.

The commissioning activities include all testing, adjustment, tuning and calibration activities recommended by the equipment manufacturers and the construction contractor to minimize operating period emissions and ensure safe and reliable operation of the gas turbines and heat recovery steam generators.

The boiler would require up to seven (7) days of commissioning activities over a maximum 30 day period. Boiler operation is not expected to exceed twelve (12) hours per day at the higher commissioning emission rates. Commissioning operation would include low NOx burner tuning and may include periods when the SCR catalyst is uninstalled or inoperative. The estimated emissions during commissioning are

summarized below. Emissions during the commissioning would be subject to the quarterly emission limits (SMAQMD 2015a).

The following emissions factors in **Air Quality Table 7** were used to compute estimated hourly and daily emissions during the commissioning period. The Boiler 1B would be subject to hourly and quarterly limits imposed by Condition of Certification **AQ-AB32**.

Air Quality Table 7
Maximum Expected Commissioning Emissions

Pollutant	Boiler Commissioning Emission Rates				
	ppm@3% O2	lb/MMBtu	MMBtu/hr	lb/hr	lb/day [a]
NOx	30	0.0364	108.7	3.96	55.4
CO	400	0.2956	108.7	32.13	547.8

Source: SMAQMD 2015a

a. Assumes 12 hours/day commissioning and 12 hours normal operation.

SCA estimates that the commissioning of the new Boiler 1B can be completed within approximately 7 days. The short term emission increase (over normal operational emissions) is thus unlikely to impact any long term ambient air quality standards. Therefore if SCA complies with the proposed emission limits and the sort, seven-day commissioning duration, it is unlikely that the project commissioning emissions would result in a significant impact on ambient air quality. In order to enforce the emission limits proposed by SCA, staff proposes to add Conditions of Certification **AQ-AB24** through **AQ-AB32**.

Boiler Emissions Quarterly and Annual Basis

The maximum allowable quarterly and annual emissions from the added Boiler 1B were calculated to determine the amount of emissions offsets required. These additional emissions are based on the boiler's PTE and can be seen in **Air Quality Table 8** below. The table shows the maximum allowable emissions on a quarterly and annual basis for the maximum emissions currently allowed by conditions of certification for the new Boiler 1B and its pilot burner. These limits would be imposed by enforceable permit condition **AQ-AB10**. The proposed Boiler 1B allowable emissions during normal operation are shown in **Air Quality Table 8**.

For those pollutants with emission factors that do not vary during startups (VOC, SOx, PM10, PM2.5, and CO) the quarterly emissions are based on the quarterly fuel limitations in **Air Quality Tables 4** and **5**. For NOx, the quarterly emission limitations were determined based on the NOx emission reduction credits allocated for this project and the startup hours of the pilot burner; hourly assumptions are shown in **Air Quality Table 9**.

Air Quality Table 8
Maximum Allowable Emissions for Boiler 1B

Pollutant	Q1(lbs/ Quarter)	Q2 (lbs/ Quarter)	Q3 (lbs/ Quarter)	Q4 (lbs/ Quarter)	Annual Emissions (lbs/yr)	Annual Emissions (tpy)
Proposed Auxiliary Boiler						
VOC	742	835	235	285	2,097	1.05
NOx	1,443	1,550	737	658	4,388	2.19
SOx	118	133	37	45	333	0.17
PM10	978	1100	309	376	2,763	1.38
PM2.5	978	1100	309	376	2,763	1.38
CO[a]	48,994	49,535	50,075	50,075	198,679	99.3

Source: SMAQMD 2015b; Based on quarterly fuel usage emission factors in **Air Quality Table 4**.

a. values are a maximum emissions including startups and shutdowns are limited by condition of certification **AQ-AB11**.

Air Quality Table 9
Hourly Assumptions for NOx

	Q1 (lbs/Quarter)	Q2 (lbs/Quarter)	Q3 (lbs/Quarter)	Q4 (lbs/Quarter)
Typical number of Startups	47	39	70	37
Hours/startup of pilot burner at 30 PPM NOx	0.25	0.25	0.25	0.25
Hours/startup of main burner at 30 ppm NOx	1.75	1.75	1.75	1.75
Hours/startup of main burner at 9 ppm NOx	1.0	1.0	1.0	1.0
MMCF/qtr for the main burner at 5 ppm NOx	174.58	202.95	27.36	58.69

Source: SMAQMD 2015b

The proposed amendment would also increase emissions of greenhouse gases (GHGs). In May 2010, EPA issued the Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule establishing thresholds for GHG emissions. The regulation includes criteria for two phase-in steps with a commitment to develop a third step if necessary. Step 1 affected existing facilities that were already subject to Prevention of Significant Deterioration (PSD) requirements and modifications that increased CO_2e emissions over 75,000 tons per year. Step 2 affected new facilities with proposed CO_2e emissions over 100,000 tons per year and modifications at existing facilities with increases in CO_2e emissions over 75,000 tons per year. However,

on June, 23, 2014, the U.S. Supreme Court issued a decision regarding the application of stationary source permitting requirements to GHGs. The decision determined that GHGs could not be considered as an air pollutant for determining if a source is a major source requiring a PSD or Title V permit. The decision clarified that PSD permits could still be required based on emissions of conventional pollutants and GHG emissions could be limited in these circumstances based on the application of BACT.

Prior to the U.S. Supreme Court's June 23, 2014 decision, the GHGs would have been subject to PSD review under Step 2 applicability. On July 24, 2014, the EPA issued a memo regarding the U.S. Supreme Court's decisions. For facilities qualifying under Step 2, the EPA will no longer require PSD or Title V permits per their understanding of the U.S. Supreme Court's decision. Specifically, the EPA will no longer apply or enforce federal regulatory provisions or EPA-approved PSD State Implementation Plan provisions that require a stationary source to obtain a PSD permit based on Step 2 applicability. SMAQMD Rule 203, Prevention of Significant Deterioration for Greenhouse Gases, became effective January, 9 2013, giving the SMAQMD permitting authority for greenhouse gas PSD permits. For consistency with the U.S. Supreme Court's decision, the SMAQMD will not be issuing a PSD permit for greenhouse gases for this project.

Since the potential to emit of the source prior to the addition of the boiler is less than the PSD major source threshold (100 TPY) the existing facility is not considered a major PSD source. Also, since the potential to emit from the new boiler is not in and of itself major, PSD is not triggered by adding the new boiler. See SMAQMD Rule 203 discussion above. Staff proposes Condition of Certification **AQ-AB11** to ensure PSD requirements are not triggered by CO.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) MITIGATION

The Energy Commission requires mitigation for emissions of pollutants and/or their precursors if the area is non-attainment with state or federal ambient air quality standards or if a project could cause an exceedance of any applicable ambient air quality standard. As documented in **Air Quality Table 1**, the SMAQMD is non-attainment for O_3 and PM10 (for state standards) and the 24-hour federal standard for PM2.5. Precursors of O_3, and PM10/PM2.5 include VOC, SOx, and NOx. Therefore, the Energy Commission staff recommends mitigation of PM10, PM2.5, SOx, NOx, and VOC emissions from the new boiler.

An impact analysis was required by the SMAQMD to determine if the change in operations would result in a violation of applicable air quality standards. Per SMAQMD requirements, compliance demonstrations are required for attainment pollutants, NO_2, CO, SO_2, PM10 (federal 24-hour and annual standards) and non-attainment pollutants, PM10 (for state 24-hour standard) and PM2.5 (federal 24-hour standard). The modeling for attainment pollutants needs to demonstrate that the project impact plus the background concentration would not cause an exceedance to the most stringent AAQS. The modeling for non-attainment pollutants needs to demonstrate the project impacts are less than the U.S. Environmental Protection

Agency's (EPA) significant impact levels (SILs) for these pollutants—for the 24-hour and annual PM10 standards, the associated SILs are 5 and 1 micrograms per meter cubed ($\mu g/m^3$), respectively. Also, for the 24-hour and annual PM2.5 standards, the associated SILs are 1.2 and 0.3 $\mu g/m^3$, respectively.

The modeling performed by Sierra Research used the U.S.EPA approved American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Model (AERMOD). Background data for NOx, PM10 and PM2.5 were obtained from the Sacramento T Street monitoring station. The background concentrations of CO and SO_2 were taken from the El Camino/Watt and Sacramento Del Paso Manor Stations, respectively. The data provided by SCA can be used to demonstrate CO emissions from the project would not result in a violation to any applicable air quality standard. The results are summarized in **Air Quality Table 10** below.

