DOCKETED	
Docket Number:	93-AFC-03C
Project Title:	Compliance - Application for Certification for SMUD's Campbell Soup Cogeneration Project
TN #:	267906
Document Title:	Campbell Soup Generating Facility Static Frequency Converter and Static Excitation System Petition to Amend
Description:	N/A
Filer:	Jerry Salamy
Organization:	Jacobs
Submitter Role:	Applicant Consultant
Submission Date:	12/12/2025 12:24:26 PM
Docketed Date:	12/12/2025

Jacobs

Static Frequency Converter and Static Excitation System the Sacramento Power Authority's Campbell Soup Generating Facility (93-AFC-3C)

Petition for Modification

December 2025

Sacramento Municipal Utility District

Static Frequency Converter and Static Excitation System the Sacramento Power Authority's Campbell Soup Generating Facility (93-AFC-3C)

Project No: D4055500
Document Title: Petition for Modification
Document No.: PPS0308211517SAC
Date: December 2025
Client Name: Sacramento Municipal Utility District/Ethos Energy
Project Manager: Project Manager
Author: Jacobs Engineering and Trinity Consultants
File Name: CSG_PTA_SFC-SES_Upgrade-2025-12-10-Final

Jacobs Engineering Group Inc.

2485 Natomas Park Drive, Suite 600
Sacramento, Ca 95833
United States
T +1.916.920.0300
www.jacobs.com

Document History and Status

Revision	Date	Description	By	Review	Approved

Contents

Acronyms and Abbreviations

AFC	Application for Certification
BMP	Best Management Practice
CARB	California Air Resources Board
CEC	California Energy Resources Conservation and Development Commission
City	City of Sacramento
COCs	Conditions of Certification
Condition	Condition of Certification
CPM	Compliance Project Manager
CSG	Campbell Soup Generating Facility
lb	pounds
LORS	laws, ordinances, regulations, and standards
PTA	Petition to Amend
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMUD	Sacramento Municipal Utility District
SPA	Sacramento Power Authority

1. Introduction

On November 30, 1994, the California Energy Commission (CEC) issued a license to the Sacramento Finance Authority (SFA), a Joint Powers Agency of the Sacramento Municipal Utility District (SMUD), for the construction and operation of the Campbell Soup Generating (CSG) Facility. CSG is a nominal 158-megawatt cogeneration facility consisting of a Siemens V84.2 natural-gas-fired combustion turbine generator, a steam turbine generator, and associated equipment. The facility is located in Sacramento County, California, on approximately 5.8 acres adjacent to the former Campbell Soup Company facility, which was the project's steam host. CSG is located at 3215 47th Avenue. It is east of the corner of 47th Avenue and Franklin Boulevard, approximately 1 mile west of Highway 99. (Figure 1; figures are located at the end of each section).

The following previous amendments to the CSG license are presented below from the project's CEC website.

Notice of Post-Certification Change to deliver both Low and High Steam Pressure, Not in Docket, 03/05/1996, Staff Approval to deliver both low-pressure steam as described in the Application for Certification and high-pressure steam to Campbell Soup Company.

Notice of Post-Certification Change for Approval to Expand the Temporary Equipment Laydown Area, TN 3486, 10/09/1996, Staff approval to expand the present temporary equipment laydown area located north of the Campbell Cogeneration project site by approximately one acre.

Notice of Post-Certification Change to Use Freight Trains for Equipment Delivery, TN 3519, 10/18/1996, Staff approval to use freight trains instead of trucks for the delivery of 13 pieces of equipment weighing individually from 16.5 tons to 190 tons.

Notice of Post-Certification Change for Approval to Temporarily Expand the Construction Parking Area, TN 4450, 02/24/1997, Staff approval to use leased Campbell Soup area, currently used to store trucks, located immediately adjacent to and east of the existing construction parking area.

Order Modifying Condition of Certification Noise Five, TN 6265, 08/19/1997, Order No. 97-0730-1(a), Commission approval to modify Condition of Certification NOISE-5, to use a new method of steam blow called the "QuietBlow" process.

Order Modifying Air Quality Conditions 11, 12, 21, 45, 46 and Deleting Air Quality Condition 41, TN 7769, 01/09/1998, Order No. 97-1217-05, Commission approval to increase the total dissolved solids (TDS) content in the circulating water of the cooling tower, revise the sulfur oxides (SOx) hourly and daily emission rates, and reduce the amount of emission reduction credits (ERCs) required

Order Approving Modification of Air Quality Condition Thirty-One, TN 8527, 04/17/1998, Order No. 98-04-15-3, Commission Order approval to modify Air Quality Condition of Certification AQ-31 to delete "during the first calendar quarter."

Order Approving a Petition to Amend Air Quality Conditions, TN 13025, 12/23/1999, Order No. 99-1215-08, Commission approval to modify Air Quality Conditions of Certification AQ-8, AQ-11, AQ-12, AQ-13, AQ-15, AQ-19 and add Air Quality Condition of Certification AQ-34a.

Order Approving Modifications to Air Quality Conditions of Certification, TN 53108, 09/02/2009, Order No. 09-0826-04, Commission approval to add, modify and delete Air Quality Conditions of Certification.

Order Approving a Petition to Amend Efficiency Condition to Allow for a Blind Flange and to Operate Without a Steam Host, TN 210677, 03/11/2016, Order No.13-1114-01f, Commission approval to modify the wording of EFF-1, allowing the project to operate absent of a steam host, and to install a blind flange on the export steam line.

Order Approving Petition to Amend to Replace Potable Water with Recycled Water, TN 212335, 07/18/2016, Order No. 16-0713-05, Commission approval of an option to replace the use of potable water with recycled water in the cooling tower when available in suitable quantities and quality; and other modifications.

Order Approving Petition to Amend Facility License Install a Siemens Wet Compression System Upgrade, TN 226297, 01/11/2019, Order No. 19-0109-03, Commission approval to install a Siemens wet compression system upgrade to increase electrical production during high ambient temperature conditions, and other modifications.

