S A C R A M E N T O
POWER AUTHORITY
P.O. Box 15830 · Sacramento, CA · 95852-1830 · SPA Cogeneration Project

DOCKET
93-AFC-3C
DATE FEB 09 2009
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February 9, 2009
SPA 09-004

Mary Dyas
Compliance Project Manager
California Energy Commission
Siting, Transmission & Environmental Protection Division
1516 Ninth Street
Sacramento, CA 95814

Re: Sacramento Power Authority (SPA) – Docket No. 93-AFC-3C
Petition to Amend Conditions of Certification
Add New Air Quality Conditions for a Commissioning Period
Amend Existing Conditions AQ-11, 15, 19, and 31

Dear Ms. Dyas:

Enclosed are an original and eight copies of a petition to amend Conditions of Certification (COCs) AQ-11, 15, 19, and 31, and add new COCs for the Sacramento Power Authority (SPA) at Campbell Cogeneration Project, 93-AFC-3C. On January 27, 2009, SPA filed an application for Authority to Construct with the Sacramento Metropolitan Air Quality Management District (SMAQMD) for new air permit conditions associated with plant commissioning. A copy of the application to SMAQMD is included in the enclosed petition.

The purpose of the petition is twofold: (1) Add new air quality COCs in response to installing new plant control systems requiring a commissioning period for tuning and shakedown operations of the gas turbine, duct burner, and air pollution control systems, and (2) modification of COCs AQ-11, 15, 19, and 31 to make them consistent with SMAQMD permits. The proposed amendments are beneficial to the public and project owner, do not cause any significant environmental impacts, and are compliant with applicable regulatory requirements.

The outage for installation of new plant control systems is scheduled to start in April 2009 with plant commissioning operations in May 2009. To meet this schedule, SPA requests Commission approval of the proposed amendments at the April 22, 2009 Business Meeting.

We will contact you soon to discuss the petition and schedule for processing. In the meantime, if there are any questions, please contact me at (916) 732-6246.

Sincerely,

Stuart Husband

Stuart Husband
Regulatory Compliance Coordinator

Enclosure

Cc: Jeff Adkins, Sierra Research
Ross Gould, SMUD
Kurt Hook, WGPO
Lourdes Jimenez-Price, SMUD
SPA Files 500.04F
Corporate Files

PETITION FOR POST CERTIFICATION LICENSE AMENDMENT SACRAMENTO POWER AUTHORITY COGENERATION PROJECT

93-AFC-3C
FEBRUARY 2009

Prepared for:

Sacramento Power Authority

Prepared by:

Sierra Research
1801 J Street
Sacramento, CA 95811

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:	)	Docket No. 93-AFC-3C
	)	
Application for Certification	)	PETITION TO POST
of the Sacramento Power Authority	)	CERTIFICATION LICENSE
(SPA) Cogeneration Project	)	AMENDMENT: CONDITIONS OF
	)	CERTIFICATION AQ-11, AQ-15,
	)	AQ-19, AND AQ-31; ADDING
	)	NEW CONDITIONS
	)	

INTRODUCTION

The Sacramento Power Authority (SPA) respectfully submits this petition to amend the California Energy Commission (CEC or Commission) Decision on the SPA Cogeneration Project (11/30/94, CEC Pub. No. P800-94-011, as amended by Order No. 97-1217-05 [effective 12/17/97], as amended by Order No. 98-04-15-03 [effective 4/15/98], and as amended by Order No. 99-1215-08 [effective 12/15/99]) as follows:

1) Add air quality Conditions of Certification (COCs) providing for a new commissioning period necessitated by the replacement of the gas turbine/duct burner control system;

2) Modify COCs AQ-11, AQ-15, and AQ-19 to indicate that shutdowns are not subject to these emission limit conditions (shutdowns are excluded from these emission limits by the latest version of the Sacramento Metropolitan Air Quality Management District (SMAQMD) operating permit) and to make other non-substantive changes for consistency between the COCs and SMAQMD permit conditions;

3) Delete the hourly mass emission limits in COC AQ-11 applicable to the gas turbine alone and retain the hourly mass emission limits for the combined gas turbine plus duct burner in accordance with the current SMAQMD operating permit; and

4) Modify COC AQ-31 to provide a 60-day turnaround time for submitting annual air emission source test results, in accordance with the current

SMAQMD operating permit, and to make other non-substantive changes for consistency between the COCs and SMAQMD permit conditions.

DETAILED JUSTIFICATION FOR PETITION

SPA is submitting this Petition to Amend the SPA Cogeneration Final Decision to allow for replacement of the facility's control system, followed by a necessarycommissioning period. This amendment also includes a request to delete individual turbine and duct burner hourly emission limits but retain the combined turbine plus duct burner emission limits. This change is necessary to reflect the current terms of the SMAQMD permit.

This amendment also requests minor changes clarifying that shutdown emissions are not included in concentration and hourly emission limits, and allows for 60 days rather than 30 days for submittal of source test reports. Apart from the request for a new commissioning period, all requested changes are preexisting in the current version of the SMAQMD permit.

20 CCR Section 1769(a)(1)

A: A complete description of the proposed modifications, including new language for any conditions that will be affected.

The proposed modification will replace the current combustion turbine generator and duct burner (CTG/DB) obsolete operating system (Teleperm XP/Bailey Infi-90) with the Siemens T-3000 operating system. The modification entails the removal of all system hardware down to the individual input/output cards and replacement with new hardware. New software will be loaded into the new system computers to mimic the control dynamics of the old system. At this point, a tuning procedure will be required that includes adjustment of all CTG control elements as well as steam turbine and balance-of-plant control elements. Tuning will modify the new software algorithms to allow functionality similar to what the old software provided. Tuning of the various control elements will allow technicians to operate the plant as they have been trained to do. The tuning procedure consists of commissioning activities in the various operating modes, including operating the dry low-NOx combustor in "diffusion" mode up to full load, rather than switching to the low-NOx "pre-mix" mode, while tuning and adjustments to the operating system are performed. This application therefore requests a commissioning period in order to complete the necessary tuning.

The CTG and duct burner emit NOx, CO, ROC, particulate matter less than 10 microns in diameter (PM_{10}), and sulfur oxides (SOx). SMAQMD Title V Permit No. TV1998-14-01B contains hourly mass emission limits for all pollutants and a NOx concentration limit for the CTG/DB. These limits exclude periods of startup and shutdown, which are limited to 60 minutes per startup and 30 minutes per shutdown. The Title V permit also contains daily and quarterly mass emission limits for NOx, CO, ROC,

PM_{10}, and SOx that pertain to all permitted emission units at the facility. The Title V permit does not include commissioning conditions.

This control system replacement will not affect the NOx concentration limit, hourly emission limits, and daily emission limits, except during the commissioning period. The control system replacement will not affect the facility-wide quarterly emission limits, even when commissioning emissions are included. The modification will therefore only change the NOx concentration limit, NOx and CO hourly limits, and NOx and CO daily limits to exclude the commissioning period. No other pollutants are affected. A separate set of NOx and CO emission limits will apply to commissioning period.

This amendment includes an additional request to delete individual hourly emission limits for the gas turbine. The gas turbine and the duct burner share a common stack and emission control system, and, as such, common emission limits are appropriate because the exhaust cannot be separated by individual source. The current SMAQMD permit contains only combined hourly emission limits for the turbine and duct burner, and this change would therefore harmonize CEC COCs with SMAQMD permit conditions.

This amendment also includes a request for minor changes clarifying that shutdown emissions are not included in the NOx concentration limit and all hourly emission limits as specified in the current version of the SMAQMD permit to operate. Specifically, SMAQMD permit TV1998-14-01B, Conditions B1 and B2 specify that concentration and hourly emission limits exclude periods of shutdowns. Shutdown emissions are included in daily, quarterly and annual emission calculations. The corresponding CEC conditions limiting concentration and hourly emissions do not contain the same language excluding shutdown emissions. The requested change would harmonize the CEC COCs and the SMAQMD permit to operate conditions pertaining to shutdown emissions.

Finally, this amendment includes a request to lengthen the period of time for submittal of a source test report from 30 to 60 days following the test date. This is the SMAQMD's standard policy with regard to source test report submittal and is reflected in the SMAQMD permit. Other miscellaneous non-substantive changes are proposed to the COCs to make these conditions consistent with the current SMAQMD permit TV1998-14-01B. These changes therefore would only harmonize CEC COCs with the SMAQMD permit conditions.

A copy of the application to change the SMAQMD permit and a copy of the current SMAQMD permit are included as Attachment A to this petition. Proposed new language for all affected conditions is included as Attachment B to this petition.

B: A discussion of the necessity for the proposed modification.

Significant portions of the Teleperm XP/Bailey Infi-90 operating system are now obsolete, and the Teleperm XP/Bailey Infi-90 manufacturers have stopped support of the system. As a result, many replacement parts are no longer available. In order to maintain the current level of reliability, a complete digital control system replacement is required.

Following installation of the new control system, a new commissioning period is required for tuning procedures that will modify the new software algorithms to allow functionality similar to what the old software provided. Tuning of the various control elements will allow technicians to operate the plant as they have been trained to do. The proposed changes described in this amendment will allow SPA to minimize future permitting actions, and increase the operational reliability of the SPA Cogeneration facility.

Other changes proposed to remove the turbine alone emission limits, clarify that shutdown emissions do not apply to NOx concentration and hourly emission limits, and extend the time to file a source test report are all necessary to make the CEC COCs consistent with the current SMAQMD permit conditions.

C: If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why this issue was not raised at the time.

During the licensing period, the future obsolescence of the Teleperm operating system and the corresponding commissioning period was not a foreseeable event that could have been addressed during the certification proceeding. Furthermore, the subsequent changes to the SMAQMD permit described in this petition were not foreseeable at the time of the certification proceeding.

D: If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other basis of the final decision, an explanation of why the changes should be permitted.

The requested amendments do not affect the assumptions, rationale, findings, or other bases of the final decision made during the licensing period. All original limitations on maximum project emission rates will remain in effect after the commissioning period. Furthermore, commissioning emissions will not result in a significant air quality impact and will not exceed the quarterly emission limits used in the project mitigation analysis included in the final decision for the project. Attachment A includes a copy of the permit application submitted to the SMAQMD that describes the project's air quality impacts.

E: An analysis of the impacts the modification may have on the environment and the proposed measures to mitigate significant impacts.

The proposed amendments will maintain the long-term operational reliability of the facility while allowing the project to be operated in compliance with its COCs. The proposed modification will replace the current CTG/DB obsolete operating system with the Siemens T-3000 operating system entailing the removal of all system hardware down to the individual input/output cards and replacement with new hardware. New software will be loaded into the new system computers to mimic the control dynamics of the old system. In addition, a tuning procedure will be required that includes adjustment of all CTG control elements as well as steam turbine and balance-of-plant control elements. Tuning will modify the new software algorithms to allow functionality similar to what

the old software provided. Tuning of the various control elements will allow technicians to operate the plant as they have been trained to do. The tuning procedure consists of commissioning activities in the various operating modes, including operating the dry low-NOx combustor in "diffusion" mode up to full load, rather than switching to the low-NOx "pre-mix" mode, while tuning and adjustments to the operating system are performed. These activities all take place within the physical perimeter of the SPA Cogeneration facility and thus the following disciplines will not be affected by the changes in this amendment and are not addressed:

- Land Use,
- Worker Health and Safety,
- Noise,
- Socioeconomics,
- Soils and Water,
- Traffic and Transportation,
- Waste Management,
- Geologic Hazards and Resources,
- Biological Resources,
- Cultural Resources,
- Paleontological Resources,
- Hazardous Materials Management,
- Water Resources, and
- Visual Resources.

Disciplines that have the potential for environmental effects, different from those addressed in the Commission Decision and subsequent amendments, are analyzed below.

Air Quality: The amendment to the project will affect only the air quality analysis used to support the Commission Decision. Potential air quality effects of these changes are presented in Attachment A, which is the application to the SMAQMD for modifications to the permit to operate. Attachment A presents an estimate of the proposed emissions during the commissioning period, an ambient air quality impact analysis, and a demonstration of compliance with applicable air quality regulations.

The proposed changes in COCs are included as Attachment B and affect only short-term NOx and CO emissions. SPA is not proposing to change any of the existing quarterly or annual air emissions limits for any pollutant. Therefore, the proposed amendments will not result in any new significant air quality impacts.

Public Health: The only change to the project that has the potential to affect public health is an increase in short-term NOx and CO ambient concentrations occurring during the commissioning period. An air quality impact assessment, which evaluates localized short-term NOx and CO ambient concentrations due to commissioning activities, is presented in the SMAQMD permit application included as Attachment A. Toxic pollutant emissions from the project will not increase as a result of the proposed changes.

Therefore, the proposed amendments will not result in any new significant public health impacts.

Cumulative Impacts: The cumulative impacts study area associated with the amendment includes the geographic area within a 6-mile radius of the SPA Cogeneration project. No new significant cumulative impacts are expected from the proposed changes relative to those presented in 93-AFC-3C and subsequent amendments. These changes will not alter the assumptions or conclusions made in the Commission Decision for the SPA Cogeneration project.

For the original proceeding, the CEC made the finding that because the air quality impacts of the project were adequately mitigated and not significant, there would be no cumulative air quality impacts from the project. The proposed amendments do not change that conclusion.

F: A discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards.

The proposed revisions will not change the discussion presented in 93-AFC-3C and subsequent amendments. These changes will not alter the assumptions or conclusions made in the Commission Decision and, in fact, will enhance the project's ability to comply with its COCs.

G: A discussion of how the modification affects the public.

The proposed amendments will result in no significant impacts on the public. With the exception of short-term increases in NOx and CO during commissioning, the proposed modification will not increase air emissions from the facility during normal operations. The short-term ambient NOx and CO impacts during commissioning have been evaluated in an ambient air quality impacts analysis contained in the SMAQMD Authority to Construct application (Appendix A). The results of the air quality impacts analysis show that maximum project impacts during commissioning, combined with maximum background pollutant levels, will not exceed the national or California Ambient Air Quality Standards for short-term exposure to NO_2 and CO.

There are no other significant public health impacts from the proposed changes. Toxic pollutant emissions will not increase as a result of the project. Visual and noise impacts will be negligible and will remain characteristic of the surrounding industrial land uses. Therefore, the proposed changes will not significantly affect the public.

H: A list of property owners potentially affected by the modification.

The proposed amendments will not significantly affect property owners in the vicinity of the project.

I: A discussion of the potential effect on nearby property owners, the public, and the parties in the application proceeding.

The proposed amendments entail a short-term increase in NOx and CO emissions during commissioning of a new operating system at the SPA Cogeneration facility and will have no noticeable or significant effects on nearby property owners, the public, or the parties in the application proceeding. The proposed amendments also entail revising CEC COCs to make them consistent with the SMAQMD air permit, which will have no effects on nearby property owners, the public, or parties in the application proceedings.