For purposes of CEQA, the Energy Commission requires total facility emissions of nonattainment pollutants to be offset on at least a 1.0 to 1.0 offset ratio basis. However, offset ratios required by the SMAQMD vary depending on the pollutant and the location of the ERCs relative to the location of the new emissions being mitigated. For the proposed new boiler, 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). VOC and NOx are accepted as the principal precursors of ozone, and through a set of complex reactions these pollutants form ground level ozone. Reductions in either VOC or NOX pollution can reduce ozone formation. Therefore, interpollutant offsets of VOC for NOx and NOx for VOC can be used to mitigate a project's impacts to ozone formation (CEC 2007). The locations of the reduction in rice straw burning are greater than 15 miles from SCA but less than 50 miles. Therefore, the quantities of offsets that needs to be surrendered for the project are computed at a ratio of 2.0 to 1.0 (SMAQMD 2015a). The total quantity of offsets that need to be surrendered for the project can be found in **Air Quality Table 11**.

Since CO is an attainment pollutant and is not a precursor to any nonattinament pollutants, staff recommends that no offsets be required for CO. As stated above, Energy Commission staff recommends that the Energy Commission require full mitigation PM10/PM2.5, SOx, NOx, and VOC emissions in areas designated as non-attainment for O3, PM10 and PM2.5 standards. However, as discussed above, SCA requests a CO emissions limit to ensure that PSD requirements are not triggered.

Air Quality Table 10
Modeled Emission Rates for CO (µg/m3)

Scenario	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	% of Standard
CO	1 hour	30.9	2,600	2,631	23,000	11.4%
	8 hour	19.6	3,100	3,120	10,000	31%

Source: SCA 2014.

Emission Reduction Credits (ERCs) would be surrendered per Air Quality Condition of Certification **AQ-AB23**, to mitigate VOC, PM10 and NOx. **Air Quality Table 11** includes Energy Commission staff recommended mitigation of VOC, PM10, NOx and SOx emissions for the pending amendment, the mitigation to be surrendered for this amendment and proposed Boiler 1B, the additional mitigation recommended by Energy Commission staff and the additional mitigation surrendered per SMAQMD analysis of the proposed amendment. The mitigation recommended by Energy Commission staff is the difference between the mitigation surrendered for the amendment per SMAQMD and Commission staff proposed mitigation for the addition of Boiler 1B.

Annual facility emissions are used to determine whether a facility would need to offset any additional emissions with emissions reduction credits (ERCs) under SMAQMD Rule 202. 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). Pursuant to SMAQMD's Rule 202, Section 411.4. SMAQMD requires NOx ERCs on a pound per quarter basis. Air Quality Conditions of Certification **AQ-AB23** specify the ERC requirements for PGCP.

As described above, the ERCs are to be surrendered depending on the location of the offset's current location of the emitting source. The quantities of offsets that need to be surrendered for the project are computed at a ratio of 2.0 to 1.0 (SCA 2015a). When the PGCP was originally certified in 1994, the Energy Commission required all nonattainment pollutants and their precursors to be offset at a 1 to 1 ratio for all nonattainment pollutants and their precursors. This requirement is more comprehensive than SMAQMD Rule 202, and SCA would be required to provide offsets for all VOC, NOx, SOx and PM10 emissions from the boiler to remain in compliance with Energy Commission air quality conditions of certification. **Air Quality Tables 11** and **13**, below, show the offsets required for the Boiler 1B and **Air Quality Table 14** shows the ERC Certificate that SCA would use to meet these requirements.

Additional mitigation for SOx was not required by SMAQMD because the potential to emit for SOx would be less than 13,650 lbs per quarter. Thus, SMAQMD does not require ERCs for SOx. However, Energy Commission staff still recommends the additional SOx emissions be mitigated because they are PM precursors. Interpollutant offsets are allowed by SMAQMD Rule 202, Section 303 depending on the location of the emission offsets and by Energy Commission staff on a case-by-case basis. As

demonstrated in **Air Quality Table 11**, SMAQMD is recommending 4.55 tons per year of PM10, or 3.17 tons per year more than Energy Commission staff. The additional 3.17 tons of PM10, which is a nonattainment pollutant, would exceed the additional emissions of 0.17 tons per year of SOx. SO_2 is a subset of SOx and SMAQMD is considered in attainment for SO_2. As demonstrated in **Air Quality Table 12**, the modeled impact including all sources within the project change would not cause an exceedance to any SO_2 AAQS. Therefore, staff recommends crediting the SOx offset requirements with the excess PM10 offsets required by SMAQMD, which have already been procured. PM2.5 emissions are also fully mitigated at a 1.0 to 1.0 ratio.

Air Quality Table 11[c]
Proctor and Gamble ERC Requirements (tons/year)

Source	VOC	PM10	PM2.5	NOx	SOx
Commission Staff Proposed Mitigation for Project Amendment [a,b]	1.05	1.38	1.38	2.19	0.17
Mitigation Surrendered for Amendment per SCAQMD Requirements[b]	3.54	4.55	4.29	6.50	None
Surplus Mitigation that would be surrendered to the District above using a 1:1 ratio for all nonattainment pollutants and their precursors, for CEQA compliance.	+2.49	+3.17	+2.91	+4.31	0
Additional Commission Mitigation Recommended for Amendment	None	None	None	None	None [d]

a. Source: Energy Commission staff calculation
b. Source: SCAQMD 2014
c. No ERCs are required for CO; therefore CO is not included in this table
d. PM mitigation is used for SOx emissions

In order to ensure compliance with CEQA mitigation requirements, Energy Commission staff is proposing new Air Quality Condition of Certification **AQ-AB23** to reflect the mitigation totals listed in **Air Quality Table 11**. Adding the new Air Quality Condition of Certification **AQ-AB23** would ensure compliance with mitigation requirements under CEQA. Staff recommends using excess PM10 and PM2.5 ERCs to mitigate SOx emissions increases. Therefore the mitigation required to be surrendered by SCA at a 2.0 to 1.0 ratio for LORS purposes fully mitigates the requested addition of a new Boiler 1B for CEQA purposes.

As stated above, offsets for VOC, NOx, PM10 and PM2.5 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 (FRAQMD), pursuant to SMAQMDs Rule 202, Section 411.4. The ERC's to be surrendered are discounted depending on

the location of the offsets relative to the new boiler and the results can be seen in **Air Quality Table 14** below. The quantities of offsets that needs to be surrendered for the project are to be surrendered at a ratio of 2.0 to 1.0 (SMAQMD 2015a). As can be seen by comparing **Air Quality Table 14** to **Air Quality 13**, there are sufficient offsets surrendered each quarter.

Air Quality Table 12
Modeled Maximum Project Impacts (µg/m3)

Scenario	Averaging Time	Modeled Impact	Background	Total Impact	Limiting Standard	% of Standard
SO_2	1 hour	0.3	13.1	13.4	655	2%
	1-hour – Federal	0.3	7.8	8.1	196	4%
	24-hour	0.1	5.3	5.4	105	5%

Source: SCA 2014.

Air Quality Table 13
Proctor & Gamble Boiler 1B, ERC Offsets Required

Pollutant	**Q1(lbs/ Quarter)**	**Q2 (lbs/ Quarter)**	**Q3 (lbs/ Quarter)**	**Q4 (lbs/ Quarter)**	**Annual Emissions (tpy)**
VOC	742	835	235	285	1.05
NOx	1,443	1,550	737	658	2.19
PM10/PM2.5	978	1,100	309	376	1.38
SOx	118	133	37	45	0.17

Source: SMAQMD 2015a, SCA 2015a

Air Quality Table 14
Proposed ERC Certificates

Emission Reduction Credit Certificate Number	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**	**Qtr3**	**Qtr 4**
FRAQMD #99001-T2	VOC	1,484	1,670	470	570	2	742	835	235	285
	NOX	2,886	3,100	1,474	1,316	2	1,443	1,550	737	658
	PM10	1,956	2,200	618	752	2	978	1,100	309	376
	PM2.5	1,956	2,200	618	752	2	978	1,100	309	376

Source: SMAQMD 2015b

BOILER 1B OPERATIONAL IMPACTS

The maximum project impacts due to the proposed changes to the PGCP combined with background values can be seen in **Air Quality Table 15** below. Operational characteristics of the existing project, such as emission rates, exit velocity, and exit temperature, were based on the existing PTE permit limits and the district's engineering evaluation. The auxiliary boiler emission rates and stack parameters were based on vendor data as well as worst-case, operational run-time characteristics. As shown in **Air Quality Table 15**, the maximum project impacts plus background remain below ambient air quality standards for each pollutant. Note also, the boiler was fully permitted at its previous location – CSSC (SMAQMD 2015A). Only the 24-hour California PM10 results exceed the respective standard due to high background concentrations, but in this case the project impacts are less than the EPA's significant impact level (SIL) of 5.0 micrograms per meter cubed ($\mu g/m^3$). Because the area of the project is nonattainment for the federal 24-hour PM2.5 standard, the project operational impacts were also compared against the associated SIL which is 1.2 micrograms per meter cubed ($\mu g/m^3$).