Statement of Staff Approval of Proposed Project Change to Repurpose an Existing Water Storage Tank, TN 233170, 05/27/2020, Staff approval repurposing an existing water storage tank for fire suppression; and installing a new firewater pump.

Order Approving Petition to Transfer Ownership of a Facility, TN 239697, 09/14/2021, Order No. 21-0908-04, Commission approval of ownership transfer from the Sacramento Power Authority to the Sacramento Municipal Utility District Financing Authority (SFA), a joint powers authority under California law. The name of the project, Campbell Cogeneration Project, will change to Campbell Power Plant.

Order Approving Petition to Increase Cooling Tower VOCs, TN 242277, 3/9/2022, Order No. 22-0309-03, Commission approval to increase cooling tower VOC emission rate contained in air quality conditions of certification and corresponding air quality permit condition from the Sacramento Metropolitan Air Quality Management District.

SMUD submitted a Project Change Questionnaire (PCQ) to the CEC to update the CSG's existing combustion turbine's static frequency converter and static excitation system with a replacement in-kind. The combustion turbine manufacturer, Siemens, proposed to disassemble/remove the existing systems and install/commission the new systems. The upgrade would not require any ground disturbance and would be performed over 10 workdays (2 weeks) with up to ten (10) workers. The CEC issued a letter on September 19, 2025 indicating that the activities described in the PCQ were not subject to California Code of Regulations, title 20, section 1769, and do not require submittal of a post-certification petition. This assessment was conditioned on the basis for the PCQ not changing. In November, SMUD determined that electrical component replacement will require a brief commissioning period during which the turbine will be operating at very low firing rates for approximately one hour, which could result in an exceedance of its one-hour startup carbon monoxide (CO) emission limit. This commissioning issue required SMUD to modify its air permit to allow for the commissioning of the new equipment, triggering the need for this post-certification petition.

The environmental impact assessment, addressing potential impacts from the increase in the commissioning CO hourly emission rate, is presented in Section 3.0 and concludes that there will be no significant adverse environmental impacts associated with the implementation of the actions specified in this PTA. The associated impacts to the environment would be less than significant. Therefore, no adverse effects on the environment will occur due to the changes to the project as proposed in this PTA.

The project, as modified, will comply with all applicable laws, ordinances, regulations, and standards (LORS).

1.1 Overview of Proposed Amendment

The proposed amendment reflects a request to increase the commissioning CO emission limits contained in Conditions of Certification (COC) and the corresponding air quality permit condition from the Sacramento Metropolitan Air Quality Management District (SMAQMD). No construction is required, and no ground disturbance is necessary.

1.2 Necessity of Proposed Changes

The CEC Siting Regulations require a discussion of the necessity for the proposed revisions to certification and whether the amendment is based on information known by the petitioner during the certification proceeding (Title 20, CCR, Sections 1769 (a)(1)(B) and (C)).

The proposed changes will not impact the function or operation of the CSG or alter the basis of the Commission Decision (CEC, 1994); nor will they impact the health and safety of environmental resources. The changes are required for the project to operate in compliance with applicable LORS with the beneficial use of recycled water.

1.3 Need for Modification was Not Known at the Time of Certification

The proposed change was not known nor could have been known when the Project was licensed in 1994. Based on information provided by the combustion turbine vendor in November 2025, SMUD identified the proposed project will result in an exceedance of the CO hourly commissioning emission rate contained in the air quality COCs, requiring the submittal of a post-certification petition.

1.4 Why the Change should be Permitted

The proposed Project revision will allow the one-time commissioning of the combustion turbine after the installation of the static frequency converter and static excitation system in compliance with appliable LORS.

1.5 Consistency of Proposed Changes with Applicable Laws, Ordinances, Regulations, and Standards

The CEC Siting Regulations also require a discussion of the consistency of the proposed project revision with the applicable laws, ordinances, regulations, and standards (LORS) and whether the modifications are based on new information that changes or undermines the assumptions, rationale, findings, or other basis of the final decision (Title 20, CCR, Section 1769 (a)(1)(D)). If the project would no longer be consistent with the decision as the result of requested project modifications, the PTA must provide an explanation as to why the modification(s) should be permitted.

The proposed request to increase the commissioning CO hourly emission rate is necessary for the operator to be able take the steps required to ensure the project will operate properly after installation of the new Static Frequency Converter and Static Excitation System. As discussed in Section 3.0 of this PTA, approval of the proposed change does not undermine any basis for the Commission Decision (CEC, 1994). Post commissioning, SMUD would continue to operate the facility in compliance with all applicable LORS. Therefore, the findings and conclusions contained in the Commission Decision (CEC, 1994) would remain applicable to the Project, as modified.

1.6 Summary of Environmental Impacts

The CEC Siting Regulations require that an analysis be conducted to address the potential impacts the proposed modifications may have on the environment and to propose measures to mitigate any potentially significant adverse impacts (Title 20, CCR, Section 1769 (a)(1)(E)). The regulations also require a discussion of the modifications' impact on the Project's ability to comply with applicable LORS (Section 1769 (1)(a)(F)). Section 3.0 of this PTA includes a discussion of the potential environmental impacts associated with the modification(s) as well as a discussion of the consistency of the modification(s) with the LORS. Section 3.0 concludes that there would be no significant environmental impacts associated with implementing the actions specified in this PTA and that the Project, as modified, will comply with all applicable LORS.

1.7 Conditions of Certification

This PTA proposes changes to the air quality COC are required to accommodate the proposed modification. The changes to the air quality COCs will be provided in the SMAQMD's attached Authority to Construction permit found in Appendix A.

2. Description of Proposed Amendment

SMUD submitted a Project Change Questionnaire (PCQ) to the CEC to update the CSG's existing combustion turbine's static frequency converter and static excitation system with a replacement in-kind. The combustion turbine manufacturer, Siemens, proposed to disassemble/remove the existing systems and install/commission the new systems. The upgrade would not require any ground disturbance and be performed over 10 workdays (2 weeks) with up to ten (10) workers.