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ATTACHMENT A

Application to the SMAQMD for Modifications to the
SPA Campbell Cogeneration Facility Permit to Operate

sierra research

Application to the Sacramento Metropolitan Air Quality Management District for an Authority to Construct for a Modification to the Combined Cycle Turbine Control System at the Sacramento Power Authority Cogeneration Facility Sacramento, California

Submitted by

Sacramento Power Authority
Sacramento, California

January 2009

prepared by:

Sierra Research, Inc.
1801 J Street
Sacramento, California 95811
(916) 444-6666

APPLICATION

to the

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

for an

AUTHORITY TO CONSTRUCT

for a

MODIFICATION TO THE COMBINED CYCLE TURBINE CONTROL SYSTEM

at the

SACRAMENTO POWER AUTHORITY COGENERATION FACILITY
SACRAMENTO, CALIFORNIA

Submitted by:

Sacramento Power Authority
Sacramento, California

January 2009

Prepared by:

Sierra Research, Inc.
1801 J Street
Sacramento, California 95811
(916) 444-6666

SUMMARY

Sacramento Power Authority (SPA) requests an Authority to Construct (ATC) to replace the control system for the Siemens V84.2 combustion turbine generator and duct burner (CTG/DB) at the SPA Cogeneration power plant in Sacramento, California. This modification will replace the current CTG/DB operating system (Teleperm XP/Bailey Infi-90) with the Siemens T-3000 operating system. Significant portions of the Teleperm XP/Bailey Infi-90 operating system are now obsolete, and the Teleperm XP manufacturer has stopped support of the system. As a result, many replacement parts are no longer available. In order to maintain the current level of reliability, a complete digital control system replacement is required.

The project entails the removal of all system hardware down to the individual input/output cards and replacement with new hardware. New software will be loaded into the new system computers to mimic the control dynamics of the old system. At this point, tuning will be required that includes all CTG/DB control elements as well as steam turbine and balance-of-plant control elements. Tuning will modify the new software algorithms to allow functionality similar to what the old software provided. Tuning of the various control elements will allow technicians to operate the plant as they have been trained to do.

During this tuning period, the turbine will operate in a "commissioning" mode where it will exceed its current permit limits for NOx and CO. After that, the turbine will return to its current operating emissions levels. An air quality impact modeling analysis was performed to assess the impacts of the higher NOx and CO emissions, and this analysis indicates that no state or federal ambient air quality standards will be exceeded as a result of the commissioning process. This application therefore requests a commissioning period to perform the necessary tuning.

APPLICATION
to the
SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
for an
AUTHORITY TO CONSTRUCT
for a
MODIFICATION TO THE COMBINED CYCLE TURBINE CONTROL SYSTEM
at the
SACRAMENTO POWER AUTHORITY COGENERATION FACILITY
SACRAMENTO, CALIFORNIA

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at the
SACRAMENTO POWER AUTHORITY COGENERATION FACILITY
SACRAMENTO, CALIFORNIA

I. PROJECT DESCRIPTION

A. Applicant's Name and Business Description

Name of Applicant:	Sacramento Power Authority (SPA)
Mailing Address:	P.O. Box 15830 Sacramento, CA 95852
Facility Address:	3215 47th Avenue Sacramento, CA 95824
General Business:	Electrical Power Generation
Submitting Official:	James Shetler SPA Representative
Consultants:	Sierra Research, Inc. 1801 J Street Sacramento, California 95811 Contact: Jeff Adkins (916) 444-6666
Type of Use Entitlement:	SPA owns and operates the equipment described in this application.
Estimated Construction Date:	Modification of the Siemens V84.2 turbine and duct burner operating system anticipated to begin in April 2009 with commissioning in May 2009.

B. Type of Application

This is an application to the Sacramento Metropolitan Air Quality Management District (SMAQMD) for an Authority to Construct (ATC) for a modification to an existing permit unit.

C. Purpose

Sacramento Power Authority (SPA) generates electricity for the Sacramento Metropolitan Utility District (SMUD) and produces steam for use in the operations of Campbell Soup Supply Company.

D. Facility Description

The facility is located on a 5.8-acre site adjacent to the Campbell Soup processing facility at 3215 47th Avenue in Sacramento, California. A location map of the site is included as Figure 1. A site plan is included in Appendix B.

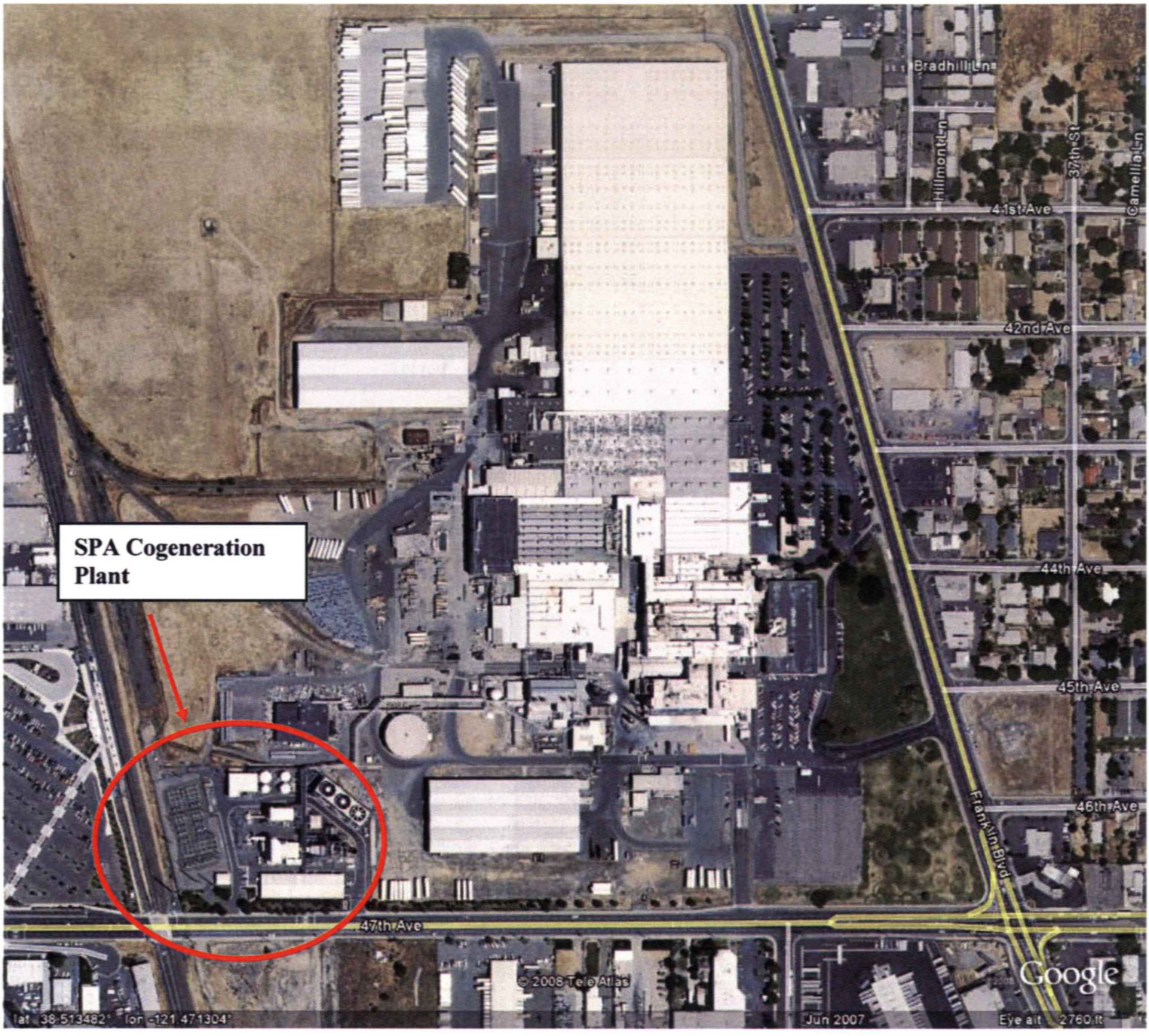
The cogeneration plant is a combined cycle power block. The combined cycle plant consists of the following components:

- Siemens V84.2 natural gas-fired combustion turbine generator (CTG) with a 103 MW nominal capacity;
- Heat recovery steam generator (HRSG) with a 200 MMBtu/hr natural gas duct burner (DB);
- Steam turbine generator with a 55.9 MW nominal capacity;
- Selective catalytic reduction (SCR) system;
- Oxidation catalyst; and
- Cooling Tower.

Dry low-NOx combustors in the CTG together with a SCR system are designed to control emissions of oxides of nitrogen (NOx). An oxidation catalyst system located upstream of the SCR unit operates to reduce emissions of reactive organic compounds (ROC) and carbon monoxide (CO). Low-NOx duct burners are utilized in the HRSG.

Process steam for the Campbell Soup Supply Company food processing plant is extracted from the steam turbine generator during operation of the combined cycle power block. This process is capable of supplying 250,000 pounds per hour of steam. Electricity generated by the CTG power plant is interconnected with SMUD's transmission lines and distribution system. The California Energy Commission (CEC) last amended the certification conditions of the SPA Plant on December 15, 1999 (Docket AFC-3C).

Figure 1
Location Map – SPA Cogeneration Plant



E. Project Description

This modification will replace the current CTG/DB operating system (Teleperm XP/Bailey Infi-90) with the Siemens T-3000 operating system. Significant portions of the Teleperm XP/Bailey Infi-90 operating system are now obsolete, and the Teleperm XP/Bailey Infi-90 manufacturers have stopped support of the system. As a result, many replacement parts are no longer available. In order to maintain the current level of reliability, a complete digital control system replacement is required.

The project entails the removal of all system hardware down to the individual input/output cards and replacement with new hardware. New software will be loaded into the new system computers to mimic the control dynamics of the old system. At this point, tuning will be required that includes all CTG control elements as well as steam turbine and balance-of-plant control elements. Tuning will modify the new software algorithms to allow functionality similar to what the old software provided. Tuning of the various control elements will allow technicians to operate the plant as they have been trained to do. The tuning procedure consists of commissioning activities in the various operating modes, including operating the dry low-NOx combustor in "diffusion" mode up to full load, rather than switching to the low-NOx "pre-mix" mode, while tuning and adjustments to the operating system are performed. This application therefore requests a commissioning period in order to complete the necessary tuning. During tuning and commissioning, NOx and CO emissions will exceed current permitted levels.

II. EMISSION ASSESSMENT

The CTG/DB emits NOx, CO, ROC, particulate matter less than 10 microns in diameter (PM_{10}), and sulfur oxides (SOx). SMAQMD Title V Permit No. TV1998-14-01B contains hourly emission limits for all pollutants and a NOx concentration limit for the CTG/DB. These limits exclude periods of startup and shutdown, which are limited to 60 minutes per startup and 30 minutes per shutdown. The Title V permit also contains quarterly emission limits for NOx, CO, ROC, PM_{10}, and SOx that pertain to all permitted emission units at the facility.

This control system replacement will not affect the NOx concentration limit, hourly emission limits, and daily emission limits, except during an estimated 11-day commissioning period. The control system replacement will not affect the facility-wide quarterly emission limits, even when the commissioning period is included.

This section presents the emissions from the CTG/DB and from the facility during normal operation, and also describes the anticipated emissions during the expected commissioning period.

A. Maximum Emissions from the Combustion Turbine Generator during Normal Operation

The maximum concentration, hourly, and daily emissions (excluding startups and shutdowns) from the CTG/DB operating in normal base-load mode are summarized in Table 1.

Table 1
Maximum Permitted Emissions from the CTG/DB[a]

Pollutant	ppmvd @ 15% O_2	lb/hr	lb/day
NOx	3	17.76	384.5
CO	--	10.81	326.9
ROC	--	9.01	146.7
SOx	--	0.97	21.8
PM_{10}	--	7.00	142.1

Note:
(a) From Title V Permit TV1998-14-01B, Conditions B.1, B.2, and B.3

The facility-wide quarterly and annual emission limits (including startups, shutdowns, and commissioning) are summarized in Table 2.

Table 2
Maximum Permitted Facility-Wide Emissions[a]

Pollutant	1st Quarter (lb/quarter)	2nd Quarter (lb/quarter)	3rd Quarter (lb/quarter)	4th Quarter (lb/quarter)	Annual (lb/year)
NOx	24,209	24,545	26,321	24,725	99,800
CO	21,265	21,601	22,803	21,708	87,377
ROC	8,792	8,898	13,264	8,968	39,922
SOx	1,814	1,836	1,944	1,853	7,447
PM_{10}	11,015	10,160	12,294	11,619	45,088

Note:
(a) From Title V Permit TV1998-14-01B, Conditions B.4

B. Maximum Emissions During Commissioning of the Base Load Gas Turbine and Duct Burner

The expected commissioning period will result in NOx and CO emissions that exceed the concentration, hourly, and daily emission limits listed in Table 1. The hourly and daily limits for ROC, SOx, and PM_{10} will not be exceeded during the commissioning period. Quarterly emission limits for all pollutants will not be exceeded.

Maximum daily hourly and daily emissions from the CTG/DB during the commissioning period are shown in Table 3.

Table 3
Hourly and Daily Emissions from the CTG/DB during Commissioning

Pollutant	lb/hr	lb/day
NOx[a]	360	1,500
CO[a]	500	1,875
ROC[b]	9.01	146.7
SOx[b]	0.97	21.8
PM_{10}[b]	7.00	142.1

Note:
(a) Emission estimates for NOx and CO based on engineering analysis of commissioning activities by SPA.
(b) Emission values for ROC, SOx, and PM_{10} reflect maximum operating emissions from Table 1. Commissioning emissions will not exceed current permitted levels.

III. COMPLIANCE WITH APPLICABLE RULES AND REGULATIONS

Section 403 (Applications) of Rule 201 (General Permit Requirements) requires applicants to provide all information necessary to enable the SMAQMD to make a determination of compliance with applicable SMAQMD requirements. SMAQMD requirements applicable to the proposed turbine upgrade project include the following:

- Rule 201: General Permit Requirements;
- Rule 202: New Source Review;
- Rule 203: Prevention of Significant Deterioration;
- Rule 207: Title V Federal Operating Permit;
- Rule 208: Acid Rain;
- Rule 401: Visible Emissions;
- Rule 402: Nuisance;
- Rule 403: Fugitive Dust;
- Rule 404: Particulate Matter;
- Rule 406: Specific Contaminants;
- Rule 413: Stationary Gas Turbines;
- Rule 420: Sulfur Content of Fuels; and
- Risk Management Guidelines for New and Modified Stationary Sources.

The compliance status of the proposed turbine upgrade project with respect to each of the applicable SMAQMD Rules is discussed below.

A. Rule 201: General Permit Requirements

Section 301 (Authority to Construct) of Rule 201 specifies that any facility constructing, altering, replacing, or operating any source that may cause, eliminate, or reduce air pollutants to first obtain from the SMAQMD an Authority to Construct (ATC). This ATC application satisfies this requirement for the proposed modification to the SPA CTG/DB.