Air Quality Table 15
Proctor and Gamble Boiler 1B and PGCP Operational Impacts

Pollutants	Averaging Period	Maximum Impacts ($\mu g/m^3$)	Background ($\mu g/m^3$)	New Total Impacts ($\mu g/m^3$)	Standard ($\mu g/m^3$)	Percent of Standard
NO_2 [a]	1-hour	11.9	116.6	128.5	339	38%
	1-hour federal [b]	11.9	98.1	110	188	59%
	annual	0.2	24.4	24.6	57	43%
PM10	24-hour	**1.1**	**92.3**	**93.4**	**50**	**187%**
	annual	0.1	17.8	17.9	20	89%
PM2.5	24-hour [b]	1.1	33	34.1	35	97%
	Annual [c]	0.1	10.1	10.2	12	85%
CO	1-hour	30.9	2,600	2,631	23,000	11%
	8-hour	19.6	3,100	3,120	10,000	31%
SO_2	1-hour	0.3	13.1	13.4	665	2%
	1-hour Federal	0.3	7.8	8.1	196	4%
	24-hour	0.1	5.3	5.4	105	5%

Source: SCA 2014; SMAQMD 2015a

a. Ambient Ratio Method (ARM) used for 1-hour and annual NO2 impacts at 80 percent and 75 percent, respectively.

b. 98th percentile, averaged over 3 years.

c. State annual PM2.5 standard.

PROPOSED ARRANGEMENT CHANGE OF BOILER 1B AS COMPARED TO THE ORIGINAL AMENDMENT REQUEST

SCA submitted a request (SCA 2015b) to slightly adjust the Boiler 1B location and its stack. The changes include moving the new boiler seven (7) meters to the east and one (1) meter north compared to the original amendment request (SCA 2014). Because the arrangement is within the modeling domain resolution of a 25 square meter grid size, the modeling results would not change with the new arrangement. Therefore, the project owner was not required to remodel based on this new information. As proposed in this amendment request, the boiler arrangement is not expected to have an adverse air quality effect on the environment.

ENVIRONMENTAL JUSTICE

The data presented in the **Environmental Justice Population Figure** shows the population in a six-mile radius of the SCA PGCP site constitutes an environmental justice population, as defined by *Environmental Justice: Guidance Under the National Environmental Policy Act*.

Air Quality staff has determined the project would continue to comply with applicable LORS and would not have a significant impact on the environment. Staff determined that the continued compliance existing conditions of certification in the SCA Proctor and Gamble Decision **AQ-1** though **AQ-51**, plus the incorporation of proposed new conditions of certification **AQ-AB1** through **AQ-AB32** would ensure that no significant impact would occur. Staff concluded the proposed modification would not have a significant impact on any population within the SCA PGCP six-mile radius, including the environmental justice population identified in the **Environmental Justice Population Figure** in the **Executive Summary** section of this analysis.

CUMULATIVE IMPACTS

The proposed PGCP amendment would not change any mitigation measures intended to reduce potential air quality impacts from the PGCP to less-than-significant levels. All air quality impacts would be lower than applicable federal and state standards, except for PM10 since background PM10 concentrations already exceed the state standard. Staff expects no cumulative adverse impacts would occur as a result of the proposed changes to the PGCP after implementation, if staff-proposed mitigation measures are included in the Energy Commission Decision on this petition.

CONCLUSIONS AND RECOMMENDATIONS

The SMAQMD published their draft version of the Authority to Construct (ATC) on May 19, 2015. The public comment period for the ATC began on May 19, 2015, and ends on June 18, 2015.

The engineering evaluation was dated March 15, 2015. The SMAQMD has determined the proposed modifications at the PGCP would comply with SMAQMD rules and regulations. An EPA comment period will conclude on July 6, 2015. After the EPA comment period concludes, the SMAQMD will consider comments received making changes as needed, and then issuing a final ATC.

The construction of the proposed modifications is not likely to result in significant adverse impacts on air quality because existing Conditions of Certification **AQ-47** and **AQ-48** would apply.

Based on the information provided by the SCA and a new Authority to Construct from SMAQMD, staff believes that, with the adoption of the staff-recommended new Conditions of Certification **AQ-SU1** through **AQ-SU4**, and **AQ-AB1** through **AQ-AB32,** the proposed modification of a new Boiler 1B to the PGCP would not have a significant or adverse impact on air quality, and that the modified PGCP would comply with applicable federal, state, and SMAQMD air quality LORS.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

New conditions, 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 SMAQMD 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**. Appendix A contains a complete listing of all conditions of certification that would apply to this facility assuming the Energy Commission adopts the conditions as currently recommended by staff.

New Air Quality Conditions of Certification AQ-AB1 through AQ-AB32

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 sixty (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).
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 construction, the facility owner shall provide to the CPM a copy of the signed recertification from Feather River Air Quality Management District and Sacramento Metropolitan Air Quality Management District demonstration the banking certificate (Certificate FRAQMD #99001-T2) has been validated and surrendered.

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.

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SMAQMD 2015b—Sacramento Metropolitan Air Quality Management District Authority to Construct for Sacramento Cogen Authority. Dated May 15, 2015. Docketed May 15, 2015.

USEPA 2011—U.S. Environmental Protection Agency. Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard. May 2015.

USEPA 2015a—U.S. Environmental Protection Agency. The Green Book Nonattainment Areas for Criteria Pollutants. http://www.epa.gov/oar/oaqps/greenbk/index.html. Accessed May 2015.

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APPENDIX A

For convenience, staff has provided a clean version of all the conditions, existing and those reflecting the proposed changes that would become applicable to PGCP, which would apply to this facility assuming the Energy Commission adopts the proposed amendment. Order numbers such as Order No. XX-XXXX-X before any condition of certification indicates a previous amendment order where the condition of certification following has been modified since the original Energy Commission Decision.

PROCTER & GAMBLE
AIR QUALITY CONDITIONS OF CERTIFICATION

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 CONDITIONS FOR ADOPTION JUNE 2015:

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 sixty (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).
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 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 construction, the facility owner shall provide to the CPM a copy of the signed recertification from Feather River Air Quality Management District and Sacramento Metropolitan Air Quality Management District demonstration the banking certificate (Certificate FRAQMD #99001-T2) has been validated and surrendered.

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.

SCA PROCTER & GAMBLE COGENERATION PROJECT (93-AFC-2C)

Petition to Amend the Final Decision

Cultural Resources

Melissa Mourkas and Gabriel Roark

INTRODUCTION

The Petition for Post-Certification License Amendment ("Petition"), *Addition of an Auxiliary Boiler and Associated Facilities* (SCA 2014a), submitted on October 30, 2014, proposes removal of a co-generation boiler (Boiler 1B) from the Campbell Soup Supply Company (CSSC) facility and installation of the Boiler 1B at the Proctor & Gamble Co-generation Project (PGCP).

Staff has reviewed the Petition for potential environmental effects and consistency with applicable LORS. Based on this review, staff determined that that the Petition, as described by the project owner, would not cause any significant impacts to historic built environment resources. Additionally, staff concludes that the proposed amendment would not affect any known archaeological and ethnographic resources. While there is some potential for archaeological or ethnographic resources to be unearthed during construction of the proposed amendment, conditions of certification **CUL-1** through **CUL-6** would reduce the significance of inadvertent impacts on buried archaeological or ethnographic resources. However, the proposed amendment to the PGCP license would not fully conform to current applicable laws, ordinances, regulations, and standards (LORS). Specifically, the amended PGCP license fails to conform to seven requirements contained in the city of Sacramento's General Plan Policy HCR 2.1.16. To remedy this situation, staff proposes changes to the existing **CUL-1** and new conditions **CUL-4**, **CUL-5**, and **CUL-6**. The full text of these changes is contained in **Appendix B** to this analysis and discussion is found in the following analysis.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)

Projects proposed before the Energy Commission are reviewed to ensure that the proposed facilities would comply with all applicable LORS (Pub. Resources Code, §25525; Cal. Code Regs., tit. 20, §§1702[n], 1744[b]). See **Cultural Resources Table 1** for a summary of cultural resources LORS applicable to the proposed amendment. The federal LORS identified in the Final Staff Assessment (FSA) of the licensed PGCP (CEC 1994a:317–318) do not apply to the proposed amendment because the petitioner would not be required to apply to the U.S. Army Corps of Engineers for a permit under the Clean Water Act. Applicable state LORS have changed since the original license, as has a local one; hence, **Cultural Resources Table 1** summarizes applicable state and local LORS.