The CEC issued a letter indicating that the activities described in the PCQ were not subject to California Code of Regulations, title 20, section 1769, and therefore do not require submittal of a post-certification petition. This assessment was conditioned on the basis for the PCQ not changing. In November, SMUD determined that electrical component replacement will require a brief commissioning period during which the turbine will be operating at very low firing rates for approximately one hour, which could result in an exceedance of its one-hour startup carbon monoxide (CO) emission limit. This commissioning issue required SMUD to modify its air permit to allow for the commissioning of the new equipment, triggering the need for this post-certification petition.

SMUD is proposing to modify its air permit CO commissioning emission limit. Appendix 1 presents a copy of the application to modify the CSG's SMAQMD Authority to Construct permit and the SMAQMD's Authority to Construct permit.

The potential environmental impacts associated with the proposed project are evaluated in Section 3.0.

3. Environmental Analysis of Proposed Project Amendment

The following subsections present a discussion of the potential impacts that the proposed project modification(s) may have on the environmental analysis, as presented in the Commission Decision and subsequent approved post-certification petitions. More detail is provided for those areas where the potential for a significant impact exists.

3.1 Air Quality

The SMAQMD Authority to Construct permit presented in Appendix 1 demonstrates that the CSG project will not cause or contribute to the violation of an applicable ambient air quality standard. Furthermore, after receipt of the modified air permit and approval of this PTA, CSG will comply with applicable LORS.

The 1994 Commission Decision approving the construction and operation of the CSG found the project to be in compliance with all applicable LORS. The proposed Project is consistent with all applicable LORS and is not expected to alter the assumptions or conclusions made in the Commission Decision.

3.2 Biological Resources

The proposed project occurs entirely within the existing CSG site and does not include any physical changes to the project site. Therefore, the proposed project is not expected to impact biological resources and does not change the biological resources impact analysis conclusions as presented in the 1994 Commission Decision or subsequent amendments for the Project. The increase in CO emissions will not increase nitrogen deposition and is not expected to impact sensitive biological resources or habitats.

The Project modification(s) would comply with applicable LORS and would not require any changes to the Biological Resources Conditions of Certification.

3.3 Cultural and Tribal Resources

The proposed project does not include any construction or groundbreaking activities at the CSG site and therefore there will be no expected impacts to native soils. As such, Cultural and Tribal resource impacts are not expected.

No operational cultural or Tribal resource impacts beyond those analyzed in the original license and subsequent amendments are expected.

The Project modification(s) would comply with applicable LORS and would not require any changes to the Cultural Resources Conditions of Certification.

3.4 Efficiency and Energy Resources

The PTA does not impact the current energy efficiency of the CSG facility as project consists of the in-kind replacement of the static frequency converter and static excitation system. In addition, the project will not result in additional energy resource consumption beyond the energy required during the two-week installation period and commissioning.

The Project modification(s) would comply with applicable LORS and would not require any changes to the Efficiency Conditions of Certification or require new Energy Resource Conditions of Certification.

3.5 Geologic Hazards and Resources

The PTA does not involve any construction or groundbreaking activities at the project site. Therefore, project implementation will not be susceptible to any geologic hazards greater than those previously analyzed by the CEC during licensing of the Project, and the conditions imposed in the 1994 Commission Decision are adequate to protect the environment with respect to geological resources.

The Project modification(s) would comply with applicable LORS and would not require any changes to the Geologic Hazards and Resources Conditions of Certification.

Hence, the Project modification(s) will comply with applicable LORS and will not require a change to any of the Geologic Hazards Conditions of Certification.

3.6 Hazardous Materials Management

No additional hazardous materials are expected to be required as a result of the proposed changes to the project. The proposed project will not result in hazardous materials management impacts beyond those analyzed in the 1994 Commission Decision or subsequent license amendments. Therefore, the project is expected to comply with applicable hazardous materials management LORS.

3.7 Land Use

The proposed project does not include any construction or groundbreaking activities at the CSG site. The proposed project will not result in any land use impacts beyond those analyzed in the 1994 Commission Decision or subsequent license amendments. In addition, the Project will comply with applicable LORS, and will not require a change to any of the Land Use Conditions of Certification.

3.8 Noise

There are no construction or groundbreaking activities at the CSG site beyond what are described herein that would be required as part of this PTA. The modification(s) to the Project will comply with applicable LORS during construction and will not require any changes to the Noise Conditions of Certification.

3.9 Paleontological Resources

There are no construction or groundbreaking activities at the CSG site and therefore there will be no expected impact to native soils. As such, paleontological resource impacts are not expected.

The Project modification(s) would comply with applicable LORS and would not require any changes to the Paleontological Resources Conditions of Certification.

3.10 Public Health

The proposed increase in commissioning CO emissions are not expected to increase the toxic air contaminants emitted by the CSG. Therefore, an increase in public health impacts is not expected to result in a significant impact. The project is expected to comply with applicable LORS.

3.11 Socioeconomics

The proposed project does not include any construction or groundbreaking activities at the CSG site and will not result in any impacts to population, housing, employment patterns, community services (law enforcement, fire services, and parks and recreation. Additionally, no impact to environmental justice areas are expected and will not require a change to any of the Socioeconomics Conditions of Certification. Therefore, no significant negative socioeconomic impacts are expected due to the proposed change.

3.12 Soils

The proposed project does not include any construction or groundbreaking activities at the CSG site and will not result in soils impacts beyond those analyzed in the 1994 Commission Decision and subsequent amendments. The proposed project will comply with all applicable LORS. There will be no impacts to soils from the operation of the proposed project. No changes to the Soils Conditions of Certification are required to address soils.

3.13 Transportation

There are no construction or groundbreaking activities at the CSG site beyond what are described herein that would be required as part of this PTA. Therefore, there will be no impacts to transportation.

3.14 Visual Resources

There are no additional construction or groundbreaking activities at the CSG site and the proposed modifications will not result in any visual impacts from construction or operation. Consequently, the proposed project will not cause any visual resources impacts greater than those previously analyzed by the CEC during licensing (CEC, 1994).

3.15 Waste Management

There are no construction or groundbreaking activities at the CSG site beyond what are described herein that would be required as part of this PTA. Therefore, the Project will comply with applicable LORS and will not require any changes to the Waste Management Conditions of Certification.