B. Rule 202: New Source Review

The SMAQMD adopted Rule 202 to provide for the review of new and modified sources and provide mechanisms by which the SMAQMD can issue an ATC without interfering with the attainment or maintenance of ambient air quality standards and ensuring no net increase above specified thresholds of nonattainment pollutants. Rule 202 applies to all modifications to existing stationary sources that are subject to SMAQMD permit requirements and may emit one or more affected pollutants. Rule 202 contains the following elements:

- BACT;
- Emission offsets; and
- Ambient air quality standards.

1. Best Available Control Technology (BACT)

Section 301 of Rule 202 requires BACT to be applied to any new emissions unit or modification of an existing emissions unit (1) that results in an increase in quarterly emissions, and (2) if the daily potential to emit of the new or modified emissions unit, on a pollutant-specific basis, meets or exceeds the SMAQMD's BACT thresholds.

Section 413 of Rule 202 specifies the emissions change for a new or modified emissions unit shall be calculated by subtracting the potential to emit of the emissions unit prior to modification from proposed emissions, and calculations shall be performed separately for each emissions unit for each calendar quarter. An analysis was performed to determine the applicability of BACT and to identify BACT, if applicable, for the modified CTG/DB.

As shown in Table 4, SPA will complete the CTG/DB commissioning process without exceeding the facility's quarterly emission limits shown in Table 2. As there will be no quarterly emissions increases for NOx, CO, ROC, SOx, or PM_{10} for the project, BACT is not newly triggered as part of this modification. The project will not increase the electrical output of the facility and no other changes are proposed for other emission units at SPA.

Table 4
Quarterly Emission Changes for the Modified Gas Turbine

Pollutant	1st Quarter (lb/quarter)	2nd Quarter (lb/quarter)	3rd Quarter (lb/quarter)	4th Quarter (lb/quarter)	Increase in quarterly emissions?
NOx	0	0	0	0	No
CO	0	0	0	0	No
ROC	0	0	0	0	No
SOx	0	0	0	0	No
PM_{10}	0	0	0	0	No

2. Emission Offsets

Section 302 of Rule 202 requires an applicant to offset the net emission increases from a project, on a pollutant-specific basis, if the cumulative emissions increase of the modified stationary source calculated pursuant to Sections 414 and 415 equals or exceeds the SMAQMD's offset thresholds. The maximum quarterly emissions from the modified facility, presented previously in Table 2, are compared with the SMAQMD's offset thresholds in Table 5. As explained above, there are no net increases in quarterly emissions; hence, emission offsets are not triggered.

Table 5 Emission Offset Applicability							
Pollutant	Quarterly Net Increase?	Quarterly Emissions (lb/quarter) 1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Offset Threshold (lb/quarter)	Offset Required?
NOx	No	24,209	24,545	26,321	24,725	5,000	No
CO	No	21,265	21,601	22,803	21,708	49,500	No
ROC	No	8,792	8,898	13,264	8,968	5,000	No
SOx	No	1,814	1,836	1,944	1,853	13,650	No
PM_{10}	No	11,015	10,160	12,294	11,619	7,500	No

3. Ambient Air Quality Impact Analysis

Section 305 of Rule 202 specifies that emissions from a modified stationary source shall not prevent or interfere with the attainment or maintenance of any applicable ambient air quality standard. An air quality model may be used to estimate the effects of a new or modified stationary source. The potential impacts of the SPA CTG/DB commissioning will result in temporary elevated emissions of NOx and CO. Therefore, localized short-term ambient concentrations of NO_2 and CO were modeled to ensure that the project will not cause an exceedance of the National or California ambient air quality standards (AAQS). The following specific AAQS were modeled:

- 1-hour NO_2;
- 1-hour CO; and
- 8-hour CO.

Emissions from SOx and PM_{10} are not increasing as a result of the commissioning project; therefore, these pollutants were not modeled. Also, as long-term NOx emission rates are not increasing, annual average NO_2 was not modeled.

The maximum increase in ground-level impacts for the above pollutants and averaging times was modeled using USEPA's AERMOD modeling software. Five consecutive years of meteorological data collected at Sacramento Executive Airport (surface data) and Oakland International Airport (upper air data) were provided by SMAQMD permitting staff. Building downwash, as a result of on-site structures, was accounted for by utilizing the Building Parameter Input Program (BPIP). Specifically, the CTG, HRSG, cooling tower, admin/warehouse building, and two on-site tanks were modeled. These structures are shown on the site plan contained in Appendix B.

Two operating scenarios were modeled for each pollutant and averaging time combination, corresponding to low-load and high-load conditions during the commissioning period. Maximum emission rates were provided by SPA, and the

corresponding exhaust flow rates were computed using F-factors from USEPA Method 19. The modeling parameters associated with each operating scenario are shown in Table 6.

Table 6
Modeling Input Parameters

Pollutant	Averaging Time	Operating Mode	CTG Output[a] (MW)	Fuel Feed Rate[b] (kscfh)	Exhaust Temp[a] (K)	Exhaust Flow[c] (acfs)	Emission Rate[a] (g/s)
NO_2	1 hour	Low	FSNL	32.4	333	1,151	3.15
		High	100	1,120.2	386	14,836	45.36
CO	1 hour	Low	FSNL	32.4	333	1,151	63.00
		High	60	792.5	386	10,495	15.75
	8 hours	Low	FSNL	32.4	333	1,151	63.00
		High	60	792.5	386	10,495	15.75

Notes:
(a) Values provided by SPA.
(b) From SPA Cogen Multi-Parameter Summary Report.
(c) Converted using USEPA Method 19 natural gas F-factor of 10,016 wscf/MMBtu, 1,020 Btu/scf of natural gas, 19% exhaust O_2 for FSNL mode, and 15% exhaust O_2 for high operating mode.

The results from each of the six modeling runs described in Table 6 are shown in Table 7.

Table 7
Ambient Impacts from Commissioning

Pollutant	Averaging Time	Operating Mode	Maximum Modeled Conc.[a] (µg/m3)
NO_2	1 hour	Low	182
		High	133
CO	1 hour	Low	3,637
		High	77
	8 hours	Low	1,775
		High	50

Note: (a) Modeled CO impacts increased by factor of 500/320 to reflect additional emissions compliance margin.

To determine if an exceedance of the California or federal AAQS would occur as a result of the project, the maximum modeled concentrations were added to the measured ambient air quality data shown in Table 8. The maxima of the previous three consecutive years of ambient air quality data are shown, and the maxima for each pollutant and averaging time were used for the comparison.

Table 8
Maximum Background Concentrations, 2005-2007 (ppm)

Pollutant	Averaging Time	2005	2006	2007
NO_2	1-hour	0.071	0.077	0.064
CO	1-hour	4.7	4.7	3.5
CO	8-hour	4.2	4.2	3.2

Note: NO_2 background concentrations from the Elk Grove/Bruceville Road monitoring station and CO background concentrations from the El-Camino/Watt monitoring station.

Table 9 shows that the commissioning project will not cause a localized exceedance of the California AAQS for 1-hour NO_2, 1-hour CO, or 8-hour CO. Therefore, the project complies with Rule 202, Section 305.

Table 9
Maximum Ambient Impacts, (µg/m3)

Pollutant	Averaging Time	SPA Project Impact ($\mu g/m^3$)	Background Conc.[a] ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	State Standard ($\mu g/m^3$)	Federal Standard ($\mu g/m^3$)
NO_2	1-hour	182	147	329	339	–
CO	1-hour	3,637	5,470	9,107	23,000	40,000
CO	8-hour	1,775	4,620	7,876	10,000	10,000

Note:
(a) Value converted from the maximum of values from Table 8 with 1 ppm NO_2 = 1,912 $\mu g/m^3$ and 1 ppm CO = 1,164 $\mu g/m^3$

C. Rule 203: Prevention of Significant Deterioration

The SMAQMD implements the PSD requirements of the federal Clean Air Act for attainment pollutants (i.e., NO_2, SO_2, CO). Rule 203 establishes preconstruction review requirements for new or modified facilities to ensure that operation of such facilities does not significantly deteriorate air quality in attainment areas while maintaining a margin for future growth. The PSD requirements apply on a pollutant-specific basis to the following:

- Any new major stationary source that will emit 100 tons per year (tpy) or more, if it is one of the 28 PSD source categories in the federal Clean Act, or a new facility that will emit 250 tpy or more; or

- A major modification to an existing major stationary source that will result in net emissions increases in excess of the PSD significant emission thresholds.

Total facility emissions, including commissioning emissions, will remain below 100 tons per year for each pollutant. Therefore, the turbine control system replacement project is not a major stationary source subject to PSD review.

D. Rule 207: Title V Federal Operating Permit

Rule 207 applies to major stationary sources with a potential to emit exceeding 50 tons per year of nitrogen oxides or reactive organic compounds; or 100 tons per year of SO_2, CO, or PM_{10}. The SPA facility will submit to the SMAQMD a complete Title V permit application after receiving the required preconstruction permit from the SMAQMD, but before commencing operation associated with the Title V permit modification for the plant.

The control system replacement constitutes a minor Title V modification because it does not involve any of the following events that trigger a significant modification:

- Involves any modification under Section 112(g) of Title I (42 U.S.C. Section 412(g) of the Federal Clean Air Act, or under EPA regulations promulgated pursuant to Title I of the Federal Clean Air Act, including 40 CFR Part 51, 52, 60, 61, and 63;
- Involves relaxation or significant change to existing monitoring, reporting or recordkeeping requirements in the Title V permit;
- Involves a case-by-case determination of an emission limit or other standard;
- Involves a stationary source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
- Attempts to set or change a Title V permit term or condition that allows a source to avoid an applicable federal requirement including:
  - A federally enforceable emission cap pursuant to Title I of the Federal Clean Air Act; or
  - An alternative HAP emission limit pursuant to Section 112(i)(5) (Section 42 U.S.C. Section 7412(j)(5) of the Federal Clean Air Act;
- Involves a modification to a major stationary source that results in an increase in the potential to emit greater than 25 tons per year of NOx, 25 tons per year of ROC, 40 tons per year of SO_2, 100 tons per year of CO, or 15 tons per year of PM_{10} when aggregated with all other increases in potential to emit over the period of five consecutive years before the application for modification, and including the calendar year of the most recent application.

Only three of the above criteria are relevant to this project, and none of these trigger a significant modification under Title V. First, the requirements of CAA Section 112(g) and 40 CFR Parts 61 and 63 are not applicable because there are no changes to toxic or hazardous air pollutant emissions. 40 CFR Part 52 (PSD) is not applicable because emissions from this stationary source do not exceed the major source threshold of 100 tons per year. Additionally, 40 CFR Part 51 (federal New Source Review) is not triggered because the stationary source is only major for NOx (maximum potential emissions greater than 25 tons per year) and the maximum emission increases of NOx from the project, based on a comparison of historic actual to future actual emissions, will not exceed 25 tons per year pursuant to Section 51.165(a)(1)(xxviii)(A) because any increase in utilization of the SPA Plant will be unrelated to this particular project, and will likely be the result of product demand growth. Finally, 40 CFR Part 60 is not triggered because there is no increase in a regulated pollutant (in this case SOx and NOx under Subpart GG) on an hourly basis pursuant to Sections 60.14(a) and (b), other than the emissions increases associated with the commissioning activities occurring in the first 180 days after the completion of project physical changes as allowed pursuant to Section 60.14(g).

Next, it is important to note that the third criterion above involves a "case-by-case determination of an emission limit or other standard." Generally, commissioning periods coincide with initial construction or major modification of an emissions unit. Hence, there are usually several other emission limits and standards established during the permitting action, triggering a significant Title V modification. These types of discretionary "case-by-case" limits usually pertain to new source review, and include limits established to reflect BACT or to cap emissions of a pollutant below an offsets threshold. While emissions from the commissioning period are limited by permit conditions, these are merely calculations of maximum anticipated emissions, and are not the direct result of a regulatory analysis, emission limit, or other standard. The case-by-case emission limit determinations (based on a BACT analysis) made in the original permitting of the SPA Cogeneration facility will remain unchanged.

Furthermore, it is well established EPA policy, as expressed in their 1990 NSR Workshop Manual, that a new source or modification "becomes operational only after a reasonable shakedown period not to exceed 180 days." This policy is reiterated in the NSPS regulatory language in 40 CFR Section 60.14(g) described above. Thus, commissioning emissions are not recognized for NSR and NSPS regulatory purposes, and accordingly should not be considered as case-by-case emission limits or standards for the purposes of Title V.

Finally, the criterion listed fourth above involves a determination of ambient impacts associated with temporary sources, and not temporary impacts associated with permanent sources. The permitting of temporary sources is required under Section 504(e) of the Federal Clean Air Act. There are no temporary sources associated with this project. Therefore, based on the criteria described above, the proposed project is not significant Title V modification.

E. Rule 208: Acid Rain

Rule 208 also applies to the existing SPA facility: it requires the facility to hold emissions allowances for SOx, and to monitor SOx, NOx, and CO_2 emissions and exhaust gas flow rates (monitoring of operating parameters such as fuel use and fuel constituents is an allowable alternative to exhaust continuous emissions monitoring systems). For the proposed turbine control system replacement project, SPA will continue to monitor and report emissions as required under the Acid Rain regulations.

F. Rule 401: Visible Emissions

Rule 401 prohibits visible emissions exceeding No. 1 on the Ringelmann Chart for any period aggregating to three minutes in any one hour. The CTG/DB is fired exclusively on gaseous fuel and thus is not expected to exceed Ringelmann No. 1.

G. Rule 402: Nuisance

Rule 402 prohibits the discharge of air contaminants that cause a public nuisance. The facility will emit insignificant quantities of odorous or visible substances. Therefore, emissions from the commissioning of the base load turbine are not expected to cause a public nuisance.

H. Rule 403: Fugitive Dust

Rule 403 establishes requirements to regulate operations that periodically may result in fugitive dust emissions into the atmosphere. Section 201 of Rule 403 defines fugitive dust as solid airborne matter emitted from any non-combustion sources. The construction work during the turbine control system replacement project will involve the replacement of computers and software inside of the control building. These operations will create minimal fugitive dust emissions. Therefore, the control system replacement project at the SPA facility will comply with the regulation.

I. Rule 404: Particulate Matter

Rule 404 prohibits particulate matter (PM) emissions in excess of 0.1 gr/dscf. PM emissions from the modified CTG/DB are less than 0.01 gr/dscf. Therefore, the turbine upgrade will comply with the Rule 404 PM emission limits.

J. Rule 406: Specific Contaminants

Rule 406 prohibits emissions of combustion contaminants (particulate matter) in excess of 0.1 gr/dscf @ 12% CO_2. Particulate matter emissions from the modified base load turbine will be less than 0.01 gr/dscf @ 12% CO_2. Rule 406 also prohibits emissions of sulfur compounds in excess of 0.2% by volume, or 2,000 ppmv, except as otherwise provided in Rule 420. Since the CTG/DB will comply with the sulfur compound emission limit in Rule 420 (Sulfur Content of Fuels), the proposed control system

replacement project is not expected to exceed the PM and sulfur compound emission limits in Rule 406.