Cultural Resources Table 1
Applicable Laws, Ordinances, Regulations, and Standards

Applicable LORS	Description
State	
Pub. Resources Code, §§5097.98(b) and (e)	Requires a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until s/he confers with the Native American Heritage Commission (NAHC)-identified Most Likely Descendants (MLDs) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to reinter the remains elsewhere on the property in a location not subject to further disturbance.
Pub. Resources Code, §5097.99	§5097.99 prohibits the acquisition, possession, sale, or dissection with malice or wantonness of Native American remains or artifacts taken from a Native American grave or cairn.
Health and Safety Code, §7050.5	This code prohibits the disturbance or removal of human remains found outside a cemetery. It also requires a project owner to halt construction if human remains are discovered and to contact the county coroner.
Civil Code, §1798.24	Provides for non-disclosure of confidential information that may otherwise lead to harm of the human subject divulging confidential information.
Government Code, §6250.10— California Public Records Act	Provides for non-disclosure of records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation (DPR), State Historical Resources Commission, State Lands Commission, NAHC, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency.
Local	
City of Sacramento 2035 General Plan Policies and Implementation Plan (*New*)	Implementation of Policy HCR 2.1.16. The City shall amend the Sacramento Code relative to archaeological resources to require preconstruction field surveys, research and testing procedures for those areas proposed for grading, excavation or construction in high-sensitivity areas, and to require discovery procedures for archaeological resources found during grading, excavation, or construction, whether or not the project site is located in a high-sensitivity area. These procedures shall include protocols and criteria for qualifications of personnel, and for survey, research, testing, training, monitoring, cessation and resumption of construction, identification, evaluation, and reporting, as well as compliance with recommendations to address any significant adverse effects where determined by the City to be feasible (City of Sacramento 2014:4-20, 4-21).
Abbreviations: DPR = Department of Parks and Recreation; HCR = Historic and Cultural Resources Element; MLD = most likely descendant(s); NAHC = Native American Heritage Commission	

ANALYSIS

Staff has reviewed the Petition for potential environmental effects and consistency with applicable LORS. Based on this review, staff determined that that the Petition to Amend, as described by the project owner, would not have any significant impacts to historic built environment resources. Additionally, staff concludes that the proposed amendment would not affect any known archaeological and ethnographic resources. In completing this analysis, Cultural Resources staff analyzed the following:

1. The extent of proposed modifications;
2. The proposed modifications' potential to significantly affect the environment;
3. The project's compliance with all applicable LORS, should the Energy Commission approve the proposed modifications; and
4. The need to change or delete an existing license condition in light of the proposed modifications. (Cal. Code Regs., tit. 20, §1769[a][2].)

Staff has defined the extent of proposed modifications in the **Executive Summary**.

Potential to significantly affect the environment

This section of the cultural resources analysis addresses the proposed modifications' potential to affect the cultural resources environment. It begins with a discussion of the regulatory context for evaluating impacts and follows with a description of staff's cultural resources (or historical resources) inventory and analysis of the petition.

Regulatory Context

Various laws apply to the evaluation and treatment of cultural resources. The California Environmental Quality Act (CEQA) requires the Energy Commission to evaluate cultural resources by determining whether they meet several sets of specified criteria. These evaluations then influence the analysis of potential impacts to the resources and the mitigation that might be required to ameliorate any such impacts.

To determine whether a proposed amendment would have a significant effect on the [cultural resources] environment, staff analyzes the proposed amendment's potential to cause a substantial adverse change in the significance of historical or unique archaeological resources. The significance of an impact depends on:

- The cultural resource affected;
- The nature of the resource's historical significance;
- How the resource's historical significance is manifested physically and perceptually;
- Appraisals of those aspects of the resource's integrity that figure importantly in the manifestation of the resource's historical significance; and
- How much the impact would change those integrity appraisals.

CEQA and the CEQA Guidelines define significant cultural resources using two regulatory definitions: historical resources and unique archaeological resources. A historical resource is defined as a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR[1]", or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code," or "any object , building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record." (Cal. Code Regs., tit. 14, §15064.5[a].) Historical resources that are automatically listed in the CRHR include California historical resources listed in or formally determined eligible for the National Register of Historic Places (NRHP) and California Registered Historical Landmarks from No. 770 onward (Pub. Resources Code, §5024.1[d]).

Under CEQA, a resource is generally considered to be historically significant if it meets the criteria for listing in the CRHR. These criteria are essentially the same as the eligibility criteria for the NRHP. In addition to being at least 50 years old,[2] a resource must meet at least one (and may meet more than one) of the following four criteria (Pub. Resources Code, §5024.1; Cal. Code Regs., tit. 14, §4852[b]):

- Criterion 1, is associated with events that have made a significant contribution to the broad patterns of our history;
- Criterion 2, is associated with the lives of persons significant in our past;
- Criterion 3, embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of an important creative individual, or represents the work of a master, or possesses high artistic values; or
- Criterion 4, has yielded, or may be likely to yield, information important to history or prehistory.

In addition, historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (Cal. Code Regs., tit. 14, §4852[c]).

Even if a resource is not listed or determined to be eligible for listing in the CRHR, CEQA allows the lead agency to make a determination as to whether the resource is a historical resource as defined in Public Resources Code, sections, 5020.1(j) or 5024.1.

In addition to historical resources, archaeological artifacts, objects, or sites can meet CEQA's definition of a unique archaeological resource, even if it does not qualify as a historical resource (Cal. Code Regs., tit. 14, §15064.5[c][3]). Archaeological artifacts,

[1] California Register of Historical Resources.

[2] The Office of Historic Preservation (OHP 1995:2) endorses recording and evaluating resources over 45 years of age to accommodate a five-year lag in the planning process.

objects, or sites are considered unique archaeological resources if “it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.” (Pub. Resources Code, §21083.2[g].)

At Title 14, California Code of Regulations, section 15064.5(b), the State CEQA Guidelines define a substantial adverse change as “physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.”

Historical Resources Inventory

The development of an inventory of historical resources in and near the project area of analysis (PAA) is the requisite first step in the assessment of whether the project might, under Public Resources Code, section 21084.1, cause a substantial adverse change in the significance of a historical resource, and could, therefore, have a significant effect on the environment. The effort to develop the inventory has involved conducting a sequence of investigatory phases that includes doing background research, interpreting the results of the inventory effort as a whole, and evaluating whether found cultural resources are historically significant. This section discusses the methods and the results of each inventory phase, develops the historical resources inventory for the analysis of the proposed amendment, and interprets the inventory to assess how well it represents the cultural resources of the PAA.

Project Area of Analysis

The PAA is a concept that staff uses to define the geographic area in which the proposed project has the potential to affect cultural resources. The effects that a project may have on cultural resources may be immediate, further removed in time, or cumulative. They may be physical, visual, auditory, or olfactory in character. The geographic area that would encompass consideration of all such effects may or may not be one uninterrupted expanse. It may include the project area, which would be the site of the proposed plant (project site), the routes of requisite transmission lines and water and natural gas pipelines, and other offsite ancillary facilities, in addition to one or several discontiguous areas where the project could be argued to potentially affect cultural resources.

Staff defines the archaeological PAA as comprising the locations of proposed project modifications, in both their horizontal and vertical dimensions (**Cultural Resources Table 2**). The architectural PAA is defined as the area set one parcel beyond the proposed project site.

For ethnographic resources, the PAA is expanded to take into account sacred sites, traditional cultural properties (places), and larger areas such as ethnographic landscapes that can be vast and encompassing, including viewsheds that contribute to the historical significance of such historical resources. For the amended PGCP, the ethnographic component of the PAA is congruent with the archaeological PAA.