3.16 Water Resources

There are no construction or groundbreaking activities at the CSG site beyond what are described herein that would be required as part of this PTA. No increase in potable or recycled water is proposed. Therefore, impacts to water resources are not expected and will not require any changes to the Water Resources Conditions of Certification. During operation, the use of recycled water to offset potable water use, is an overall benefit to the region.

3.17 Wildfires

The CSG is located in highly urbanized areas with a low potential for wildfires. The California Department of Forestry and Fire Protection (Cal Fire) identifies and maps areas of significant fire hazards based on fire history, existing and potential fuel (natural vegetation), predicted flame length, blowing embers, terrain, typical fire weather for the area, and other relevant factors. The maps identify this information as a series of Fire Hazard Severity Zones, which are ranked as un-zoned, moderate, high, and very high zones. The CSG site is supported by the City of Sacramento fire water system, and the nearest fire station is located

less than one-half of a mile away (City of Sacramento Fire Station 56 located on 47th Avenue). A review of the Cal Fire's Fire Hazard Severity Zone website indicated the CSG site is located in an area identified as having no Fire Hazard Severity Zone.[1] Therefore, the potential impacts due to wildfires is less than significant.

3.18 Worker Safety and Health

The proposed project does not include any construction or groundbreaking related activities and will not create any worker safety and health impacts beyond those analyzed in the 1994 Commission Decision.

[1] https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones

4. Potential Effects on the Public

In accordance with CEC Siting Regulations (Title 20, CCR, Section 1769(a)(1)(G)), this section discusses the potential effects on the public that may result from the modifications proposed in this PTA.

The proposed increase in the CO commissioning hourly emissions would have no adverse effect on the public, as shown in Section 3 and Appendix 1. Furthermore, the CSG's increase in CO emissions will be fully analyzed by the SMAQMD prior to issuing the CSG project an Authority to Construct permit, which ensures the project will comply with applicable air quality and public health rules and regulations.

5. List of Property Owners

Consistent with the CEC Siting Regulations Section 1769(a)(1)(H), a list of property owners adjacent or near the proposed project is provided under a separate cover.

6. Potential Effects on Property Owners, the Public, and Parties in the Proceeding

This section addresses potential effects of the Project modifications proposed in this PTA on nearby property owners, the public, and parties in the application proceeding, in accordance with CEC Siting Regulations (Title 20, CCR, Section 1769 (a)(1)(I)).

The proposed modifications' effects on adjacent landowners would not differ significantly compared with the Project as previously certified and amended. The increase in commissioning CO emissions is minimal and the associated impacts to the environment would be less than significant as analyzed in Section 3 and Appendix 1.

7. References

California Energy Commission (CEC). 1994. Commission Decision, Application for Certification of the Sacramento Power Authority Campbell Soup Cogeneration Project (93-AFC-03C). November 30.

Trinity Consultants (Trinity). 2025. Permit Modification Application to the Sacramento Metropolitan Air Quality Management District SFA / Campbell Soup Generating Facility. October 2025.

Appendix A
SES/SFC REPLACEMENT PROJECT SMAQMD Application for Authority to Construct and Permit to Operate
October 2025 and SMAQMD Authority to Construct Permit

AIR QUALITY
MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

A/C NO.: 27118 v7

ISSUED BY: *Brian F Krebs*
BRIAN F. KREBS

DATE ISSUED: NOVEMBER 21, 2025

DATE EXPIRES: NOVEMBER 21, 2027

ISSUED TO: SACRAMENTO MUNICIPAL UTILITY DISTRICT FINANCING AUTHORITY DBA CAMPBELL POWER PLANT

LOCATION: 3215 47TH AVENUE SACRAMENTO, CA 95824

DESCRIPTION: MODIFICATION TO: P/O NO. 27118 v6 - GAS TURBINE
1) ADDING A COMMISSIONING PERIOD FOR THE PROPOSED STATIC EXCITATION SYSTEM AND STATIC FREQUENCY CONVERTER UPGRADE WITH A SPECIFIC HOURLY CO EMISSION LIMIT
2) REDEFINE THE DEFINITION OF START-UP TO ALLOW FOR A COMMISSIONING PERIOD FOR CO TO ALLOW FOR THIS EQUIPMENT REPLACEMENT TESTING
3) MODIFY THE SOURCE TESTING FREQUENCY FOR VOC AND PM

[PART OF THE TURBINE SYSTEM]
P/O NO. 27116 - DUCT BURNER
P/O NO. 27114 - APC SCR NOX
P/O NO. 27115 - APC OXIDATION CO

AUTHORITY TO CONSTRUCT CONDITIONS

START-UP REQUIREMENTS

S1. After completing the equipment installation authorized under this Authority to Construct (ATC), the permit holder must contact the Sacramento Metropolitan Air Quality Management District (SMAQMD) to arrange a start-up inspection. SMAQMD may be contacted at (916) 874-4800.
[Basis: SMAQMD Rule 201, Section 405]

S2. This Authority to Construct may serve as a temporary Permit to Operate provided that:
A. The permit holder has notified SMAQMD that the equipment installation is complete and the facility is ready for a start-up inspection,
B. The equipment installed matches the equipment authorized in this Authority to Construct,
C. The equipment is operated in compliance with all conditions in this Authority to Construct, and
D. The equipment and its operation complies with SMAQMD, state and federal laws and regulations.
[Basis: SMAQMD Rule 201, Section 303.1, 405]

S3. The owner or operator of the stationary source must submit to the Air Pollution Control Officer a complete

Title V permit application for minor Title V permit modification. The application must be submitted after receiving any required preconstruction permit from the District and before commencing operation associated with the minor Title V permit modification.
[Basis: SMAQMD Rule 202, Section 404 and Rule 207 Sections 401-408]

GENERAL

1. The equipment must be properly maintained and operated in accordance with the information submitted with the application and the manufacturer's recommendations at all times.
   [Basis: SMAQMD Rule 201, Section 405 and Rule 202, Section 408.1]