K. Rule 413: Stationary Gas Turbines

Section 302.1 of Rule 413 limits the NOx emissions from any turbine unit with a rated output greater than or equal to 10 MW, operating more than 877 hours per year, with SCR installed, to 9 ppm at 15% O_2 when firing on gaseous fuels. Since the modified base load turbine will meet 3.0 ppm at 15% O_2, which is well below the 9 ppm at 15% O_2 limit of the Rule, the facility will comply with the regulation.

It is noted that during the commissioning period, NOx concentrations may exceed the 9 ppm NOx limit during several operating modes. However, consistent with EPA NSR and NSPS regulations and policy, Rule 413 does not apply to emissions during commissioning activities after a source modification.

L. Rule 420: Sulfur Content of Fuels

Rule 420 limits the sulfur content of any gaseous fuel to 50 grains per 100 cubic foot, calculated as hydrogen sulfide (H_2S). The sulfur content of the natural gas used by the facility will be well below the limit of this rule.

M. SMAQMD Risk Assessment Guidelines for New and Modified Stationary Sources

The SMAQMD risk assessment guidelines for new and modified stationary sources specify limits for maximum individual cancer risk (MICR), cancer burden, and noncarcinogenic acute and chronic hazard indices (HIs) for new or modified sources of TAC emissions. The control system replacement project will not result in an increase in air toxics emissions, and therefore will not increase cancer risk or noncarcinogenic hazard indices. Because the project does not increase emissions of air toxics, no further evaluation under the SMAQMD toxics review risk assessment guidelines is required.

IV. PROPOSED CONDITIONS

The following lists the suggested changes to permit conditions affected by the turbine upgrade project. Deleted text is denoted in strikeout and added text is denoted in bold italics.

(PROPOSED CHANGES APPLY TO PERMIT NO. TV1998-14-01B)

Commissioning Activities

B# **The owner/operator of the SPA Cogeneration facility combustion turbine generator and duct burner (CTG/DB) shall minimize emissions of CO and NOx to the maximum extent possible during the commissioning period. The commissioning period is defined by the following: "The commissioning period shall commence when all mechanical, electrical, and control systems are installed and the gas turbine is first fired. The commissioning period shall terminate when the plant has successfully completed performance testing and compliance is demonstrated by continuous emissions monitoring equipment."**

B# **At the earliest feasible opportunity in accordance with recommendations of the equipment manufacturers and the construction contractor, the gas turbine combustors of the CTG shall be tuned to minimize emissions of CO and NOx.**

B# **At the earliest feasible opportunity in accordance with recommendations of the equipment manufacturers and the construction contractor, the Selective Catalytic Reduction (SCR) system shall be adjusted and operated to minimize emissions of NOx.**

B# **During the commissioning period, the owner/operator of the CTG shall demonstrate compliance with conditions B# through B# through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:**

Firing hours of CTG/DB
Fuel flow rates to the CTG and DB
Stack gas NOx emission concentrations
Stack gas CO emission concentrations
Stack gas O_2 concentrations

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 CTG/DB. The owner/operator shall use previously approved methods to calculate heat input rates, NOx, CO, ROC, SOx, and PM10 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.

B# **The continuous emission monitors specified in the previous condition shall be installed, calibrated, and operational prior to firing of the modified CTG/DB. After initial firing of the CTG, 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.**

B# The total number of firing hours of the CTG/DB without abatement of nitrogen oxide emissions by the SCR system shall not exceed 100 hours during the commissioning period. Such operation of the CTG/DB shall be limited to discrete commissioning activities that can only be properly executed without the SCR system fully operational.

B# The total mass emissions of NOx, CO, ROC, SOx, and PM10 that are emitted by the CTG/DB during the commissioning period shall accrue towards the quarterly emission limits specified in Condition B4.

B#. Combined pollutant mass emissions from the CTG/DB shall not exceed the following limits during the commissioning period.

Maximum Allowable Emissions During the Commissioning Period		
Pollutant	lb/hr	lb/day
NOx	360	1,500
CO	500	1,875
ROC	9.01	146.7
SOx	0.97	21.8
PM10	7.00	142.1

Note: Hourly limits for NOx and CO will be monitored using the CEMS. For those pollutants that are not directly monitored (ROC, SOx, and PM10), mass emissions shall be calculated based on previously approved factors contained in footnotes to Condition B2.

B# Condition B1 limiting the NOx emission concentration from the turbine and duct burner to 3 ppmvd at 15% oxygen averaged over any consecutive three-hour period (excluding startups, shutdowns, and short-term excursions) shall not apply during the commissioning period.

Appendix A

SMAQMD Application Forms

777 12th Street, 3rd Floor
Sacramento, CA 95814-1908

Sacramento Metropolitan
Air Quality Management District

(916) 874-4800
FAX (916) 874-4899

FORM G100
APPLICATION FOR AUTHORITY TO CONSTRUCT AND/OR PERMIT TO OPERATE

A SEPARATE APPLICATION AND FORM(S) SPECIFIC TO THE PROCESS OR EQUIPMENT MUST BE COMPLETED FOR **EACH** PROCESS OR PIECE OF EQUIPMENT

A. Both pages of this application must be completed; an original signature (not a facsimile or copy) is required.
B. The appropriate permit fee must be submitted with the application (refer to the SMAQMD Rules or fee schedule).

1. Name of business or organization that is to receive the permit: Sacramento Power Authority

Business type: ☐ Sole Proprietorship ☐ Limited Liability Company ☐ Partnership ☐ Corporation ☐ Wholly-owned Subsidiary ☐ Government ☑ Other

2. Employer Identification Number (E.I.N.): 68-0329431

3. Mailing address: PO Box 15830, MS-B355, Sacramento, CA 95852-1830
NUMBER STREET CITY STATE ZIP CODE PHONE NO.

4. Location Address (where the equipment will be operated, if different than above)
3215 47th Avenue, Sacramento, CA 95824
NUMBER STREET CITY STATE ZIP CODE PHONE NO.

5. Name of Facility that will Operate the Equipment (if different than above):
DBA: Wood Group Power Operations, Inc.

6. Description of equipment/process to be permitted: Replace existing SPA Cogen gas turbine/duct burner operating system (Teleperm XP) with Siemens T-3000 operating system. Replacement includes hardware and software.

☐ Constructing/installing new equipment
Estimated startup date for new equipment: _____

☐ Initial permit for existing equipment
Date Operation First Commenced: _____

☑ Modification of existing permitted equipment or permit conditions
Estimated completion date for modification: 06/01/2009 Previous Permit No.: 14072

☐ Change of Ownership
Change of ownership date: _____ Previous Permit No.: _____

DO NOT WRITE BELOW (SMAQMD USE ONLY)

DATE STAMP	PERMIT NUMBER	A/C FEE	A/C RECEIPT
	PREVIOUS P/O	P/O FEE	P/O RECEIPT

777 12th Street, 3rd Floor
Sacramento, CA 95814-1908

Sacramento Metropolitan Air Quality Management District

(916) 874-4800
FAX (916) 874-4899

APPLICATION FOR AUTHORITY TO CONSTRUCT AND/OR PERMIT TO OPERATE

A SEPARATE APPLICATION AND FORM(S) SPECIFIC TO THE PROCESS OR EQUIPMENT MUST BE COMPLETED FOR **EACH** PROCESS OR PIECE OF EQUIPMENT

A. Both pages of this application must be completed; an original signature (not a facsimile or copy) is required.
B. The appropriate permit fee must be submitted with the application (refer to the SMAQMD Rules or fee schedule).

7. All information submitted to obtain an Authority to Construct/Permit to Operate is considered public information as defined by section 6254.7 of the California Government Code unless specifically marked as trade secret by the applicant. Each document containing trade secrets must be separated from all non-privileged documents. Each document which is claimed to contain trade secrets must indicate each section or paragraph that contains trade secret information and must have attached a declaration stating with specificity the reason this document contains trade secret information. All emission data is subject to disclosure regardless of any claim of trade secret.

Acknowledgement [JRS] (Please initial) Trade secret documents are included with this application: ☐ Y ☑ N

8. Pursuant to Section 42301.6(f) of the Health and Safety Code, I hereby certify that emission sources in this permit application:

(Initial appropriate box) [ ] **ARE,** OR [JRS] **ARE NOT** within 1,000 feet of the outer boundary of a school

Pursuant to section 42301.9(a) of the Health and Safety Code, "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

9. Required information, analyses, plans and/or specifications needed to complete this application are being collected under authority granted by California Health & Safety Code (CH&SC) section 42303. In addition, CH&SC section 42303.5 states that *No person shall knowingly make any false statements in any application for a permit, or in any information, plans, or specifications submitted in conjunction with the application or at the request of the Air Pollution Control Officer.* Violations of the CH&SC may result in criminal or civil penalties, as specified in CH&SC sections 42400 through 42402.3. By signing below, I certify that all information is true and accurate and complete, to the best of my knowledge and ability.

Please be advised that constructing, installing, or operating air pollutant emitting equipment prior to receiving an Authority to Construct from the Air District is a violation of air pollution regulations and is subject to civil or criminal penalties prescribed in the California Health and Safety Code.

Signature of responsible officer, partner, or proprietor of firm James R. Shetler

Printed Name: Jim Shetler Title: SPA Representative Date: 1/26/09

Phone number: (916)732-6757 Fax number: (916)732-6562 E-mail address: jshetle@smud.org

10. Contact person for information submitted with this application (if different from above):

Name: Stuart Husband Title: Environmental Specialist

Phone number: (916)732-6246 Fax number: (916)732-6563 E-mail address: shusban@smud.org

FORM HRA100
HEALTH RISK ASSESSMENT INFORMATION

PURPOSE: The purpose of this form is to gather the basic information needed to run an air dispersion model and perform a health risk assessment for a simple emissions unit. Additional information may be needed depending on type of process and potential risk to the public.

STACK/VENT EMISSIONS: Complete this section if pollutants are being released to the atmosphere via a stack or vent (e.g. roof vent).

Stack Height: 100 ft. above ground

Stack Inner Diameter: 198 in.

Exhaust Gas Flow Rate:_____ acfm
Variable depending on mode. See attached application

Exhaust Gas Temperature _____ degrees F.
Variable depending on mode. See attached application

FUGITIVE EMISSIONS: Complete this section if pollutants are being released to the atmosphere without the benefit of a stack or vent (e.g. emissions from windows, eaves and doors, ponds, open tanks, and wind blown emissions from piles and fields).

Source Base Elevation: _____ ft. above ground

Source Height:_____ ft. above ground

Source Width (East/West Dimension): _____ feet

Source Length (North/South Dimension): _____ feet

DRAWINGS REQUIRED: Drawings should be submitted on 8-1/2" X 11" sheets or larger. Drawings must clearly show the required information but do not need to be professionally drawn. All drawings should be drawn with north facing up and to scale.

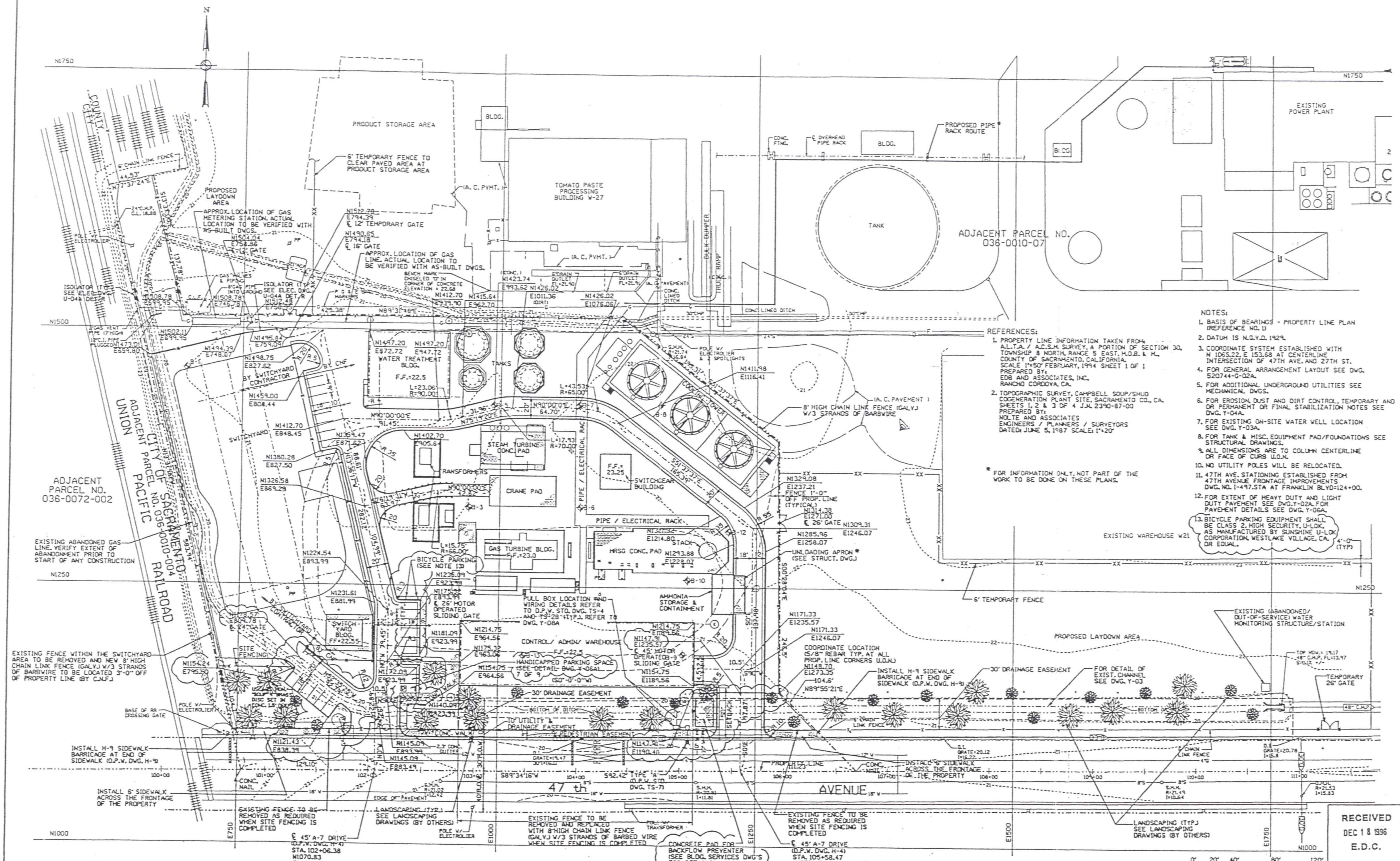
Nearby Buildings:
Submit a drawing showing all buildings affecting the exhaust stack or point of release. The area of influence for a building is defined as the area within 5 times the lesser of the height or width of a building. For each building, the drawing must show length, width, and height of the building, and distance to exhaust stack or point of release.

Property Line:
Submit a drawing showing the exhaust stack in relation to the property line. The drawing must be drawn to scale, with north facing up, and must show the entire property.

Receptors:
Submit a drawing showing residential and commercial buildings surrounding the property. Indicate the distance from the stack/point of release to the residential/commercial buildings.