Cultural Resources Table 2
Depth of Excavation by Project Component

Project Activity	Maximum Depth of Excavation	Depth of Previous Excavation	Depth of Fill	References
Remove Boiler 1B	None	~ 3 feet		SCA 2015a:3
Modify CSSC Boiler House	None	Unknown[a]	Unknown[a]	SCA 2015a:3
Construct New Boiler 1B Foundation	4 feet	Unknown	Unknown	SCA 2015a:5
Install Overhead Pipe-Rack Footings	2 feet	Unknown	Unknown	SCA 2015a:5
Construct Emissions Stack	4 feet	Unknown	Unknown	SCA 2015a:5
Construct Deaerator	4 feet	Unknown	Unknown	SCA 2015a:5
Construct Boiler Feed Pumps	4 feet	Unknown	Unknown	SCA 2015a:5

Abbreviations: CSSC = Campbell Soup Supply Company; SCA = Sacramento Cogeneration Authority
Notes: a. Because no excavation would be involved in modifying the CSSC Boiler House, staff does not need the depth of previous excavation or depth of fill at the CSSC property.

Background Research

The background research for the present analysis employs information that the petitioner and Energy Commission staff gathered from literature and record searches, as well as documents from the original PGCP proceeding. The purpose of the background information is to help formulate the initial cultural resources inventory for the present analysis, to identify information gaps, and to inform the design and the interpretation of the field research that will serve to complete the inventory.

Literature Review and Records Search

The literature review and records search attempts to gather and interpret documentary evidence of the known cultural resources in the PAA. The source for the present search was the North Central Information Center (NCIC) of the California Historical Resources Information System (CHRIS).

Methods and Results

Clint Helton (CH2M Hill, cultural resources consultant to the petitioner), requested a records search from the NCIC for the amended PGCP on or before October 14, 2014. The records search covered the PGCP project site and a 1-mile radius surrounding it. (Hallam 2014:1; Helton 2014:ii, 3-1; SCA 2014a:3-9.) The NCIC sent the records search results to Mr. Helton on October 14, 2014 (Hallam 2014:1; Helton 2014:4-1). The records search included examinations of the NCIC's geographic information system database of previous cultural resource studies and known cultural resources as well as:

- The Historic Property Data Records for Sacramento County (OHP 2012a);
- The Archeological Determinations of Eligibility for Sacramento County (OHP 2012b);
- Listings in the California Inventory of Historic Resources (1976);
- Local inventories (not specified); and
- Historic maps (Geological Survey 1947, 1949).

In addition, staff conducted an online search for proposed projects and environmental impact analyses using the websites of the city of Sacramento and Sacramento Regional County Sanitary District. The purpose of this search was to identify cultural resource analyses that might not have been submitted to the NCIC.

The literature review and records search indicate that 30 previous cultural resource studies have been conducted in the records search area; of these, eight cultural resource studies have been conducted within or adjacent to the PAA. Additionally, a total of 13 cultural resources has been previously recorded in the records search area (Helton 2014:4-1, Table 1). None were previously recorded in the amended PAA. Tables of previous studies are included in **Cultural Resources Appendix A (Tables A1–A2)**.

Additional Literature Review

Staff conducted additional research at the Energy Commission in-house library and online sources, as well as consulted the reports contained in the petitioner's records search (Helton 2014). The purpose of this research was to obtain an understanding of the natural and cultural development of the land in and around the PAA, identify locations of potential historic built environment and archaeological resources, and have a partial, chronological record of disturbances in the PAA. All consulted historic maps are presented in **Cultural Resources Appendix A (Table A-3)**.

Archaeological and Ethnographic Resources in the One-Mile Radius

Three previous cultural resources surveys were conducted in the archaeological PAA (B&V 1993; Waechter 1993; Woodward-Clyde 1995a). Black & Veatch conducted the most intensive of these surveys, covering the entire project site and associated temporary storage/laydown area. The archaeologist surveyed the project area by walking parallel transects spaced about 30 feet apart. Black & Veatch improved its

visual inspection of the project site by excavating test units[3] every 60 feet along the survey transects. The test units were excavated until hardpan soil was encountered. (B&V 1993:3-1.) Although Black & Veatch do not report the depth of hardpan, six geotechnical borings in the project site indicate that hardpan is encountered between 4.00 and 6.75 feet below ground surface (Youngdahl 1993:Figures A-2–A-11). No cultural resources were found as a result of the survey (B&V 1993:ii, 4-1).

The surveys by Waechter (1993) and Woodward-Clyde (1995a) were narrow linear surveys for a natural gas pipeline and covered little of the project site. No cultural resources were identified as a result of these studies.

Built Environment Resources in the One-Mile Radius

The petitioner provided a survey and evaluations of the properties within a one-parcel PAA, adjacent to the PGCP site. Four resources (five parcels) 45 years or older were identified, including the PGCP and the adjacent railroad. The petitioner's consultant, JRP Historical Consulting, concluded that none of the four resources are eligible for inclusion on the California Register of Historic Resources (CRHR) and therefore there would be no impacts to historic built environment resources.

Beyond the one parcel PAA, additional studies were found within one mile of the project site. Many of those studies involved buildings at the Sacramento Army Depot, south of the P&G plant site. Others included residential structures and an old farmstead. One resource, a Craftsman residence identified as the Cartopassi Place (P-34-728) was considered eligible for NRHP or CRHR at the local level in 1995 (Maniery 1995), but the building is no longer extant.

No studies or reports were provided for CSSC or the area surrounding the CSSC.

Proctor and Gamble

The Proctor and Gamble manufacturing facility in Sacramento was built in 1952. The plant expanded over time as new products came on the market. The build-out ceased by the 1980s and by 1998, plant operations used less than the original 152 acres developed in 1952 (SCA 2014: pp 10-11).

Campbell's Soup Supply Company

Campbell's Soup Supply Company (CSSC) was established in 1947. As mentioned in the Introduction section above, CSSC has been sold to Capital Commerce Center (CCC) and the former soup plant is being converted to warehousing and other uses.

Boiler 1B and the Old Boiler House at Campbell's Soup Supply Company

At staff's request, the petitioner (SCA/SMUD) provided a figure (SCA 2014b) showing the location of the building housing Boiler 1B and a photograph of the boiler itself to assist staff in understanding exactly where Boiler 1B is located. Petitioner also provided photographs of the Old Boiler House in an additional data response on February 24,

[3] B&V (1993:3-1) does not disclose the horizontal dimensions of the test units.

2015 (SCA 2015b). According to the supplemental information provided by the petitioner on November 24, 2014, Boiler 1B is currently located at the CSSC plant at 6200 Franklin Boulevard in Sacramento County, in a facility designated as the Old Boiler House. Additionally, the petitioner provided information on December 9, 2014, revealing that the old boiler house is part of the original CSSC factory whose construction began in 1947 (SCA 2014c). This indicates that the CSSC and facilities such as the boiler house are of historic age. The petitioner also provided a chronology of upgrades to the boiler(s) at the CSSC. The chronology indicates that Boiler 1B was one of several boiler replacements which took place on the CSSC plant site in 1989 and 1990. The Sacramento Power Authority at Campbell (SPA CoGen III) plant was licensed in 1994 by the Energy Commission to provide additional steam capacity to the CSSC and is located adjacent to the CSSC plant on a separate parcel. In their data responses, the petitioner noted that at the time of the installation of the Boiler 1B in 1990, the existing doors, siding and conduit were installed on the Old Boiler House. This indicates that replacement materials have altered the Old Boiler House and that original fabric has been removed.

Potential for Impacts to CSSC

The project description of the activities proposed at CSSC referred to below is from the owner's response to Data Request 6 (Data Response Set 1A), submitted to the Energy Commission's Docket Unit on January 23, 2015. The data response to DR 6 outlines the methods to be employed to remove portions of the Old Boiler House at the former Campbell Soup Supply Company to aid in the removal of the Boiler 1B. The methods to be employed as described by the owner (SCA2015a: pp 3-4) are paraphrased below:

- Temporary removal and reinstallation of the roll-up door and associated side door, and the associated metal siding up to an elevation approximately 17 feet above ground level;
- Temporary removal and reinstallation of electrical conducts; and
- Temporary removal and reinstallation of a portion of the roof required to allow a crane access to the boiler.

The subject doors, siding and conduit were installed after the installation of the new boilers in 1990; therefore, their temporary removal and reinstallation upon completion of the project would not affect the historical integrity of the building in terms of materials, design, workmanship, association, location, feeling or setting; nor would it constitute modification of the structure because all original materials will be reinstalled in their original locations and retain their original functions as permitted under the Secretary of the Interior's (SOI) Standards for the Treatment of Historic Properties, 1995; see especially Standards for Preservation. Resources in the vicinity of the CSSC were not studied in detail at the time of the original AFC for the co-generation facility (93-AFC-03). Windshield reconnaissance-style surveys of nearby properties were conducted in 1993 and no apparent historic built environment resources were identified. It does not appear that the CSSC was evaluated at that time by either the applicant or staff, perhaps because at 46 years of age, it did not meet the 50-year threshold for historic built environment resources customary at the time or was not required by siting

regulations[4]. Based upon the known information and the activities proposed, staff does not believe any further study is necessary at the CSSC facility to be able to draw conclusions about impacts to historic built environment resources.