2. The Air Pollution Control Officer and/or authorized representatives must be permitted to do all of the following:
   A. Enter the source premises or any location at which any records required by this ATC are kept.
   B. Access and copy any records required by this ATC.
   C. Inspect or review any equipment, operation, or method required under this ATC.
   D. Sample emissions from the source or require samples to be taken.
   [Basis: SMAQMD Rule 201, Section 405]

3. This ATC does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the SMAQMD Rules and Regulations.
   [Basis: SMAQMD Rule 201, Sections 303.1, 405]

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

5. A legible copy of this ATC must be maintained on the premises with the equipment.
   [Basis: SMAQMD Rule 201, Section 401]

EMISSION LIMITATIONS

6. The turbine, ductburner, and APC SCR and Oxidation catalyst must not discharge into the atmosphere any visible air contaminant other than uncombined water vapor for a period or periods aggregating more than three minutes in any one hour if the discharge is as dark or darker than Ringelmann No. 1 or is equal to or greater than 20% opacity.
   [Basis: SMAQMD Rule 401, Section 301]

7. The turbine and duct burner must meet the following BACT standards:
[Basis: SMAQMD Rule 202, Section 408.2.a]

Pollutant	Emission Standard and Work Practice
NOx	5 ppmvd corrected to 15% oxygen, 3 hour average (A)
VOC	The use of an oxidation catalyst (B)
CO	2.0 ppmvd corrected to 15% oxygen, 1 hour average (B)
SOx	Use of natural gas (C)
PM10	Use of natural gas and inlet air filtration (C)

(A) Based on SMAQMD BACT standard during the original permitting in 1994. The NOx BACT concentration is for reference only, the applicable regulatory NOx concentration can be found in Condition No. 8
(B) Based on SMAQMD BACT standard (BACT Determination 203)
(C) Based on SMAQMD BACT standard during the original permitting in 1994.

8. Concentrations of nitrogen oxides (NOx), carbon monoxide (CO) and ammonia from the gas turbine and duct burner must not exceed the following limit:
[Basis: SMAQMD Rule 202 and Rule 413, Section 302.1(d), and 40 CFR Part 60. 332]

Pollutant	Maximum Allowable Concentration Gas Turbine and Duct Burner
NOx	3 ppmvd corrected to 15% O2, averaged over any consecutive 3 hour period (A)
CO	2.0 ppmvd corrected to 15% O2, averaged over any consecutive 1 hour period (B)
NH3	10 ppmvd corrected to 15% O2, averaged over an consecutive 3 hour period (B)

(A) Excluding start-ups, shutdowns and short term excursions as defined in Condition Nos. 15, 16 and 17.
(B) Excluding start-ups, commissioning period, and shutdowns as defined in Condition Nos. 15 and 16.

9. Emissions from the following equipment must not exceed the following limits.
[Basis: SMAQMD Rule 202]

Pollutant	Maximum Allowable Emissions Gas Turbine and Duct Burner lb/hour
VOC	9.01 (A)
NOx	17.76 (B)
SOx	0.97 (C)
PM10	7.00 (D)

Pollutant	Maximum Allowable Emissions Gas Turbine and Duct Burner lb/hour
PM2.5	6.99 (E)
CO (Normal Steady-State Operation)	7.22 (F)

(A) Averaged over a three hour period, not including periods containing start-ups, shut-downs, and short-term excursions as defined in Condition Nos. 15, 16, and 17. Based on a turbine VOC emission factor of 0.00228 lb/MMBTU, duct burner VOC emission factor of 0.029 lb/MMBTU and firing at full capacity.

(B) Averaged over a three hour period, not including periods containing start-ups, shut-downs, and short-term excursions as defined in Condition Nos. 15, 16, and 17. Based on data submitted in the application and is monitored by the turbine's NOx CEM system.

(C) Averaged over a three hour period, not including periods containing start-ups, shut-downs, and short-term excursions as defined in Condition Nos. 15, 16, and 17. Based on a turbine and duct burner emission factor of 0.0006 lb/mmbtu and firing at full capacity.

(D) Averaged over a three hour period, not including periods containing start-ups, shut-downs, and short-term excursions as defined in Condition Nos. 15, 16, and 17. Based on a turbine PM10 emission factor of 0.003546 lb/MMBTU, duct burner PM10 emission factor of 0.01 lb/MMBTU and firing at full capacity.

(E) Averaged over a three hour period, not including periods containing start-ups, shut-downs, and short-term excursions as defined in Condition Nos. 15, 16, and 17. PM2.5 emissions are based on a 0.998 PM2.5 to PM10 fraction.

(F) Averaged over a one hour period, not including periods containing start-ups, shut-downs, and short-term excursions as defined in Condition Nos. 15, 16, and 17. Based on data submitted in the application and is monitored by the turbine's CO CEM system

Pollutant	Maximum Allowable Emissions Gas Turbine and Duct Burner lb/hour (G)
CO (Worst Case Startup)	550
CO commissioning period for required testing of the static excitation system and static frequency converter project	1258.8

(G) Including periods containing start-ups and during the commissioning period as defined in Condition No. 15. Based on the applicant's request and is monitored by the turbine's CO CEM system.

10. Emissions from the following equipment must not exceed the following limits, including periods containing start-ups, shutdowns and short term excursions as defined in Condition Nos. 15, 16, and 17. **[Basis: SMAQMD Rule 202]**

Pollutant	Maximum Allowable Emissions		
	Gas Turbine and Duct Burner lb/day	Cooling Tower lb/day	Total lb/day
VOC	146.7	6.5	153.2
NOx	384.5	NA	384.5
SOx	21.8	NA	21.8
PM10	142.1	9.7	151.8
PM2.5	141.8	9.7	151.5
CO	1,258.8	NA	1,258.8

11. Emissions from the following equipment must not exceed the following limits, including periods containing start-ups, shutdowns and short term excursions as defined in Condition Nos. 15, 16, and 17. **[Basis: SMAQMD Rule 202]**