Appendix B

Site Plan



REFERENCES:

1. PROPERTY LINE INFORMATION TAKEN FROM: A.L.T.A. / A.C.S.M. SURVEY, A PORTION OF SECTION 30, TOWNSHIP 8 NORTH, RANGE 5 EAST, M.D.B. & M., COUNTY OF SACRAMENTO, CALIFORNIA. SCALE 1"=50' FEBRUARY, 1994 SHEET 1 OF 1 PREPARED BY: EDB AND ASSOCIATES, INC. RANCHO CORDOVA, CA.
2. TOPOGRAPHIC SURVEY, CAMPBELL SOUP/SHUD COGENERATION PLANT SITE, SACRAMENTO CO., CA. SHEETS 1, 2 & 3 OF 4 J.N. 2390-87-00 PREPARED BY: NOLTE AND ASSOCIATES ENGINEERS / PLANNERS / SURVEYORS DATED: JUNE 5, 1987 SCALE: 1"=20'

* FOR INFORMATION ONLY, NOT PART OF THE WORK TO BE DONE ON THESE PLANS.

NOTES:

1. BASIS OF BEARINGS - PROPERTY LINE PLAN (REFERENCE NO. 1)
2. DATUM IS N.G.V.D. 1929.
3. COORDINATE SYSTEM ESTABLISHED WITH N 1065.22, E 153.68 AT CENTERLINE INTERSECTION OF 47TH AVE. AND 27TH ST.
4. FOR GENERAL ARRANGEMENT LAYOUT SEE DWG. 520744-G-02A.
5. FOR ADDITIONAL UNDERGROUND UTILITIES SEE MECHANICAL DWGS.
6. FOR EROSION, DUST AND DIRT CONTROL, TEMPORARY AND OR PERMANENT OR FINAL STABILIZATION NOTES SEE DWG. Y-04A.
7. FOR EXISTING ON-SITE WATER WELL LOCATION SEE DWG. Y-03A.
8. FOR TANK & MISC. EQUIPMENT PAD/FOUNDATIONS SEE STRUCTURAL DRAWINGS.
9. ALL DIMENSIONS ARE TO COLUMN CENTERLINE OR FACE OF CURB U.O.N.
10. NO UTILITY POLES WILL BE RELOCATED.
11. 47TH AVE. STATIONING ESTABLISHED FROM 47TH AVENUE FRONTAGE IMPROVEMENTS DWG. NO. I-497.STA AT FRANKLIN BLVD=124+00.
12. FOR EXTENT OF HEAVY DUTY AND LIGHT DUTY PAVEMENT SEE DWG.Y-02A. FOR PAVEMENT DETAILS SEE DWG. Y-06A.
13. BICYCLE PARKING EQUIPMENT SHALL BE CLASS 2, HIGH SECURITY, U-LOK, AS MANUFACTURED BY SUNSHINE U-LOK CORPORATION, WESTLAKE VILLAGE, CA. OR EQUAL.

RECEIVED
DEC 18 1996
E.D.C.
CSI-MIS-C 1011

REV.	NON COUNTY DESCRIPTION	DATE	DRAWN	CK'D	DES. SUPV.	RESP. ENGR.	C.D.E.	P.M.
7	CONSTRUCTION REVISION	11/8/96	CSP	TJP	TD	MFL		
6	CONSTRUCTION REVISION	10/1/96	CSP	TJP	TD	MFL		JGH
5	CONSTRUCTION REVISION	9/18/96	CSP	TJP	TD	MFL		JGH
4	CONSTRUCTION REVISION	7/31/96	CSP	TJP	TD	MFL		JGH
3	CONSTRUCTION REVISION	6/26/96	CSP	TJP	TD	MFL	DP	JGH
2	CONSTRUCTION REVISION	6/6/96	CSP	TJP	TD	MFL		JGH
1	ISSUED FOR CONSTRUCTION REVISION (GENERAL REVISIONS)	4/8/96	CSP	TJP	TD	MFL		
0	ISSUED FOR CONSTRUCTION	3/1/96	TD	TJP	TD	MFL	DP	TWV
A	ISSUED FOR REVIEW	1/26/96	CSP	TJP	TD	MFL	TED	JGH

PARSONS
PARSONS POWER GROUP INC.

CNF CONSTRUCTORS, INC.
A KENETECH COMPANY

COUNTY OF SACRAMENTO PUBLIC WORKS AGENCY

SITE PLAN

SPA COGENERATION PROJECT
3215 47TH AVENUE
SACRAMENTO, CALIFORNIA 95824

SHEET 520744-Y-01A
2 OF 9
(REV. 7)

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8-NOV-1996 10:23

Appendix C

SMAQMD Permits

SACRAMENTO METROPOLITAN
AIR QUALITY
MANAGEMENT DISTRICT

Larry Greene
AIR POLLUTION CONTROL OFFICER

May 22, 2007

Stuart Husband
Regulatory Compliance Coordinator, Power Generation
SMUD/Sacramento Power Authority
6201 S Street, MS-B355
Sacramento, CA 95817-1899

Subject: Permit Amendment
Title V Federal Operating Permit No. TV1998-14-01B

Dear Mr. Husband:

Enclosed is Sacramento Power Authority's approved Title V Federal Operating Permit No. TV1998-14-01B which is the second administrative amendment of the original Title V permit issued March 01, 2004.

If you have any questions regarding the Title V permit requirements please contact me.

Sincerely,

Bruce Nixon

Bruce Nixon, P.E.
Air Quality Engineer
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777 12th STREET, 3rd FLOOR SACRAMENTO, CA 95814

SACRAMENTO METROPOLITAN

AIR QUALITY
MANAGEMENT DISTRICT

TITLE V FEDERAL OPERATING PERMIT, TITLE IV ACID RAIN PROGRAM PERMIT AND SMAQMD RULE 201 PERMIT TO OPERATE

TITLE V PERMIT NO:
TV1998-14-01B

ISSUED TO:
Sacramento Power Authority
PO Box 15830
Sacramento, CA 95852

FACILITY LOCATION:
Sacramento Power Authority
3215 47th Avenue
Sacramento, CA 95824

DATE INITIAL PERMIT ISSUED:
March 01, 2004

DATE MOST RECENT AMENDED PERMIT ISSUED:
May 22, 2007

DATE PERMIT EXPIRES:
March 01, 2009

RESPONSIBLE OFFICIAL:
James Shetler
SPA Representative
(916) 732-6757

CONTACT PERSON:
Kurt Hook
Facility Manager
(916) 391-2993

NATURE OF BUSINESS:
Electric Power and
Process Steam Generation

STANDARD INDUSTRIAL CLASSIFICATION (SIC):
4931

Larry Greene
Air Pollution Control Officer

by: Bruce Nixon
Bruce Nixon, P.E.
Air Quality Engineer

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PERMIT SUMMARY

This permit shall serve as a conditional Permit to Operate pursuant to SMAQMD Rule 201 (General Permit Requirements) and SMAQMD Rule 207 (Title V - Federal Operating Permit Program). Requirements identified in the permit as non-federally enforceable are not enforceable by U.S. EPA. However, they are enforceable by the Sacramento Metropolitan Air Quality Management District (SMAQMD).

Your application for this air quality Permit to Operate was evaluated for compliance with SMAQMD, State, and Federal air quality rules and regulations. The following listed rules are those that were found to be applicable at the time of permit review, based on the information submitted with the Title V permit application.

Citation	Description	Rule Adoption Date	Federally Enforceable?
Rule 201	General Permit Requirements (SIP-approved)	11/20/84	Yes
Rule 201	General Permit Requirements	4/26/01	No
Rule 202	New Source Review (SIP-approved)	11/20/84	Yes
Rule 202	New Source Review	1/24/02	No
Rule 207	Title V - Federal Operating Permit Program	12/04/97	Yes
Rule 301	Permit Fees - Stationary Source (SIP-approved)	8/31/82	Yes
Rule 301	Permit Fees - Stationary Source	10/25/01	No
Rule 401	Ringelmann Chart (SIP-approved)	4/05/83	Yes
Rule 402	Nuisance	8/03/77	No
Rule 403	Fugitive Dust (SIP-approved)	11/29/83	Yes
Rule 404	Particulate Matter (SIP-approved)	11/20/84	Yes
Rule 406	Specific Contaminants (SIP-approved)	11/29/83	Yes
Rule 413	Stationary Gas Turbine (SIP-approved)	5/01/97	Yes
Rule 420	Sulfur Content of Fuels (SIP-approved)	11/29/83	Yes
Rule 442	Architectural Coatings (SIP-approved)	9/05/96	Yes
Rule 442	Architectural Coatings	5/24/01	No
Rule 602	Breakdown Conditions: Emergency Variance	11/29/83	No
40 CFR Parts 72-78	Acid Rain Program	10/24/97	Yes
40 CFR Part 60 Subpart GG	Standards of Performance for Stationary Gas Turbines	10/17/00	Yes

PERMIT SUMMARY

Future changes in prohibitory rules may establish more stringent requirements that may, at the District level, supersede the conditions listed here. For Title V purposes, however, the federally enforceable requirements are those found in the Title V permit. Federally enforceable provisions of the Title V permit do not change until the Title V permit is revised.

FACILITY DESCRIPTION

Permit Background

Permit Action	Date Issued	Federal Operating Permit No.
Initial Title V Federal Operating Permit	03-01-2004	TV1998-14-01
1st Administrative Amendment	09-11-2006	TV1998-14-01A
2nd Administrative Amendment	05-22-2007	TV1998-14-01B

Current Permitting Action

This permit action is the 2nd Administrative Amendment of the initial Title V Federal Operating Permit, TV1998-14-01, issued 03-01-2004 with a five year term and an expiration date of 03-01-2009.

This permit renewal will be assigned the permit number TV1998-14-01B.

The adding of sequential alphabetic letters to the current permit number (beginning with A for the first administrative amendment) indicates an administrative permit amendment.

Facility Description

The following facility description is for informational purposes only and does not contain any applicable federally enforceable requirements.

Sacramento Power Authority generates electricity for the Sacramento Municipal Utility District (SMUD) and produces process steam for use in the operations of Campbell Soup Company. The project is located on a 5.8-acre site adjacent to the Campbell Soup food processing facility at 3215 47th Avenue, Sacramento.

The cogeneration plant is a combined cycle power block. The combined cycle unit consists of the following components: a Siemens V84.2 natural gas-fired combustion turbine generator (CTG) with a nominal capacity of 103 MW; a heat recovery steam generator (HRSG) with a 200 MMBtu/hr natural gas-fired duct burner; a 55.9 MW nominal capacity steam turbine generator; a selective catalytic reduction (SCR) system; and an oxidation catalyst system. The plant also includes a cooling tower.

Dry low-NOx combustors in the CTG together with a selective catalytic reduction (SCR) system are designed for nitrogen oxide emission control. An oxidation catalyst system located upstream of the SCR unit operates to reduce ROC and CO emissions. Low-NOx duct burners are utilized in the HRSG for NOx control.

The combustion turbine generator and duct burner are fired with natural gas.

Steam and Power Generation Process

Process steam for the Campbell Soup Company food processing plant is extracted from the steam turbine generator during the operation of the combined cycle power block. This process is capable of producing 250,000 pounds per hour of steam supply.

Electricity generated by the CTG powerplant is interconnected with SMUD's transmission lines and distribution system.

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

TITLE V PERMIT MODIFICATIONS AND RENEWAL

1. The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for renewal no later than 12 months prior to the expiration date of the Title V permit. **[Rule 207 Section 301.4]**

2. The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for minor Title V permit modification. The application shall be submitted after receiving any required preconstruction permit from the District and before commencing operation associated with the Minor Title V permit modification. **[Rule 207 Section 301.6]**

3. The owner or operator of a stationary source shall submit to the Air Pollution Control Officer a complete Title V permit application for Significant Title V permit modification. The application shall not be submitted prior to receiving any required preconstruction permit from the District but no later than 12 months after commencing an operation associated with the Significant Title V permit modification. Where an existing federally enforceable Title V permit condition would prohibit such change in operation or the stationary source is not required to obtain a preconstruction permit, the owner or operator must obtain a Title V permit modification before commencing operation. **[Rule 207 Section 301.7]**

4. The applicant shall submit to the Air Pollution Control Officer timely updates to the Title V application as new applicable requirements become applicable to the source. **[Rule 207 Section 302.1]**

5. The applicant shall submit to the Air Pollution Control Officer any additional information necessary to correct any incorrect information in the Title V permit application upon becoming aware of such incorrect submittal or if the applicant is notified by the Air Pollution Control Officer of such incorrect submittal. **[Rule 207 Section 302.2]**

6. The applicant shall submit to the Air Pollution Control Officer any additional information relating to the Title V application within 30 days if such information is requested in writing by the Air Pollution Control Officer. **[Rule 207 Section 302.3]**

7. Title V permit expiration terminates the stationary source's right to operate unless a timely and complete Title V permit application for renewal has been submitted and the stationary source complies with Sections 303.1(a), (b), (c), and (d) of Rule 207, in which case the existing Title V permit will remain in effect until the Title V permit renewal has been issued or denied. **[Rule 207 Section 303.2]**

8. Any Title V application form, report, or compliance certification submitted pursuant to a federally enforceable requirement in this permit shall contain certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **[Rule 207 Section 304]**

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

9. This Title V permit shall have a 5-year fixed term from the date of issuance. The Title V permit shall have a new 5-year fixed term from the date of final action on reopening if the responsible official chooses to submit to the District a complete Title V application for renewal upon reopening of the Title V permit pursuant to Sections 411 or 412 of Rule 207, and the Title V permit is renewed according to the administrative procedures listed in Sections 401 through 408 of Rule 207. **[Rule 207 Section 306]**

PERMIT COMPLIANCE

10. The permittee must comply with all conditions of the Title V permit. **[Rule 207 Section 305.1(k)(1)]**

11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the Title V permit. **[Rule 207 Section 305.1(k)(2)]**

12. This Title V permit may be modified, revoked, reopened, and reissued, or terminated for cause. **[Rule 207 Section 305.1(k)(3)]**

13. The permittee shall furnish to the Air Pollution Control Officer, within a reasonable time, any information that the Air Pollution Control Officer may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit pursuant to Section 411 of Rule 207, or to determine compliance with this Title V permit. Upon request, the permittee shall also furnish to the Air Pollution Control Officer copies of records required to be kept by conditions of this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the U.S. EPA along with a claim of confidentiality. **[Rule 207 Section 305.1(k)(4)]**

14. Noncompliance with any federally enforceable requirement in this Title V permit is grounds for Title V permit termination, revocation and reissuance, modification, enforcement action, or denial of the Title V permit renewal application. Any violation of the Title V permit shall also be a violation of Rule 207. **[Rule 207 Section 305.1(k)(5)]**

15. A pending Title V permit action (e.g. a proposed permit revision) or notification of anticipated noncompliance does not stay any permit condition. **[Rule 207 Section 305.1(k)(6)]**

16. This Title V permit does not convey any property rights of any sort, or any exclusive privilege. **[Rule 207 Section 305.1(k)(7)]**

17. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Air Pollution Control Officer or an authorized representative to perform all of the following: **[Rule 207 Section 413.1]**
    A. Enter upon the stationary source's premises where this source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
    B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Title V permit;

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

C. Inspect at reasonable times, the stationary source, equipment (including monitoring and air pollution control equipment), practices and operations regulated or required under this Title V permit; and
D. As authorized by the Federal Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the Title V permit conditions or applicable federal requirements.