Proctor & Gamble Cogeneration Plant

The Proctor & Gamble Cogeneration Plant (PGCP) was licensed in 1994 to produce electricity as well as provide steam to the adjacent P&G manufacturing plant. Project construction began in 1995 and the plant became operational in 1997. This makes the plant less than 20 years old and not of an age requiring historic resource evaluation. No studies have been provided or are needed by staff to draw conclusions about the potential for impacts to historical built environment resources as a result of this PTA.

The city of Sacramento's 2035 General Plan requires the city government to amend the Sacramento Code so that many aspects of standard professional archaeological practice are routinely exercised in the environmental impact assessment phase of proposed projects under the city's jurisdiction. These practices are summarized in **Cultural Resources Table 3** below.

As currently licensed, the PGCP conflicts with Policy HCR 2.1.16 in that Conditions of Certification **CUL-1** through **CUL-3** do not account for all of the city's professional archaeological practices (see **Cultural Resources Table 2**). **Cultural Resources Table 3** below presents a comparison of the PGCP's current cultural resources conditions and the practices required under Policy HCR 2.1.16. The table shows that the existing license conditions fail to conform to city Policy HCR 2.1.16 in seven out of 11 requirements.

Cultural Resources Table 3
Laws, Ordinances, Regulations, and Standards Compliance

Practices Required by Policy HCR 2.1.16	Corresponding PGCP Condition of Certification	Degree of Conformity
Criteria for qualifications of personnel	CUL-1	Incomplete conformance: CUL-1 provides qualifications for the Cultural Resources Specialist (CRS), but not Cultural Resources Monitors or other technical specialists.
Protocols and criteria for survey	None	Nonconformance: None of the existing license conditions address survey protocols and criteria in the event of future amendments.

[4] OHP adopted a recommendation to include resources 45 years or older in 1995 (OHP 1995; pp 1-2). Energy Commission siting regulations, updated in 1993, make no mention of any age threshold (CEC 1993; Appendix E (9) A-D; p 126).

Practices Required by Policy HCR 2.1.16	Corresponding PGCP Condition of Certification	Degree of Conformity
Protocols and criteria for research	CUL-3	Nonconformance: CUL-3 contains no protocols or criteria for cultural resources research designs to frame evaluations of inadvertent discoveries.
Protocols and criteria for testing	CUL-3	Nonconformance: CUL-3 contains no protocols or criteria for archaeological testing of inadvertent discoveries.
Protocols and criteria for training	CUL-1 and CUL-2	Conformance: These two conditions identify training requirements and assign the CRS to provide training.
Protocols and criteria for work cessation	CUL-3	Conformance: CUL-3 identifies the conditions under which project work must stop.
Protocols and criteria for resumption of work	CUL-3	Conformance: CUL-3 identifies the conditions under which project work may resume.
Protocols and criteria for the identification of cultural resources	CUL-3	Nonconformance: CUL-3 generally instructs the CRS to map and record inadvertent discoveries; no protocols or criteria for appropriate procedures are stipulated.
Protocols and criteria for the evaluation of cultural resources	CUL-3	Nonconformance: CUL-3 offers no protocols or criteria by which to evaluate the significance of inadvertent discoveries.
Protocols and criteria for cultural resources reporting	CUL-3	Nonconformance: CUL-3 does not discuss reporting requirements.
Requirement to comply with recommendations for mitigating significant adverse effects	CUL-3	Conformance: CUL-3 requires conformance with mitigation measures devised in response to significant inadvertent discoveries.

CONCLUSIONS

Staff concludes that the Petition to Amend, as described by the project owner, would not have any significant impacts to historic built environment resources

Staff concurs that the proscribed methods for removing the Boiler 1B meet the SOI Standards and adherence to this methodology will not create significant impacts to historic built environment resources. Staff does not recommend any additional historic built environment conditions for the PTA, as described.

Staff concludes that the proposed amendment would not affect any known archaeological and ethnographic resources. While there is some potential for archaeological or ethnographic resources to be unearthed during construction of the proposed amendment, conditions of certification **CUL-1** through **CUL-6** would reduce the significance of inadvertent impacts on buried archaeological or ethnographic resources. The amended PGCP license fails to conform to seven requirements contained in the city of Sacramento's General Plan Policy HCR 2.1.16. To remedy this situation, staff proposes changes to the existing **CUL-1** and new conditions **CUL-4**, **CUL-5**, and **CUL-6**.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

The proposed amendment to the PGCP license would not fully conform to applicable LORS. Specifically, the amended PGCP license fails to conform to seven requirements contained in the city of Sacramento's General Plan Policy HCR 2.1.16. To remedy this situation, staff proposes changes to the existing **CUL-1** and new conditions **CUL-4, CUL-5, and CUL-6**. The full text of these changes is contained in **Appendix B** to this analysis. To summarize, staff proposes the following changes.

- **CUL-1 (Cultural Resources Professional Qualifications):** To meet Policy HCR 2.1.16's requirement for personnel qualifications, staff proposes to add professional qualifications for alternate Cultural Resource Specialists (CRSs) and Cultural Resource Monitors (CRMs). Staff also recommends specific academic degree and fieldwork experience for the CRS, alternate CRS(s), and CRMs.
- **CUL-2 (Workforce Training and On-call Monitoring):** No changes recommended.
- **CUL-3 (Powers of the CRS):** No changes recommended.
- **CUL-4 (Cultural Resources Mitigation and Monitoring Plan):** To meet Policy HCR 2.1.16's stipulation that project proposals contain protocols and requirements for research, testing, identification of cultural resources, and evaluation of cultural resources, staff proposes new condition **CUL-4**, which requires preparation of a comprehensive mitigation and monitoring plan. This plan shall define the aforesaid protocols and criteria.
- **CUL-5 (Protocols and Criteria for Survey of Subsequent Amendments and Project Modifications):** To meet Policy HCR 2.1.16's requirement that project

proposals contain requirements for survey, staff proposes new condition **CUL-5**. This new condition defines the survey methods required for future project amendments and modifications.

- **CUL-6 (Cultural Resources Report):** To meet HCR 2.1.16's stipulation that project proposals contain requirements for cultural resources reporting, staff proposes new condition **CUL-6**. This condition defines the reporting procedures and standards for final reporting at the close of construction. In addition, newly proposed condition **CUL-5** contains reporting requirements specific to surveys.

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CULTURAL RESOURCES APPENDIX A: BACKGROUND INFORMATION

Background Research

Cultural Resources Table A1
Literature Review Results within or adjacent to the PAA

Author and Date of Study	NCIC Study Number	Resources Identified in PAA
ASP&A 1980	SA-000488	None
Waechter 1993	SA-003489B	None
B&V 1993	Not at NCIC	None
Maniery and Kelly 1995	SA-003405	None
SCA 1993	Not at NCIC	None
CEC 1994a	Not at NCIC	None
CEC 1994b	Not at NCIC	None
Woodward-Clyde 1995a	SA-003368	None
Abbreviations: ASP&A = Ann S. Peak & Associates; B&V = Black & Veatch; CEC = California Energy Commission; NCIC = North Central Information Center; PAA = project area of analysis; SA = Sacramento County; SCA = Sacramento Cogeneration Authority		

Cultural Resources Table A2
Literature Review Results: Studies outside PAA, in Records Search Area

Author(s) and Date of Study	Study Number
Johnson 1974	SA-000088
Nelson and Rondeau 1979	SA-000310A
ASP&A 1980	SA-000488
Bakarich and Rondeau 1980	SA-000310B
Green 1984	SA-003373
Cleland et al. 1987	SA-000379
USACE 1993	SA-003397
Woodward-Clyde 1995b	SA-006154
Munns and Turner 2000	SA-005814
Nelson 2000	SA-003853A
Nelson et al. 2000	SA-003853B
Billat 2001	SA-004407
Egherman and Hatoff 2002	SA-007130
Mellon 2002	SA-005809
Peak 2002	SA-009194
Arrington et al. 2006	SA-008619
Sikes and Martinez 2008	SA-009313
Hatoff 2009	SA-010357
Hanes et al. 2011	Not at NCIC
M&H and ECORP 2012	Not at NCIC