Pollutant	Maximum Allowable Emissions Gas Turbine and Duct Burner				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
VOC	8,792	8,898	13,264	8,968	39,922
NOx	24,209	24,545	26,321	24,725	99,800
SOx	1,814	1,836	1,944	1,853	7,447
PM10	10,183	9,319	11,444	10,769	41,715
PM2.5	10,163	9,300	11,421	10,747	41,631
CO	47,599	47,599	47,599	47,599	190,396

Pollutant	Maximum Allowable Emissions Gas Turbine, Duct Burner and Cooling Tower				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Total lb/year
VOC	9,376	9,488	13,861	9,565	42,290

Pollutant	Maximum Allowable Emissions Gas Turbine, Duct Burner and Cooling Tower				
	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
SOx	1,814	1,836	1,944	1,853	7,447
PM10	11,015	10,160	12,294	11,619	45,088
PM2.5	10,995	10,141	12,271	11,597	45,004
CO	47,599	47,599	47,599	47,599	190,396

12. HAP mass emissions from the facility must not exceed the following limits:
[Basis: SMAQMD Rule 202]

Equipment	Maximum Allowable HAP Emissions (A) tons/year	
	Single HAP	Combination of HAPs
Total facility	9.4	24.4

(A) The purpose of this limitation is to qualify the gas turbines for the non-applicability of 40 CFR 63 Subpart YYYY - National Emission Standards for Hazardous Air Pollutants for Stationary Gas Turbines.

EQUIPMENT OPERATION REQUIREMENTS

13. The duct burner must not be operated unless the gas turbine is operating.
[Basis: SMAQMD Rule 201 Section 405]

14. The gas turbine and/or duct burner must not be operated without fully functioning selective catalytic reduction and oxidizing catalyst air pollution control systems, excluding periods of start-ups and shutdowns as defined in Condition Nos. 15 and 16.
[Basis: SMAQMD Rule 201 Section 405]

15. The duration of the gas turbine's start-up period must not exceed 60 minutes except during the commissioning period for the static excitation system and static frequency converter replacement.
[Basis: SMAQMD Rule 201 Section 405]
A. For NOx: Gas turbine start-ups are defined as the time periods commencing with the introduction of fuel to the gas turbine and ending immediately prior to the time that 15-minute average NOx concentrations do not exceed 3 ppmvd corrected to 15% O2, but in no case exceeding 60 consecutive minutes. There is no change in the NOx requirements during the commissioning period and must follow the start up limits.

B. For CO: The startup period must follow the NOx start-up time frames except during the commissioning of the static excitation system and static frequency converter replacement. For the commissioning period of the static excitation system and static frequency converter replacement the commissioning period duration is a maximum of 4 consecutive days and a single occurrence.

16. Gas turbine shutdowns are defined as the 30-minute time period immediately preceding the termination of fuel to the gas turbine.
[Basis: SMAQMD Rule 201 Section 405]

17. Gas turbine short-term excursions are defined as 15-minute periods designated by the Permittee 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% O2.
A. Maximum 3-hour average NOx concentration for periods that include short-term excursions must not exceed 30 ppmvd corrected to 15% O2.
B. Short-term excursion periods that total in excess of 10 hours per rolling 12-month period must not be excluded from evaluations for compliance with emission limits in **Condition Nos. 8 and 9**.
[Basis: SMAQMD Rule 201 Section 405]

18. The gas turbine and duct burner must only combust natural gas fuel.
[Basis: SMAQMD Rule 201 Section 405]

MONITORING REQUIREMENTS

19. The permittee must operate a continuous emission monitoring system that has been approved by the SMAQMD Air Pollution Control Officer for the gas turbine and duct burner.
[Basis: SMAQMD Rule 201 Section 405]
A. The continuous emission monitoring (CEM) system must monitor and record nitrogen oxides, carbon monoxide and oxygen.
B. For NOx and O2, the CEM system must comply with U.S. EPA Performance Specifications in 40 CFR 75 Appendix A.
C. For CO, the CEM system must comply with U.S. EPA Performance Specifications in 40 CFR 60 Appendix B Performance Specification 4 or 4A.

20. The permittee must operate a continuous parameter monitoring system that has been approved by the SMAQMD Air Pollution Control Officer that either measures or calculates and records the following:
[Basis: SMAQMD Rule 201, Rule 202 Rule 413, Section 303.3 and 40 CFR Part 60.334(i)(2)(i)]

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

RECORDKEEPING AND REPORTING REQUIREMENTS

21. The permittee must continuously maintain onsite the following records for the most recent five year period and must make such records available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records as specified in the table below must be made available for inspection within 30 days of the end of the quarter.
[Basis: SMAQMD Rules 201 and 202, and 40 CFR Part 60.334 (j)(1)(iii)(B), 60.334(j)(2)(iii), Part 60.334 (h)(1), Part 60.334(i)(3), Part 60.335(b)(10), 40 CFR Part 75.66(c), and Part 75 Appendix D]

Frequency	Information to be recorded
Upon occurrence	A. Record of the occurrence and duration of any start-up, shutdown or short term excursion. i. The number of consecutive 15-minute periods when the 15-minute average NOx concentration exceeded the limits of **Condition No. 8** during each short-term excursion. ii. The qualified condition(s) under which each short-term excursion occurred, pursuant to SMAQMD Rule No. 413 Section 114. iii. The maximum 6-hour average NOx concentration during the period that includes each short-term excursion. iv. The cumulative total, per calendar year, of all 15-minute periods when the 15-minute average NOx concentration exceeded the limits of **Condition No. 8**. B. Malfunction in operation of the gas turbine. C. Measurements from the continuous emission and parameter monitoring systems. 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	H. Gas turbine natural gas fuel consumption (MMBTU/hr). I. Duct burner natural gas fuel consumption (MMBTU/hr). J. Indicate when gas turbine start-up occurred. K. NOx emission concentration from the gas turbine and duct burner (ppmvd corrected to 15% O2). L. VOC, NOx, SOx, PM10 and CO hourly emissions (lb/hour) from the gas turbine and duct burner (combined emissions). i. For those pollutants directly monitored (NOx and CO), the hourly emissions must be from the CEM system required pursuant to Condition No. 19. ii. For those pollutants that are not directly monitored (VOC, SOx and PM10), the hourly emissions must be calculated based on SMAQMD approved emission factors contained in the footnotes to Condition No. 9.
Daily	M. VOC, NOx, SOx, PM10 and CO daily mass emissions from all equipment <u>separately</u> and <u>combined</u> at the facility (lb/day):

Frequency	Information to be recorded
	i. gas turbine and duct burner (for separate reporting the gas turbine and duct burner emission are combined). ii. cooling tower.
Quarterly	N. VOC, NOx, SOx, PM10 and CO quarterly mass emissions from all equipment combined at the facility (lb/quarter). i. gas turbine and duct burner. ii. cooling tower.