REPORTS AND RECORDKEEPING

18. **Monitoring Reports**

The permittee shall submit to the Air Pollution Control Officer at least once every six months, unless required more frequently by an applicable requirement, reports of all required monitoring. All instances of deviations from Title V permit conditions must be clearly identified in such reports. All required reports must be certified by the responsible official and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **[Rule 207 Section 501.1]**

The reporting periods for this permit shall be for the six-month periods January 1 through June 30 and July 1 through December 31. The reports shall be submitted by July 30 and January 30 of each year, respectively.

19. **Compliance Reports**

The permittee shall submit to the Air Pollution Control Officer and U.S. EPA (Air-3, U.S. EPA, Region IX) on an annual basis, unless required more frequently by additional applicable federal requirements such as Section 114(a)(3) and 504(b) (42 U.S.C. Sections 7414(a)(3) and 7661c(b)) of the Federal Clean Air Act, a certification of compliance by the responsible official with all terms and conditions contained in the Title V permit, including emission limitations, standards, and work practices.

The first reporting period for this permit shall be January 1, 2004 through December 31, 2004. The initial report shall be submitted by January 30, 2005. Subsequent reports shall be submitted by January 30 of each year for the previous calendar year.

All required reports must be certified by the responsible official and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

The compliance certification shall include the following: **[Rule 207 Section 413.4]**
A. The identification of each term or condition of the Title V permit that is the basis of the certification;
B. The method(s) used for determining the compliance status of the source, currently and over the reporting period, and whether such method(s) provides continuous or intermittent data;
C. The status of compliance with the terms and conditions of the Title V permit for the period covered by the certification, based on the method designated in Subpart B of this condition;

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

D. Such other facts as the Air Pollution Control Officer may require to determine the compliance status of the source; and
E. In accordance with Section 305, Rule 207, a method for monitoring the compliance of the stationary source with its emissions limitations, standards and work practices.

20. The permittee must notify the Air Pollution Control Officer of any occurrence which constitutes any emergency as defined in Section 212, Rule 207 as soon as reasonably possible, but no later than one hour after its detection. If the emergency occurs when the Air Pollution Control Officer cannot be contacted, their report of the emergency shall be made at the commencement of the next regular working day. The notification shall identify the time, specific location, equipment involved, and to the extent known the cause(s) of the occurrence. **[Rule 207 Section 501.2]**

21. The permittee shall report within 24 hours of detection any deviation from a federally enforceable Title V permit condition not attributable to an emergency. In order to fulfill the reporting requirement of this condition, the permittee shall notify the Air Pollution Control Officer by telephone followed by a written statement describing the nature of the deviation from the federally enforceable permit condition. **[Rule 207 Section 501.3]**

22. All monitoring data and support information required by a federally enforceable applicable requirement must be kept by the stationary source for a period of 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the federally enforceable applicable requirement in the Title V permit. **[Rule 207 Section 502.3]**

RINGELMANN CHART

23. Except as otherwise provided in Section 100 of Rule 401, a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is: **[Rule 401 Section 301]**
    A. As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or
    B. Of such opacity as to obscure a human observer's view, or a certified calibrated in-stack opacity monitoring system to a degree equal to or greater than No. 1 on the Ringelmann Chart.

PARTICULATE MATTER

24. A person shall take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Reasonable precautions shall include, but are not limited to: **[Rule 403 Section 301]**
    A. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the construction of roadways or the clearing of land;

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

B. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles and other surfaces which can give rise to airborne dusts; and
C. Other means approved by the Air Pollution Control Officer.

25. Except as otherwise provided in Condition No. 26, a person shall not discharge into the atmosphere from any source particulate matter in excess of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot). **[Rule 404 Section 301]**

26. A person shall not discharge into the atmosphere particulate matter from the burning of any kind of material containing carbon in a free or combined state, from any single source of emission whatsoever, combustion contaminants in any state or combination thereof exceeding in concentration at the point of discharge: 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) of gas calculated to 12% carbon dioxide (CO_2) at standard conditions. **[Rule 406 Section 302]**

SULFUR COMPOUNDS

27. A person shall not discharge into the atmosphere from any single source of emission whatsoever sulfur compounds in any state or combination thereof exceeding in concentration at the point of discharge: sulfur compounds, calculated as sulfur dioxide (SO_2): 0.2% by volume, except as otherwise provided in Rule 420. **[Rule 406 Section 301]**

28. Except as otherwise provided in Section 110 of Rule 420, a person shall not burn any gaseous fuel containing sulfur compounds in excess of 1.14 grams per cubic meter (50 grains per 100 cubic feet) of gaseous fuel, calculated as hydrogen sulfide at standard conditions, or any liquid fuel or solid fuel having a sulfur content in excess of 0.5% by weight. **[Rule 420 Section 301]**

ARCHITECTURAL COATINGS

29. Any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs, shall meet the requirements of Rule 442. **[Rule 442]**

30. All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained, or repaired. **[Rule 442, Section 304]**

31. A person using volatile organic compounds for the cleanup of architectural coating application equipment shall comply with the requirements of SMAQMD Rule 466 SOLVENT CLEANING. **[SMAQMD Rule 466 Sections 301.1 and 302.6]**

32. Sacramento Power Authority shall keep a record of all architectural coatings purchased that are not clearly labeled as complying with the VOC content limits contained in Rule 442. Compliance in these cases can be determined by maintaining records of the manufacturer's certifications or by Material Safety Data Sheets (MSDS) that demonstrate compliance with the VOC limits of Rule 442. **[Rule 442 and Rule 207 Section 305]**

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

COMPLIANCE

33. Compliance with the conditions of the Title V permit shall be deemed compliance with all applicable requirements identified in the Title V permit. **[Rule 207 Section 307]**

EQUIPMENT BREAKDOWNS

34. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology based emission limitations if the following conditions are met: **[Rule 207 Section 414]**
    A. The affirmative defense of an emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
        I. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
        II. The permitted facility was at the time being properly operated;
        III. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the Title V permit;
        IV. The permittee submitted notice of the emergency to the Air Pollution Control Officer within two working days of the time when emissions limitations were exceeded due to the emergency. The notice must contain a description of the emergency, and corrective actions taken.
    B. In any enforcement proceedings, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

TITLE VI REQUIREMENTS (OZONE DEPLETING SUBSTANCES)

35. Persons opening appliances containing CFCs for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156. **[40 CFR Part 82 Subpart F]**

36. Equipment used during the maintenance, service, repair, or disposal of appliances containing CFCs must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158. **[40 CFR Part 82 Subpart F]**

37. Persons performing maintenance, service, repair or disposal of appliances containing CFCs must be certified by an approved technician certification program pursuant to 40 CFR 82.161. **[40 CFR Part 82 Subpart F]**

PAYMENT OF FEES

38. The fee for (1) the issuance of an initial Title V operating permit, (2) the renewal and/or inspection of a Title V operating permit, (3) the modification of a Title V operating permit or (4) an administrative Title V permit amendment shall be based on the actual hours spent by the District staff in evaluating the application and processing the operating permit. The fee shall be assessed in accordance with the hourly rate established in Section 308.12 of Rule 301. **[Rule 207 Section 305.7 and Rule 301 Section 313]**

FEDERALLY ENFORCEABLE GENERAL REQUIREMENTS

39. After the provisions for granting permits as set forth in Rule 207 have been complied with, the permittee will be notified by mail of the fee due and payable and the date the fee is due. If the fee is not paid by the specified due date, the fee shall be increased by one half the amount and the applicant/permittee shall be notified by mail of the increased fee. If the increased fee is not paid within 30 days after notice the application/permit will be canceled/revoked and the applicant/permittee will be notified by mail. **[Rule 207 Section 305.7]**

ACCIDENTAL RELEASES

40. If subject to 40 CFR Part 68 – Chemical Accident Prevention Provisions, the permittee shall register and submit to the U.S. EPA the required data related to the risk management plan (RMP) for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 68.130. The list of substances, threshold quantities and accident prevention regulations promulgated under Part 68 do not limit in any way the general duty provisions under Section 112(r)(1). **[40 CFR Part 68]**

41. If subject to 40 CFR Part 68 – Chemical Accident Prevention Provisions, the permittee shall comply with the requirements of Part 68 no later than the latest of the following dates as provided in 40 CFR 68.10(a): **[40 CFR Part 68]**
    A. June 21, 1999,
    B. Three years after the date on which a regulated substance is first listed under § 68.130, or
    C. The date on which a regulated substance is first present above a threshold quantity in a process.

42. If subject to 40 CFR Part 68 – Chemical Accident Prevention Provisions, the permittee shall submit any additional relevant information requested by the air permitting authority or designated agency necessary to ensure compliance with the requirements of 40 CFR Part 68. **[40 CFR Part 68]**

43. If subject to 40 CFR Part 68 – Chemical Accident Prevention Provisions, the permittee shall annually certify compliance with all applicable requirements of 40 CFR Part 68 as part of the annual compliance certification as required by Section 413.4 of Rule 207. **[40 CFR 68.215(a)(2)(ii) and Rule 207 Section 413.4]**

PERMIT SHIELD

44. Compliance with the conditions of the Title V permit shall be deemed compliance with the following subsumed requirements. **[U.S. EPA White Paper Number 2]**
    A. 40 CFR 60, Subpart GG – Standards of Performance for Stationary Gas Turbines (10/17/00)
    B. SMAQMD Rule 413 – Stationary Gas Turbines (5/1/97 Version)

LOCAL (NON-FEDERALLY ENFORCEABLE) GENERAL REQUIREMENTS

APPLICABILITY

1. The requirements outlined in this section pertain to the local Permit to Operate and are not federally enforceable or part of the Title V permit.

LOCAL PERMIT RENEWAL

2. Permits to operate issued to the permittee pursuant to Rule 201 (non-Title V Permits to Operate) shall be renewed annually by June 30 and upon payment of the permit renewal fee established pursuant to Rule 301.

3. The Air Pollution Control Officer shall review every Permit to Operate upon annual renewal, pursuant to Health and Safety Code Section 42301(c), to determine that permit conditions are adequate to ensure compliance with, and the enforceability of, District rules and regulations applicable to the article, machine, equipment, or contrivance for which the permit was issued. Applicable District rules and regulations shall include those which were in effect at the time the permit was issued or modified, or which have subsequently been adopted and made retroactively applicable to an existing article, machine, equipment, or contrivance, by the District Board of Directors. The Air Pollution Control Officer shall revise the conditions, if such conditions are not consistent, in accordance with all applicable rules and regulations.

GENERAL

4. The Air Pollution Control Officer and/or authorized representatives, upon 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 Permit to Operate, and
   B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate, and
   C. To inspect any equipment, operation, or method required in this Permit to Operate, and
   D. To sample emissions from the source or require samples to be taken.

5. Legible copies of all SMAQMD local permits shall be maintained on the premises with the equipment.

EQUIPMENT OPERATION

6. The equipment shall be properly maintained.

7. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the Health and Safety Codes of the State of California or the Rules and Regulations of the Sacramento Metropolitan Air Quality Management District.

LOCAL (NON-FEDERALLY ENFORCEABLE) GENERAL REQUIREMENTS

EQUIPMENT BREAKDOWNS

8. The permittee shall notify the Air Pollution Control Officer of any occurrence which constitutes a breakdown as defined in Section 201 of Rule 602 as soon as reasonably possible, but no later than one hour after its detection. IF the breakdown occurs when the Air Pollution Control Officer cannot be contacted, the report of breakdown shall be made at the commencement of the next regular working day. The notification shall identify the time, specific location, equipment involved, and to the extent known the cause(s) of the occurrence.

9. Upon notification of the breakdown condition, the Air Pollution Control Officer shall investigate the breakdown condition in accordance with uniform written procedures and guidelines relating to logging of initial reports on appropriate forms, investigation, and enforcement follow-up. If the occurrence does not constitute a breakdown condition, the Air Pollution Control Officer may take appropriate enforcement action.

10. An occurrence which constitute a breakdown condition, and which persists only until the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) shall constitute a violation of any applicable emission limitation or restriction prescribed by these Rules and Regulations; however, the Air Pollution Control Officer may elect to take no enforcement action if the owner or operator demonstrates to his satisfaction that a breakdown condition exists and the following requirements are met:
    A. The notification required in Section 301.1 of Rule 602 is made; and
    B. Immediate appropriate corrective measures are undertaken and compliance is achieved, or the process is shutdown for corrective measures before commencement of the next production run or within 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment for which the period shall be 96 hours). If the owner or operator elects to shut down rather than come into immediate compliance, (s)he must nonetheless take whatever steps are possible to minimize the impact of the breakdown within the 24 hour period; and
    C. The breakdown does not interfere with the attainment and maintenance of any national ambient air quality standard.

11. An occurrence which constitutes a breakdown condition shall not persist longer than the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours), unless an emergency variance has been obtained.

12. If the breakdown condition will either require more than 24 hours to correct or persists longer than the end of the production run (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) the owner or operator may, in lieu of shutdown, request the Air Pollution Control Officer to commence the emergency variance procedure set forth in Section 304 of Rule 602.

LOCAL (NON-FEDERALLY ENFORCEABLE) GENERAL REQUIREMENTS

13. No emergency variance shall be granted unless the chairperson of the Hearing Board or other designated member(s) of the Hearing Board finds that:
    A. The occurrence constitutes a breakdown condition;
    B. Continued operation is not likely to create an immediate threat or hazard to public health or safety;
    C. The requirements for a variance set forth in Health & Safety Code Section 42352 and 42353 have been met; and
    D. The continued operation in a breakdown condition will not interfere with the attainment or maintenance of the national ambient air quality standards.

14. At any time after an emergency variance has been granted, the Air Pollution Control Officer may request for good cause that the chairperson or designated member(s) reconsider and revoke, modify or further condition the variance. The procedures set forth in Rule 602, Section 304.1 shall govern any further proceedings conducted under this section.

15. An emergency variance shall remain in effect only for as long as necessary to repair or remedy the breakdown condition, but in no event after a properly noticed hearing to consider an interim or 90 day variance has been held, or 15 days from the date of the subject occurrence, whichever is sooner.

16. Within one week after a breakdown condition has been corrected, the owner or operator shall submit a written report to the Air Pollution Control Officer on forms supplied by the Air Pollution Control Officer describing the causes of the breakdown, corrective measures taken, estimated emissions during the breakdown and a statement that the condition has been corrected, together with the date of correction and proof of compliance. The Air Pollution Control Officer may, at the request of the owner or operator for good cause, extend up to 30 days the deadline for submittal of the report described in this subsection.

17. The burden of proof shall be on the owner or operator of the source to provide sufficient information to demonstrate that a breakdown did occur. If the owner or operator fails to provide sufficient information, the Air Pollution Control Officer shall undertake appropriate enforcement action.

18. Any failure to comply, or comply in a timely manner, with the reporting requirements established in Sections 301.1 and 401 of Rule 602 shall constitute a separate violation of this rule.