Author(s) and Date of Study	Study Number
Raney 2012	Not at NCIC
Ascent 2014	Not at NCIC
Blankinship 2014	Not at NCIC
Abbreviations: ASP&A = Ann S. Peak & Associates; M&H = Mead & Hunt; NCIC = North Central Information Center; USACE = U.S. Army Corps of Engineers	

Cultural Resources Table A-3
Historic Maps Consulted

Map Name	Scale	Survey Date	Reference
Survey Plat, T 8 N, R 5 E	Unspecified	Ca. 1865	GLO 1865
Map of Sacramento County	¾ inch = 1 mile	No date	Anonymous n.d.
Postal Route Map	Unspecified	1884	Preston 1974:35
Sacramento Sheet	Unspecified	1887–1888	USGS 1888
Brighton Quadrangle	1:32,680	1908–1909	Geological Survey 1947
Untitled	Unspecified	Ca. 1910	Ireland 1910, in M&H and ECORP 2012:15
Brighton Quadrangle	1:24,000	1947, field checked 1948	Geological Survey 1949
Sacramento East Quadrangle	1:24,000	Ca. 1948–1954	USGS 1954
Untitled Plat	Unspecified	Ca. 1956	M&H and ECORP 2012:Figure 4
Abbreviations: E = east; GLO = General Land Office; N = north; R = Range; T = Township; USGS = U.S. Geological Survey			

CULTURAL RESOURCES ABBREVIATION AND ACRONYM GLOSSARY

ASP&A	Ann S. Peak & Associates
B&V	Black & Veatch
B.P.	Before present (A.D. 1950)
CEC	California Energy Commission
CSSC	Campbell Soup Supply Company
E	east
GLO	General Land Office
M&H	Mead & Hunt
N	north
NCIC	North Central Information Center
PAA	project area of analysis
P&G	Procter & Gamble
PGCP	Procter & Gamble Cogeneration Plant
PTA	petition to amend
R	Range
SA	Staff Assessment
SCA	Sacramento Cogeneration Authority
T	Township
USACE	U.S. Army Corps of Engineers

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APPENDIX B: CONDITIONS OF CERTIFICATION

Staff has proposed modifications to the Cultural Resources Conditions of Certification as shown below. (Note: Deleted text is in ~~strikethrough~~, new text is **bold and underlined**.)

CULTURAL RESOURCES PROFESSIONAL QUALIFICATIONS

CUL-1 **At least 45 days** ~~Prior~~**prior** to the start of construction (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities) on the Procter & Gamble project, the project owner shall provide the California Energy Commission (CEC) Compliance Project Manager (CPM) with the following information **for review and approval**: the name, telephone number, resume, and indication of availability for its designated cultural resources specialist **(CRS), as well as any alternate CRS that the project owner might designate**. **The CRS will be responsible for implementation of all cultural resources conditions of certification and may retain qualified cultural resources monitors (CRMs) to monitor the project as necessary.**

Protocol: The resume**(s)** shall **demonstrate that the CRS and alternate CRS meet** ~~include~~ the **minimum** qualifications **specified in the U.S. Secretary of the Interior professional qualifications, as published at 36 C.F.R., part 61**~~of the designated specialist (e.g., someone with a graduate degree in archaeology, anthropology, or cultural resources management, and archaeological field experience in California)~~. **In addition, the CRS and alternate CRS shall have the following qualifications:**

a. **The technical specialty of the CRS and alternate CRS shall be appropriate to the needs of the project and shall include, a background in anthropology, archaeology, history, architectural history or a related field;**

b. **At least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California; and**

c. **The resume shall include the names and phone numbers of contacts familiar with the work of the CRS and alternate CRS on referenced projects and demonstrate that the CRS and alternate CRS has the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during ground disturbance, grading, construction and operation. In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM, that the proposed CRS or alternate has the appropriate training and background to effectively implement the conditions of certification.**

CRMs shall meet the following qualifications:

a. **A B.S. or B.A. degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or**

b. **An A.S. or A.A. in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or**

c. **Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology or a related field and two years of monitoring experience in California.**

The CEC CPM will review the qualifications of, and must approve in writing, the project owner's ~~designated cultural resources specialist~~ **CRS, alternate CRS, and CRMs** prior to the start of construction on the Procter & Gamble project.

After CEC CPM approval, the **CRS or alternate CRS**~~designated specialist~~ shall be available to conduct preconstruction training and provide monitoring and mitigation, as needed, during all construction activities associated with the project. **The CRS or alternate CRS shall retain CRMs and other technical specialists, if needed.** The CEC CPM and staff shall have unrestricted access to and open communication with the designated cultural resources specialist(s) at any time.

Verification: ~~Prior to the start of construction on the Procter & Gamble project, the project owner shall submit to the CEC CPM or designee for review and written approval the name, resume, telephone number, and indication of availability for its designated cultural resources specialist.~~ **The project owner shall submit the resume for the CRS at least 45 days prior to the start of ground disturbance. At least 10 days prior to a termination or release of the CRS, the project owner shall submit the resume of the proposed replacement CRS. At least 20 days prior to ground disturbance, the CRS shall submit written notification identifying anticipated CRMs for the project stating they meet the minimum qualifications required by this condition. If additional CRMs are needed later, the CRS shall submit written notice one week prior to any new CRMs beginning work.**

WORKFORCE TRAINING AND ON-CALL MONITORING

CUL-2 Prior to the start of construction on the Procter & Gamble project, and throughout the construction period, the project owner's designated cultural resources specialist will provide overall guidance for protection and management of any cultural resources encountered during ground disturbance. The project owner will ensure that all workers who operate ground disturbing equipment are instructed on how to recognize cultural resources in the field and will provide the workers with a set of procedures for

reporting any such resources that may be discovered during project-related ground disturbance.

Verification: At least thirty (30) days prior to the start of ground disturbing activities, the project owner shall submit to the CEC CPM for review and approval a description of the cultural resources instruction to be provided to project construction workers and the set of procedures the workers are to follow when previously unknown cultural resources are discovered .

In the first compliance report after the start of construction, the project owner shall provide the CEC CPM with a signed letter stating that the instruction has been provided to the construction workers (those who started on the first day of construction) during the general worker orientation. The letter shall include a list of the workers who received the cultural resources training. For subsequent project construction phases, the project owner shall list in its monthly compliance report any additional workers who have received the cultural resources training.

POWERS OF THE CRS

CUL-3 Prior to the start of construction and throughout the construction period, the project owner's designated cultural resources specialist shall be prepared to implement as needed, the following monitoring and mitigation measures to minimize potential impacts to cultural resources.

Protocol: The monitoring and mitigation measures include the following elements: If known or previously unknown cultural resources are encountered during construction activities, the designated cultural resource specialist shall have the authority to halt or redirect construction at any time necessary to protect the resources and their locational context.

Work in the immediate vicinity of the find shall be halted until the designated cultural resources specialist can determine the significance and sensitivity of the find; how the resources will be protected if construction resumes, and how the mitigation measures will be implemented for recovery of cultural materials;

The project owner, or its designated representative, shall inform the CEC CPM within one working day of the discovery of any potentially significant cultural resources and discuss the specific measure(s) proposed to mitigate potential impacts to these resources.

The designated cultural resources specialist, representatives of the Applicant, and the CEC CPM or designee shall meet within five working days of the notification of the CEC CPM, if necessary, to discuss the disposition of any finds and any mitigation measures already implemented or to be implemented.

If human remains are encountered, the project owner will notify the county coroner’s office; if the remains are identified as Native American, the project owner will consult with the California Native American Heritage Commission for appropriate disposition of the remains.

All necessary and required data recovery and mitigation shall be completed within ten days after discovery of the previously unknown cultural resources.

All cultural materials found shall be mapped and all significant cultural resources shall be removed for analysis, and prepared and delivered for curation into retrievable storage in a public repository or museum.

If any cultural resources are found, the project owner shall ensure preparation and filing of appropriate cultural resources report(s) by the designated cultural resources specialist.

Verification: Prior to the start of construction on the Procter & Gamble project, the project owner shall notify the CEC CPM in writing that the designated cultural resources specialist is available and prepared to implement any necessary monitoring and mitigation measures for cultural resources.

CULTURAL RESOURCES MONITORING AND MITIGATION PLAN

CUL-4 At least 30 days prior to the start of ground disturbance, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by the CRS, to the CPM for approval.