22. Submit to the SMAQMD Air Pollution Control Officer a written report which contains the following information. **[Basis: SMAQMD Rules 201 and 202, and 40 CFR Part 60.334 (j)(5)]**

Frequency	Information to be Reported
Quarterly Submitted by: Jan 30 Apr 30 Jul 30 Oct 30 for the previous calendar quarter	A. Whenever the continuous emissions monitoring system is inoperative except for zero and span checks: i. Date and time of non-operation of the continuous emission monitoring system. ii. Nature of the continuous emission monitoring system repairs or adjustments. B. Whenever an emission occurs as measured by the required continuous emissions monitoring system that is in excess of any emission limitation: i. Magnitude of the emission which has been determined to be in excess. ii. Date and time of the commencement and completion of each period of excess emissions. iii. Periods of excess emissions due to startup, shutdown and malfunction must be specifically identified. iv. The nature and cause of any malfunction (if known). v. The corrective action taken or preventive measures adopted. C. If there are no excess emissions or the continuous monitoring system has not been inoperative, repaired or adjusted for a calendar quarter, a report must be submitted stating such information.

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

23. The permittee must surrender (and has surrendered - See **Condition Nos. 24, 25 and 26**) ERCs to the SMAQMD Air Pollution Control Officer to offset the following amount of emissions: **[Basis: SMAQMD Rules 202 Section 302]**

AUTHORITY TO CONSTRUCT

Equipment - Gas Turbine, Duct Burner, and Cooling Tower	Amount of Emission Offsets for which ERCs are to be Surrendered lb/quarter			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
VOC	1,876	1,988	6,361	2,035
NOx	24,209	24,545	26,321	24,725
PM10	11,015	10,160	12,294	11,619

24. The following ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the VOC emission offset requirements as stated in Condition No. 23:
[Basis: SMAQMD Rules 202 Section 302]

ERC Certificate No.	Face Value of Emission Reduction Credit Certificates lb/quarter				IPTR (A)	Offset Ratio	Value Applied to ROC Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 00-00652 Swansons	1,550	1,678	6,917	1,762	NA	1.2	1,292	1,398	5,764	1,468
SMAQMD #17-01222 (B)	52.8	54	54	54	NA	1.2	44	45	45	45
SMAQMD #22-01249 (C)	648	654	662.4	662.4	NA	1.2	540	545	552	552
Total VOC Emission Offsets							1,876	1,988	6,331	2,035

(A) IPTR = interpollutant trading ratio
(B) This certificate was split from 04-00916
(C) This certificate was split from 04-00917

25. The following ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the NOx emission offset requirements as stated in Condition No. 23:
[Basis: SMAQMD Rules 202 Section 302]

ERC Certificate No.	Face Value of Emission Reduction Credit Certificates lb/quarter				IPTR (A)	Offset Ratio	Value Applied to NOx Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 97-00437 Campbell	23,622	13,491	31,585	20,983	NA	1.2:1	19,685	11,243	26,321	17,486
PCAQMD 98-00002 Formica (VOC)	18,096	53,208	0	28,956	2:1	2:1	4,524	13,302	0	7,239
Total NOx Emission Offsets							24,209	24,545	26,321	24,725

(A) IPTR = interpollutant trading ratio

26. The following ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the PM10 emission offset requirements as stated in Condition No. 23:
[Basis: SMAQMD Rules 202 Section 302]

Offset Source	Face Value of Emission Reduction credit Certificates lb/quarter				IPTR (A)	Offset Ratio	Value Applied to PM10 Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
PCAPCD 99-00003 Sierra Pine	16,523	15,240	18,441	17,429	NA	1.5	11,015	10,160	12,294	11,619
Total PM10 Emission Offsets							11,015	10,160	12,294	11,619

(A) IPTR = interpollutant trading ratio

EMISSION TESTING REQUIREMENTS

27. The permittee must perform a NOx, CO, and ammonia (NH3) source test and CEM accuracy (RATA) test of the gas turbine and duct burner once each calendar year. VOC and PM10 testing must be performed once every other year.
    A. Submit a Source Test Plan to the SMAQMD Air Pollution Control Officer for approval at least 30 days before the source test is to be performed. The Source Test Plan must indicate that U.S. EPA approved test methods are used for NOx and CO.
    B. Notify the SMAQMD Air Pollution Control Officer at least 7 days prior to the source testing date if the date

has changed from that approved in the Source Test Plan.

C. During the source test(s), the gas turbine and duct burner must be operated at the maximum firing capacity, defined as ≥ 90% of the heat input capacity achievable at the time of the source test, based on then current ambient conditions.

D. Submit the Source Test Report to the SMAQMD Air Pollution Control Officer within 60 days after the completion of the source test(s).

[Basis: SMAQMD Rule 201, Section 405]

ANNUAL REPORTING

28. Unless otherwise directed by SMAQMD, the permit holder must submit their applicable Annual Report to the District by March 15th of every calendar year. The Annual Report can be submitted online at www.airquality.org/AnnualReporting. SMAQMD may require the permit holder to supply additional information under the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.) and CARB's Criteria Pollutant and Toxics Emissions Reporting (California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 7.7). If additional information is required, the SMAQMD will notify the permit holder.
[Basis: SMAQMD Rule 201, Section 303.1]

29. **Monitoring Reports**

A. The permittee shall submit to the SMAQMD Air Pollution Control Officer at least once every six months, unless required more frequently by an applicable requirement, reports of all required monitoring.

i. All instances of deviations from Title V permit monitoring conditions must be clearly identified in such reports.