19. It shall constitute a separate violation of this rule for any person to file with the Air Pollution Control Officer a report which falsely, or without probable cause, claims that an occurrence is a breakdown condition.

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

COMBINED CYCLE POWER BLOCK

Gas Turbine Unit

Permit No.	P/O 14072
Manufacturer	Siemens
Model No.	V84.2
Type	Combined Cycle
Nominal Rating	103 MW
Heat Input Rating	1410 MMBtu/hr
Primary Fuel	Natural Gas

Duct Burner Unit, Heat Recovery Steam Generator

Permit No.	P/O 14071
Heat Input Rating	200 MMBtu/hr
Primary Fuel	Natural Gas

Air Pollution Control System

Permit No.	P/O 11458
Control Device	Selective Catalytic Reduction
Manufacturer	Nooter/Eriksen
Venting	Gas Turbine and Duct Burner

Air Pollution Control System

Permit No.	P/O 11459
Control Device	Oxidation Catalyst
Manufacturer	Nooter/Eriksen
Venting	Gas Turbine and Duct Burner

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

B. EQUIPMENT-SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA and the public.

EMISSION LIMITS

1. The combined cycle gas turbine and its associated duct burner shall not emit:: **[SMAQMD P/O 14072 and 14071]**
   (A) Nitrogen oxides (NOx) more than 3 ppmvd @ 15% O_2, averaged over any consecutive three hour period, excluding periods containing start-ups, shutdowns and short term excursions as defined in Condition No. B7.

2. Emissions from the gas turbine and duct burner heat recovery steam generator shall not exceed the following limits averaged over any consecutive three-hour period, not including periods containing start-ups, shutdowns and short-term excursions as defined in Condition No. B7: **[SMAQMD P/O 14072 and 14071]**

Pollutant	Maximum Allowable Emissions Gas Turbine + Duct Burner *(P/O 14072 & 14071)* lb/hour
NOx	17.76 (A)
CO	10.81 (B)
ROC	9.01 (C)
SOx	0.97 (D)
PM10	7.00 (E)

(A) Based on data submitted in the application and is monitored by the turbine's NOx CEM system.
(B) Based on data submitted in the application and is monitored by the turbine's CO CEM system.
(C) Based on a turbine ROC emission factor of 0.00228 lb/MMBtu, duct burner ROC emission factor of 0.029 lb/MMBtu and firing at full capacity.
(D) Based on a turbine and duct burner emission factor of 0.0006 lb/MMBtu and firing at full capacity.
(E) Based on a turbine PM10 emission factor of 0.003546 lb/MMBtu, duct burner PM10 emission factor of 0.01 and firing at full capacity.

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

3. Emissions of NOx, CO, ROC, SOx, and PM10 from the following equipment at the Sacramento Power Authority's facility, including start-ups and shutdowns, shall not exceed the following limits: **[SMAQMD P/O 14072, 14071 and 13316]**

Pollutant	Maximum Allowable Emissions lb/day		
	Gas Turbine + Duct Burner *(P/O 14072 & 14071)*	Cooling Tower *(P/O 13316)*	Total
NOx	384.5		384.5
CO	326.9		326.9
ROC	146.7		146.7
SOx	21.8		21.8
PM10	142.1	9.7	151.8

4. Combined emissions of NOx, CO, ROC, SOx, and PM10 from all equipment at the Sacramento Power Authority's facility, including start-ups and shutdowns, shall not exceed the following limits: **[SMAQMD P/O 14072, 14071 and 13316]**

Pollutant	Maximum Allowable Emissions				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
NOx	24,209	24,545	26,321	24,725	99,800
CO	21,265	21,601	22,803	21,708	87,377
ROC	8,792	8,898	13,264	8,968	39,922
SOx	1,814	1,836	1,944	1,853	7,447
PM10	11,015	10,160	12,294	11,619	45,088

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

EQUIPMENT OPERATION AND MONITORING REQUIREMENTS

5. The duct burner HRSG shall not be operated unless the combined cycle turbine is operating. **[SMAQMD P/O 14072 and 14071]**

6. The combined cycle gas turbine and/or the duct burner HRSG shall not be operated without a fully functioning selective catalytic reduction and oxidizing catalyst air pollution control systems, excluding periods of start-ups and shutdowns. **[SMAQMD 14072 and 14071]**

7. The duration of the combined cycle gas turbine's start-up period shall not exceed 60 minutes. Start-ups are defined as the time periods commencing with the introduction of fuel to the gas turbine and ending at the time that 15-minute average NOx concentrations do not exceed 3 ppmvd @ 15% O_2, but in no case exceeding 60 consecutive minutes.

   Shutdowns are defined as the 30-minute time periods immediately preceding the termination of fuel to the gas turbine.

   Short-term excursions are defined as 15-minute periods designated by the applicant that are a direct result of a diffusion mode switchover, not to exceed four consecutive 15-minute periods, when the 15-minute average NOx concentration exceeds 3 ppmvd @ 15% O_2. Maximum 3-hour average NOx concentration for periods that include short-term excursions shall not exceed 30 ppmvd @ 15% O_2. Short-term excursion periods that total in excess of 10 hours per rolling 12-month period shall not be excluded from evaluations for compliance with limits in Condition Nos. B1(A) & B2.

   All emissions during start-ups and short-term excursions shall be included in all calculations of daily, quarterly and annual mass emissions required by this permit. **[SMAQMD P/O 14072 and 14071]**

8. Sacramento Power Authority shall operate a continuous emission monitoring system that has been approved by the Air Pollution Control Officer for the combined cycle gas turbine and duct burner unit emissions. **[SMAQMD P/O 14072 and 14071]**
   (A) The continuous emission monitoring (CEM) system shall monitor and record nitrogen oxides, carbon monoxide and oxygen.
   (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).

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

9. Sacramento Power Authority shall operate a continuous monitoring system that has been approved by the Air Pollution Control Officer that either measures or calculates and records the following: **[SMAQMD P/O 14072 and 14071]**

Parameter to be Monitored	Units
Fuel consumption of the combined cycle gas turbine	MMBtu/hr of natural gas
Fuel consumption of the duct burner	MMBtu/hr of natural gas
Exhaust gas flow rate of the combined cycle gas turbine and the duct burner.	kscfh or lb/hr

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

RECORDKEEPING AND REPORTING REQUIREMENTS

10. The following records shall be continuously maintained on site for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly records as specified in the table below shall be made available for inspection within 30 days of the end of the quarter. **[SMAQMD P/O 14072 and 14071]**

Frequency	Information to be Recorded
General	A. Record of the occurrence and duration of any start-up, short-term excursion or shutdown. B. Malfunction in operation of the combined cycle gas turbine. C. Measurements from the continuous monitoring system. D. Monitoring device and performance testing measurements. E. All continuous monitoring system performance evaluations. F. All continuous monitoring system or monitoring device calibration checks. G. All continuous monitoring system adjustments and maintenance.
Hourly	A. Combined cycle turbine natural gas fuel consumption (MMBtu/hr). B. Duct burner natural gas fuel consumption (MMBtu/hr). C. Indicate when the combined cycle turbine start-up occurred. D. Combined cycle turbine and duct burner NOx, CO, ROC, SOx and PM10 hourly emissions (lb/hour). For those pollutants directly monitored (NOx and CO), the hourly emissions will be from the CEM system required pursuant to Condition No. B8. For those pollutants that are not directly monitored (ROC, SOx and PM10), the hourly emissions shall be calculated based on District approved emission factors contained in the footnotes to Condition No. B2. E. Combined cycle turbine and duct burner NOx emission concentration measured in ppmvd @ 15% O_2.
Daily	Total daily emissions from all equipment at the Sacramento Power Authority facility (lb/day).
Quarterly	A. Total combined facility NOx, CO, ROC, SOx and PM10 quarterly mass emissions (lb/quarter). B. Evidence that the designated representative for the Acid Rain Program electronically reported to the U. S. EPA Administrator, within 30 days following the end of the calendar quarter, the data and information required by 40 CFR § 75.64 for the previous calendar quarter.

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

11. For each calendar quarter submit to the Air Pollution Control Officer a written report which contains the following. Each quarterly report is due by the 30th day following the end of the calendar quarter. **[SMAQMD P/O 14072 and 14071]**

Frequency	Information to be Recorded
Whenever the continuous emissions monitoring system is inoperative except for zero and span checks	A. Date and time of non-operation of the continuous emission monitoring system. B. Nature of the continuous emission monitoring system repairs or adjustments.
Whenever an emission occurs as measured by the required continuous monitoring equipment that is in excess of any emission limitation.	A. Magnitude of the emission which has been determined to be in excess. B. Date and time of the commencement and completion of each period of excess emissions. C. Periods of excess emissions due to startup, shutdown and malfunction shall be specifically identified. D. The nature and cause of any malfunction (if known). E. The corrective action taken or preventive measures adopted.
If there were no excess emissions for a quarter	A. Report shall be submitted indicating that there were no excess emissions.

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

COMPLIANCE TESTING REQUIREMENTS

12. A NOx, ROC, CO, PM10, ammonia and CEM accuracy source test of the combined cycle turbine and duct burner shall be performed once every calendar year. 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 judgement, prior test results indicate an adequate compliance margin has been maintained. **[SMAQMD P/O 14072 and 14071]**
    (A) Submit a source 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), the turbine and duct burner are to be operated at their maximum total firing capacity.
    (D) The source test results shall be submitted to the Air Pollution Control Officer within 60 days from the completion of the source test(s).

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

EMISSION REDUCTION CREDITS

13. Emission reduction credits for NOx have been provided by Sacramento Power Authority to fully offset the facility allowable NOx emissions.

Offset Source	Face Value of Emission Reduction Certificates lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
Campbell Soup	23,622	13,491	31,585	20,983	1	1.2	19,685	11,243	26,321	17,486
Formica	18,096	53,208	0	28,956	2	2	4,524	13,302	0	7,239
Total Emission Offsets, NOx							**24,209**	**24,545**	**26,321**	**24,725**
Maximum Allowable Emissions, NOx							**24,209**	**24,545**	**26,321**	**24,725**

14. Emission reduction credits for ROC have been provided by Sacramento Power Authority to offset the cumulative emission increase exceeding the ROC emission offset level of 7,500 lb/quarter.

Offset Source	Face Value of Emission Reduction Certificates lb/quarter				Offset Ratio	Value Applied to Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Swansons	1,550	1,678	6,917	1,762	1.2	1,292	1,398	5,764	1,468
Total Emission Offsets, ROC						**1,292**	**1,398**	**5,764**	**1,468**
Maximum Allowable Emissions, ROC						**8,792**	**8,898**	**13,264**	**8,968**

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

15. Emission reduction credits for PM10 have been provided by Sacramento Power Authority to fully offset the facility allowable PM10 emissions.

Offset Source	Face Value of Emission Reduction Certificates lb/quarter				Offset Ratio	Value Applied to Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Sierra Pine	16,523	15,240	18,441	17,429	1.5	11,015	10,160	12,294	11,619
Total Emission Offsets, PM10						**11,015**	**10,160**	**12,294**	**11,619**
Maximum Allowable Emissions, PM10						**11,015**	**10,160**	**12,294**	**11,619**

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

C. EQUIPMENT-SPECIFIC LOCAL (NON-FEDERALLY ENFORCEABLE) REQUIREMENTS:
The requirements specified under this section are enforceable by the District only.

EMISSION LIMITS

1. The combined cycle gas turbine and its associated duct burner shall not emit: **[SMAQMD P/O 14072 and 14071]**
   (A) Ammonia more than 10 ppmvd @ 15% O_2, measured as NH_3, averaged over any consecutive three hour period, excluding start-ups as defined in Condition No. B7.

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

D. FUTURE APPLICABLE REQUIREMENTS: The requirements under this section may be promulgated by the U.S. EPA during the term of this Title V permit and may be applicable to this emissions unit.

1. If applicable, Sacramento Power Authority shall comply with all applicable requirements of 40 CFR Part 63, Subpart YYYY (Stationary Combustion Turbines).

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

E. **ACID RAIN PROGRAM:** The requirements specified under this subsection are issued in accordance with Rule 207 - Title V Federal Operating Permit Program, Rule 208 - Acid Rain, and Titles IV and V of the Federal Clean Air Act, and are enforceable by the District, the U.S. EPA and the public.

PERMIT REQUIREMENTS

1. The designated representative of each affected source and affected unit at the source shall: **[40 CFR 72.9(a)(1)]**
   (A) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR Part 72 in accordance with the deadlines specified in 40 CFR § 72.30; and
   (B) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit.

2. The owners and operators of each affected source and each affected unit at the source shall: **[40 CFR 72.9(a)(2)]**
   (A) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
   (B) Have an Acid Rain permit.

MONITORING REQUIREMENTS

3. The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR Parts 74, 75 and 76. **[40 CFR 72.9(b)(1)]**

4. The emissions measurements recorded and reported in accordance with 40 CFR Part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program. **[40 CFR 72.9(b)(2)]**

5. The requirements of 40 CFR Parts 74 and 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source. **[40 CFR 72.9(b)(3)]**

SULFUR DIOXIDE REQUIREMENTS

6. The owners and operators of each source and each affected unit at the source shall: **[40 CFR 72.9(c)(1)]**
   (A) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR § 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
   (B) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

7. Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act. **[40 CFR 72.9(c)(2)]**

8. An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows: **[40 CFR 72.9(c)(3)]**
   (A) Starting January 1, 2000, an affected unit under 40 CFR § 72.6(a)(2); or
   (B) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR Part 75, an affected unit under 40 CFR § 72.6(a)(3).

9. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program. **[40 CFR 72.9(c)(4)]**

10. An allowance shall not be deducted in order to comply with the requirements under condition 6(A) of this subsection prior to the calendar year for which the allowance was allocated. **[40 CFR 72.9(c)(5)]**

11. An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR § 72.7 and § 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization. **[40 CFR 72.9(c)(6)]**

12. An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right. **[40 CFR 72.9(c)(7)]**

EXCESS EMISSIONS REQUIREMENTS

13. The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77. **[40 CFR 72.9(e)(1)]**

14. The owners and operators of an affected unit that has excess emissions in any calendar year shall: **[40 CFR 72.9(e)(2)]**
   (A) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR Part 77; and
   (B) Comply with the terms of an approved offset plan, as required by 40 CFR Part 77.