Protocol: The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. Copies of the CRMMP shall reside with the CRS, alternate CRS, each monitor, and the project owner's on-site manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless specifically approved by the CPM. The CRMMP shall include, but not be limited to, the following elements and measures.

1. **The following statement shall be added to the Introduction: Any discussion, summary, or paraphrasing of the conditions in this CRMMP is intended as general guidance and as an aid to the user in understanding the conditions and their implementation. If there appears to be a discrepancy between the conditions and the way in which they have been summarized, described, or interpreted in the CRMMP, the conditions, as written in the Final Decision, supersede any interpretation of the Conditions in the CRMMP. The cultural resources conditions of certification are attached as an appendix to the CRMMP.**
2. **A proposed general research design that includes a discussion of research questions and testable hypotheses applicable to the project area. A refined research design will be prepared for any resource where data recovery is required.**
3. **Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during ground**

disturbance, construction, and post-construction analysis phases of the project.

4. **Identification of the person(s) expected to perform each of the tasks, their responsibilities; and the reporting relationships between project construction management and the mitigation and monitoring team.**
5. **A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their roles and responsibilities.**
6. **A discussion of all avoidance measures such as flagging or fencing, to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and identification of areas where these measures are to be implemented. The discussion shall address how these measures will be implemented prior to the start of construction and how long they will be needed to protect the resources from project-related effects.**
7. **A discussion of the requirement that all cultural resources encountered will be recorded on a DPR 523 Form and mapped (may include photos). In addition, all archaeological materials collected as a result of the archaeological investigations (survey, testing, data recovery) shall be curated in accordance with The State Historical Resources Commission's "Guidelines for the Curation of Archaeological Collections," into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Title 36, Code of Federal Regulations, part 79.**
8. **A discussion of any requirements, specifications, or funding needed for curation of the materials to be delivered for curation and how requirements, specifications and funding will be met. The name and phone number of the contact person at the institution. Include a statement in the discussion of requirements that the project owner will pay all curation fees and that any agreements concerning curation will be retained and available for audit for the life of the project.**
9. **A discussion of the availability and the designated specialist's access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during construction.**

10. **A discussion of the proposed Cultural Resource Report (CRR) which shall be prepared according to Archaeological Resource Management Report (ARMR) Guidelines.**

Verification: The project owner shall submit the CRMMP at least 30 days prior to the start of ground disturbance. Per ARMR Guidelines the author's name shall appear on the title page of the CRMMP. Ground disturbance activities may not commence until the CRMMP is approved. At least 30 days prior to ground disturbance, a letter shall be provided to the CPM indicating that the project owner will pay curation fees for any materials collected as a result of the archaeological investigations (survey, testing, data recovery).

PROTOCOLS AND CRITERIA FOR SURVEY OF SUBSEQUENT AMENDMENTS AND PROJECT MODIFICATIONS

CUL-5 Cultural resources surveys conducted to analyze the potential environmental impacts of subsequent amendments and project modifications shall minimally conform to the standards described in the California Code of Regulations, Title 20, Section 1704(b)(2), Appendix B(g)(2)(C). Survey methods, such as transect intervals and the use of subsurface prospection, shall be determined based on conditions in the amendment/modification area(s) and the characteristics of cultural resources in the vicinity of the amendment/modification(s).

Protocol: The project owner shall document the methods and results of cultural resources surveys in its petition to amend, following the content requirements described in the California Code of Regulations, Title 20, Sections 1769(a) and 1704(b)(2), Appendix B(g)(1). In addition, the project owner shall prepare a cultural resources technical report that describes the methods and results of new surveys, as described in the California Code of Regulations, Title 20, Section 1704(b)(2), Appendix B(g)(2)(C).

Verification: The project owner shall submit the information outlined above with its petition to amend. Staff will consider the submittals as part of the Post Certification Amendments and Changes process.

CULTURAL RESOURCES REPORT

CUL-6 After construction is complete, the project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval.
Protocol: The CRR shall report on all field activities including dates, times and locations, findings, samplings and analysis. All survey reports, DPR 523 forms and additional research reports not previously submitted to the California Historic Resource Information System (CHRIS) shall be included as an appendix to the CRR.

Verification: The project owner shall submit the subject CRR within 90 days after completion of ground disturbance (including landscaping). Within 10 days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the curating institution (if archaeological materials were collected), the State Historic Preservation Officer (SHPO), and the CHRIS.

SCA PROCTER & GAMBLE COGENERATION PROJECT (93-AFC-2C)

Petition to Amend the Final Decision
Hazardous Materials Management
Brett Fooks, PE

INTRODUCTION

The Sacramento Cogeneration Authority (SCA) has petitioned to amend the certification for SCA to add an additional auxiliary boiler to the site to produce steam. Energy Commission Staff (staff) has reviewed the amendment and concluded that in the technical area of Hazardous Materials Management the addition of the auxiliary boiler is fully mitigated with implementation of the existing conditions of certification, plus the addition of Condition of Certification (**HAZ-8**) proposed by staff to address the safety in the commissioning of new or repaired gas plumbing and pipelines. With the existing and staff's newly proposed condition of certification, the project will comply with all applicable LORS and will pose little potential for significant impacts on the public from the use and handling of hazardous materials.

LAWS, ORDINANCES, REGULATIONS AND STANDARDS (LORS) COMPLIANCE

The only new LORS associated with this amendment not considered in staff's original analysis of the SCA concerns the purging of piping with flammable gas through the power unit. Staff therefore strongly recommends the proposed Condition of Certification **HAZ-8** that would require the petitioner follow practices outlined in the National Fire Protection Association (NFPA) 56, the Standard for Fire and Explosion Prevention during Cleaning and Purging of Flammable Gas Piping Systems.

ANALYSIS

On June 28, 2010, the United States Chemical Safety and Hazard Board (US CSB) issued Urgent Recommendations to the United States Occupational Safety and Health Administration (OSHA), the NFPA, the American Society of Mechanical Engineers (ASME), and major gas turbine manufacturers to make changes to their respective regulations, codes, and guidance to require the use of inherently safer alternatives to natural gas blows for the purposes of pipe cleaning (US Chemical Safety Board 2010). Recommendations were also made to the fifty states to enact legislation applicable to power plants that prohibits flammable gas blows for the purposes of pipe cleaning. In accordance with those recommendations, staff proposes Condition of Certification **HAZ-8** which prohibits the use of flammable gas blows for pipe cleaning at the facility, including during construction and after the start of operations for the new boiler. Fuel gas pipe cleaning and purging shall adhere to the provisions of NFPA 56, the Standard for Fire and Explosion Prevention during Cleaning and Purging of Flammable Gas Piping Systems, with special emphasis on sections 4.4.1 (written procedures for pipe cleaning and purging) and 6.1.1.1 (prohibition on the use of flammable gas for cleaning or purging at any time).

CONCLUSIONS AND RECOMMENDATIONS

Staff has reviewed the changes proposed to the PGCP and concluded that the potential impacts resulting from the addition of the auxiliary boiler are fully mitigated with implementation of the existing conditions of certification, and with the additional Condition of Certification (**HAZ-8**) proposed by Staff to address the safety of fuel gas pipe cleaning and purging. With Staff's proposed mitigation measures, the project will comply with all applicable LORS and will pose insignificant risk of impacts on the public from the use, transportation, storage, and handling of hazardous materials.

PROPOSED MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Added text in bold and underlined:

HAZ-8 The project owner shall not allow any fuel gas pipe cleaning activities on site at any power unit, either before placing the pipe into service or at any time during the lifetime of the facility, that involve "flammable gas blows" where natural (or flammable) gas is used to blow out debris from piping and then vented to atmosphere. Instead, an inherently safer method involving a non-flammable gas (e.g. air, nitrogen, steam) or mechanical pigging shall be used as per NFPA 56. A written procedure shall be developed and implemented as per NFPA 56, section 4.4.1

Verification: At least thirty (30) days before any fuel gas pipe cleaning activities begin at any new unit, the project owner shall submit a copy of the Fuel Gas Pipe Cleaning Work Plan (as described in NFPA 56, section 4.4.1) which shall indicate the method of cleaning to be used, what gas will be used, the source of pressurization, and whether a mechanical PIG will be used, to the on-site Chief Building Official (CBO) for information and to the CPM for review and approval.

REFERENCES

US Chemical Safety Board (US CSB). 2010. Final Report Kleen Energy Natural Gas Explosion: U.S. Chemical Safety and Hazard Investigation Board Urgent Recommendations. U.S. Chemical Safety Board, Washington D.C. June 28, 2010.