RECORDKEEPING AND REPORTING REQUIREMENTS

15. Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority: **[40 CFR 72.9(f)(1)]**
   (A) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR § 72.24;

provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submissions of a new certificate of representation changing the designated representative;

(B) All emissions monitoring information, in accordance with 40 CFR Part 75;

(C) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and

(D) Copies of all documents used to complete an Acid Rain permit application and any other submissions under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

16. The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR Part 72 Subpart I and 40 CFR Part 75. **[40 CFR 72.9(f)(2)]**

LIABILITY

17. Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act. **[40 CFR 72.9(g)(1)]**

18. Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001. **[40 CFR 72.9(g)(2)]**

19. No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect. **[40 CFR 72.9(g)(3)]**

20. Each affected source and each affected unit shall meet the requirements of the Acid Rain Program. **[40 CFR 72.9(g)(4)]**

21. Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source. **[40 CFR 72.9(g)(5)]**

22. Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR § 72.44 (Phase II repowering extension plans) and 40 CFR § 76.11 (NOx averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR Part 75 (including 40 CFR § 75.16, § 75.17, and § 75.18), the owners and operators and the designated representatives of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or

EQUIPMENT-SPECIFIC REQUIREMENTS – GAS TURBINE

the designated representative. **[40 CFR 72.9(g)(6)]**

23. Each violation of a provision of 40 CFR Parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act. **[40 CFR 72.9(g)(7)]**

EFFECT ON OTHER AUTHORITIES

24. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR § 72.7 or § 72.8 shall be construed as: **[40 CFR 72.9(h)]**
    (A) Except as expressly provided in Title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Act, including the provisions of Title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
    (B) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
    (C) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
    (D) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
    (E) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

EQUIPMENT-SPECIFIC REQUIREMENTS – COOLING TOWER

A. EQUIPMENT DESCRIPTION: The information specified under this section is enforceable by the District, U.S. EPA and the public.

Cooling Tower

Permit No.	P/O 13316
Manufacturer	GEA Thermal-Dynamic Towers
Type	3 Cell
Capacity	45,000 GPM

B. EQUIPMENT-SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified under this section are enforceable by the District, U.S. EPA, and the public.

EMISSION LIMITS:

1. Emissions from the cooling tower shall not exceed the following limits averaged over a three-hour period: **[SMAQMD P/O 13316]**

Pollutant	Maximum Allowable Emissions Cooling Tower *(P/O 13316)* lb/hour
PM10	0.41 (A)

(A) Based on a water circulation rate of 45,000 gal/min, cooling tower drift rate of 0.0006%, and a TDS level of 3,000 ppmw.

2. Emissions of PM10 from the following equipment at the Sacramento Power Authority's facility, including start-ups and shutdowns, shall not exceed the following limits: **[SMAQMD P/O 14072, 14071 and 13316]**

Pollutant	Maximum Allowable Emissions lb/day		
	Gas Turbine + Duct Burner *(P/O 14072 & 14071)*	Cooling Tower *(P/O 13316)*	Total
PM10	142.1	9.7	151.8

EQUIPMENT-SPECIFIC REQUIREMENTS – COOLING TOWER

3. Combined emissions of PM10 from all equipment at the Sacramento Power Authority's facility, including start-ups and shutdowns, shall not exceed the following limits: **[SMAQMD P/O 14072, 14071 and 13316]**

Pollutant	Maximum Allowable Emissions				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
PM10	11,015	10,160	12,294	11,619	45,088

4. The total dissolved solids content of the circulating cooling water shall not exceed 3000 ppmw, averaged over any consecutive three-hour period. **[SMAQMD P/O 13316]**

EQUIPMENT OPERATION AND MONITORING REQUIREMENTS:

5. Sacramento Power Authority shall operate a continuous monitoring system that has been approved by the Air Pollution Control Officer that either measures or calculates and records the following: **[SMAQMD P/O 13316]**

Parameter to be Monitored	Units
Total dissolved solids content of the circulating water in the cooling tower	ppmw

EQUIPMENT-SPECIFIC REQUIREMENTS – COOLING TOWER

RECORDKEEPING AND REPORTING REQUIREMENTS:

6. The following records shall be continuously maintained on site for the most recent five-year period and shall be made available to the Air Pollution Control Officer upon request. Quarterly records as specified in the table below shall be made available for inspection within 30 days of the end of the quarter. **[SMAQMD P/O 11431]**

Frequency	Information to be Recorded
Hourly	A. Total dissolved solids content of the circulating water in the cooling tower (ppmw). B. Cooling tower hourly PM10 emission rate. The hourly emissions shall be calculated based on the cooling water circulation rate multiplied by the cooling tower drift rate, density of water and the measured TDS level.
Daily	A. Cooling tower PM10 daily emissions (lb/day). B. Total daily PM10 emissions from all equipment at the Sacramento Power Authority facility.
Quarterly	Total facility PM10 quarterly mass emissions (lb/quarter).

EQUIPMENT-SPECIFIC REQUIREMENTS – COOLING TOWER

EMISSION REDUCTION CREDITS

7. Emission reduction credits for NOx have been provided by Sacramento Power Authority to fully offset the facility maximum allowable NOx emissions.

Offset Source	Face Value of Emission Reduction Certificates lb/quarter				Inter-Pollutant Trading Ratio	Offset Ratio	Value Applied to Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
Campbell Soup	23,622	13,491	31,585	20,983	1	1.2	19,685	11,243	26,321	17,486
Formica	18,096	53,208	0	28,956	2	2	4,524	13,302	0	7,239
Total Emission Offsets, NOx							**24,209**	**24,545**	**26,321**	**24,725**
Maximum Allowable Emissions, NOx							**24,209**	**24,545**	**26,321**	**24,725**

8. Emission reduction credits for ROC have been provided by Sacramento Power Authority to offset the cumulative emission increase exceeding the ROC emission offset level of 7,500 lb/quarter.

Offset Source	Face Value of Emission Reduction Certificates lb/quarter				Offset Ratio	Value Applied to Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Swansons	1,550	1,678	6,917	1,762	1.2	1,292	1,398	5,764	1,468
Total Emission Offsets, ROC						**1,292**	**1,398**	**5,764**	**1,468**
Maximum Allowable Emissions, ROC						**8,792**	**8,898**	**13,264**	**8,968**

9. Emission reduction credits for PM10 have been provided by Sacramento Power Authority to fully offset the facility maximum allowable PM10 emissions.

Offset Source	Face Value of Emission Reduction Certificates lb/quarter				Offset Ratio	Value Applied to Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
Sierra Pine	16,523	15,240	18,441	17,429	1.5	11,015	10,160	12,294	11,619
Total Emission Offsets, PM10						**11,015**	**10,160**	**12,294**	**11,619**
Maximum Allowable Emissions, PM10						**11,015**	**10,160**	**12,294**	**11,619**

EQUIPMENT-SPECIFIC REQUIREMENTS – COOLING TOWER

C. EQUIPMENT-SPECIFIC LOCAL (NON-FEDERALLY ENFORCEABLE) REQUIREMENTS:
The requirements specified under this section are enforceable by the District only.

EQUIPMENT OPERATION AND MONITORING REQUIREMENTS:

1. The cooling tower shall not use any chromium-containing water treatment chemicals. **[SMAQMD P/O 13316]**

INSIGNIFICANT EMISSIONS UNIT

The following equipment are considered insignificant emissions units and are not subject to the equipment-specific requirements. However, these emissions units are required to comply with all applicable general requirements.

Equipment	Basis for Exemption
Natural gas-fired domestic water heaters	Rule 201, Section 112
Air conditioning	Rule 201, Section 115
Gas turbine lube oil storage tanks	Rule 201, Section 117
Steam turbine lube oil storage tanks	Rule 201, Section 117
Solvent/parts washer	Rule 201, Section 117
Aqueous ammonia storage tank	Rule 201, Section 122
Natural gas compressors (electrically powered)	Rule 201, Section 122

Appendix D

AERMOD Output Files

(attached in electronic format)

Appendix E

Emissions Calculations

Commissioning - Worst Case NOx Hour and Day, Worst Case CO Hour									
	Average MW[a]	Average Fuel Flow kscf/hr[b]	Turbine Firing Rate MMBtu/hr	NOx[a] lb/hr	NOx g/sec	NOx ppmc	CO[a] lb/hr	CO g/sec	CO ppmc
S/U	0	32	33	10	1.26	82	125	15.75	1,685
1	0	32	33	25	3.15	205	500	63.00	6,741
2	10	369	376	35	4.41	25	500	63.00	593
3	30	538	549	80	10.08	40	375	47.25	305
4	50	707	722	140	17.64	53	156	19.69	97
5	70	877	894	200	25.2	61	31	3.94	16
6	90	1,046	1,067	280	35.28	71	8	0.98	3
7	100	1,120	1,143	360	45.36	86	8	0.98	3
8	100	1,120	1,143	360	45.36	86	8	0.98	3
S/D	0	32	33	10	1.26	82	125	15.75	1,685
Daily Total				1500			1836		

Commissioning - Worst Case CO Day									
	Average MW[a]	Average Fuel Flow kscf/hr[b]	Turbine Firing Rate MMBtu/hr	NOx[a] lb/hr	NOx g/sec	NOx ppmc	CO[a] lb/hr	CO g/sec	CO ppmc
S/U	0	32	33	10	1.26	82	125	15.75	1,685
1	10	369	376	35	4.41	25	500	63.00	593
2	30	538	549	80	10.08	40	375	47.25	305
3	60	792	808	130	16.38	44	125	15.75	69
4	60	792	808	130	16.38	44	125	15.75	69
5	60	792	808	130	16.38	44	125	15.75	69
6	60	792	808	130	16.38	44	125	15.75	69
7	60	792	808	130	16.38	44	125	15.75	69
8	60	792	808	130	16.38	44	125	15.75	69
S/D	0	32	33	10	1.26	82	125	15.75	1,685
Daily Total				915			1875		

Notes:

(a) Turbine power output (MW), NOx (lb/hr), and CO (lb/hr) during commissioning based on SPA engineering estimates.

(b) Fuel use from actual SPA Cogen operating data at indicated load as reported on Multi-Parameter Summary Report.

ATTACHMENT B

Proposed Changes to the Commission Decision: Air Quality Conditions of Certification

COMMISSIONING ACTIVITIES

AQ-# The owner/operator of the SPA Cogeneration facility combustion turbine generator and duct burner (CTG/DB) shall minimize emissions of CO and NOx to the maximum extent possible during the commissioning period. The commissioning period is defined by the following: "The commissioning period shall commence when all mechanical, electrical, and control systems are installed and the gas turbine is first fired. The commissioning period shall terminate when the plant has successfully completed performance testing, tuning, and shakedown operations, and compliance is demonstrated by continuous emissions monitoring equipment."

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

AQ-# At the earliest feasible opportunity in accordance with recommendations of the equipment manufacturers and the construction contractor, the gas turbine combustors of the CTG shall be tuned to minimize emissions of CO and NOx.

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

AQ-# At the earliest feasible opportunity in accordance with recommendations of the equipment manufacturers and the construction contractor, the Selective Catalytic Reduction (SCR) system shall be adjusted and operated to minimize emissions of NOx.

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

AQ-# During the commissioning period, the owner/operator of the CTG shall demonstrate compliance with conditions AQ-# through AQ-# through the use of properly operated and maintained continuous emission monitors and data recorders for the following parameters:

Firing hours of CTG/DB
Fuel flow rates to the CTG and DB
Stack gas NOx emission concentrations
Stack gas CO emission concentrations
Stack gas O_2 concentrations

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 CTG/DB. The owner/operator shall use previously

approved methods to calculate heat input rates, NOx, CO, ROC, SOx, and PM10 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 SMAQMD personnel upon request.

Verification: All records shall be retained on site for at least 5 years from the date of entry and made available to SMAQMD personnel and the CPM upon request.

AQ-# The continuous emission monitors specified in the previous condition shall be installed, calibrated, and operational prior to firing of the modified CTG/DB. After initial firing of the CTG, 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.

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

AQ-# The total number of firing hours of the CTG/DB without abatement of nitrogen oxide emissions by the SCR system shall not exceed 100 hours during the commissioning period. Such operation of the CTG/DB shall be limited to discrete commissioning activities that can only be properly executed without the SCR system fully operational.

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

AQ-# The total mass emissions of NOx, CO, ROC, SOx, and PM10 that are emitted by the CTG/DB during the commissioning period shall accrue towards the quarterly emission limits specified in Condition AQ-13.

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

AQ-# Combined pollutant mass emissions from the CTG/DB and cooling tower shall not exceed the following limits during the commissioning period.

Maximum Allowable Emissions During the Commissioning Period		
Pollutant	**lb/hr**	**lb/day**
NOx	**360**	**1,500**
CO	**500**	**1,875**
ROC	**9.01**	**146.7**
SOx	**0.97**	**21.8**
PM10	**7.00**	**151.8**

Note: Hourly limits for NOx and CO will be monitored using the CEMS. For those pollutants that are not directly monitored (ROC, SOx, and PM10), mass emissions shall be calculated based on previously approved SMAQMD emission factors.

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

AQ-# Condition AQ-15 limiting the NOx emission concentration from the turbine and duct burner to 3 ppmvd at 15% oxygen averaged over any consecutive three-hour period (excluding startups, shutdowns, and short-term excursions) shall not apply during the commissioning period.

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

EMISSION LIMITS

AQ-11 Emissions at the SPA cogeneration facility on a pound per hour basis, shall not exceed the following limits averaged over a three-hour period, not including start-ups, **shutdowns, and short-term excursions** as defined in Condition 19.

Pollutant	Units	CTG + Duct Burner	Cooling Tower
NOx	**Lbs/hr**	**17.76**	
CO	**Lbs/hr**	**10.81**	
ROC	**Lbs/hr**	**9.01**	
SOx	**Lbs/hr**	**0.97**	
PM_{10}	**Lbs/hr**	**7.00**	**0.41**

The District 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 30.

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-30.

AQ-15 The combined cycle combustion turbine and its associated duct burner HRSG shall not emit more than 3 ppmvd nitrogen oxides at 15% O_2, averaged over any consecutive three hour period, excluding periods containing start-ups, **shut-downs**, and short-term excursions as defined in Condition 19.

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

AQ-19 The duration of the combined cycle combustion turbine's start-up period shall not exceed 60 minutes. Start-ups are defined as time periods commencing with the introduction of fuel to the gas turbine, and ending at the time that 15-minute average NOx concentrations do not exceed 3 ppmvd @ 15% O_2, but in no case exceeding 60 minutes.

Shutdowns are defined as 30-minute time periods immediately preceding the termination of fuel to the gas turbine.

Short-term excursions are defined as 15-minute periods designated by the project owner **that are a direct result of a diffusion mode switchover**, not to exceed four consecutive 15-minute periods, when the 15-minute average NOx concentration exceeds 3 ppmvd corrected to 15 % O_2. Maximum 3-hour average NOx concentrations for periods that include short-term excursions shall not exceed 30 ppmvd corrected to 15% O_2. Short-term excursion periods that total in excess of 10 hours per rolling 12-month period shall not be excluded from evaluations of compliance with limits in Conditions AQ-11 and AQ-15.

All ~~Any~~ emissions during start-ups, **shut-downs**, and short-term excursions shall be included in all calculations of daily, quarterly, and annual mass emissions required by this permit.

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

AQ-31 A NOx, ROC, CO, PM_{10}, ammonia, **and CEM accuracy** source test of the combined cycle turbine and duct burner shall be performed annually during the calendar year.

a. Submit a test plan to the Air Pollution Control Officer 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), the turbine and HRSG are to be operated at their maximum total firing capacities.
d. The source test results shall be submitted to the Air Pollution Control Officer within ~~30~~ **60** days from completion of the source test.
e. 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 adequate compliance margin has been maintained.