B. The reporting periods for this permit shall be January 01 through June 30 and July 01 through December 31. The reports shall be submitted by July 30 and January 30 following each reporting period respectively.

C. 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.

[SMAQMD Rule No. 207 Section 501.1]

AIR QUALITY
MANAGEMENT DISTRICT

AUTHORITY TO CONSTRUCT

Your application for this air quality Authority to Construct was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following list identifies the rules that most commonly apply to the operation of your equipment. Other rules may also be applicable.

SMAQMD RULE NO.	RULE TITLE
201	GENERAL PERMIT REQUIREMENTS (8-24-06)
202	NEW SOURCE REVIEW (8-23-12)
217	PUBLIC NOTICE REQUIREMENTS FOR PERMITS (8-23-12)
401	RINGELMANN CHART (4-19-83)
402	NUISANCE (8-3-77)
406	SPECIFIC CONTAMINANTS (12-6-78)
420	SULFUR CONTENT OF FUELS (8-13-81)
FEDERAL	REGULATION TITLE
40 CFR 60 Subpart GG	NSPS for Stationary Gas Turbines

The conditions on this Authority to Construct reflect some, but not all, of the requirements of these rules. Because other rule requirements may apply to the operation, the permit holder should be familiar with all of the rules and related requirements. In addition, because future changes in prohibitory rules may establish more stringent requirements that may supersede the conditions listed here, the permit holder should monitor proposed rules and rule adoption actions at SMAQMD.

For further information please consult your SMAQMD rulebook or contact the SMAQMD for assistance.

SES/SFC REPLACEMENT PROJECT

Application for Authority to Construct and Permit to Operate / SMAQMD

SACRAMENTO MUNICIPAL UTILITY DISTRICT FINANCING AUTHORITY
PO. Box 15830, Sacramento, CA 95852-1830

SFA / Campbell Soup Generating Facility

Prepared By:

Jeffrey Adkins, P.E. – Principal Consultant

TRINITY CONSULTANTS
8950 Cal Center Drive, Ste 350,
Sacramento, CA 95826
916-444-6666

October 2025

Project 250506.0074

Trinity Consultants

TABLE OF CONTENTS

1. EXECUTIVE SUMMARY

The Sacramento Municipal Utility District Financing Authority (SFA) operates an electric generating station, referred to as the Campbell Soup Generating (CSG) Facility, located at 3215 47th Avenue in Sacramento, California (the Facility). The Facility includes a Siemens Model V84.2 combined-cycle gas turbine rated 1,410 MMBtu/hour with a 200 MMBtu/hour duct burner that is operated by EthosEnergy Group under contract to SFA. The CSG gas turbine and duct burners began operation in 1997 and currently operate under Permit to Operate (PTO) Nos. 27118 and 27116 issued by the Sacramento Metropolitan Air Quality Management District (SMAQMD or District).

The existing CSG combustion turbine's static excitation system (SES) and static frequency converter (SFC) require updating with a replacement in-kind of various hardware and software components (the Project). This SES/SFC electrical equipment provides assistance to accelerate the gas turbine up to its operating speed. The combustion turbine manufacturer, Siemens, will disassemble/remove the existing SES/SFC equipment and install/commission the new equipment during a maintenance outage in November 2025.

SFA has recently learned that this in-kind electrical component replacement will require a brief commissioning period where the turbine will be operating at very low firing rates for approximately one hour that could result in an exceedance of its 550 lb/hr startup CO limit. During very low firing rates, the turbine exhaust is not hot enough for the oxidation catalyst and the SCR catalyst to function properly. Additionally, turbine combustion parameters are not optimized at very low loads, resulting in a richer than normal air-to-fuel ratio and corresponding higher CO emissions. The daily and quarterly CO limits will not be affected during the commissioning period.

As required by SMAQMD Rule 201, SFA is submitting this Authority to Construct (ATC) Application (the Application) to SMAQMD in order to obtain SMAQMD approval to construct the proposed Project. Appendix A includes detailed baseline emissions calculations.

SFA is requesting expedited processing for this application. SFA will pay all required application fees, including expedited processing fees, upon invoicing by SMAQMD.

This Application is organized as follows:

Section 1: Executive Summary
Section 2: Emission Calculations
Section 3: Regulatory Analysis

2. EMISSION CALCULATIONS

2.1 Operating Conditions

The operating schedule for the CSG turbine will not be affected following completion of the Project. Any change in operating schedule will be the result of market demand and not a result of the Project. SFA is not anticipating any change in the daily, quarterly, or annual emission levels as a result of the Project. However, the Project will require a brief commissioning period where the hourly CO startup limit will be exceeded. This limit is included in PTO No. 27118, Condition 9 as follows.

9. *Emissions from the following equipment must not exceed the following limits.* ***[Basis: SMAQMD Rule 202 Section 405]***

Pollutant	*Maximum Allowable Emissions Gas Turbine and Duct Burner lb/hour*
VOC	*9.01 (A)*
NOx	*17.76 (B)*
SOx	*0.97 (C)*
PM10	*7.00 (D)*
PM2.5	*6.99 (E)*
CO (Normal Steady-State Operation)	*7.22 (F)*
CO (Worst Case Startup)	*550.0 (G)*

. . .

(G) Including periods containing start-ups as defined in ***Condition No. 15****. Based on data submitted in the application and is monitored by the turbine's CO CEM system*

SFA proposes adding a commissioning condition that allows for a limited exceedance of the 550.0 lb/hr startup CO limit as follows:

XX. The "CO (Worst Case Startup)" limit of 550.0 lb/hour in Condition 9 must not apply during the commissioning of the gas turbine static excitation system and static frequency converter for a period not to exceed 4 calendar days. The equipment must comply with the daily, quarterly, and annual emission limits in Conditions 10 and 11 during the commissioning period.

SFA proposes to use the existing continuous emission monitoring system (CEMS), data acquisition and handling system (DAHS), and balance of plant controls to monitor and document that the CSG turbine is in compliance with the permitted emission and operating limits.

2.2 Emission Estimates

2.2.1 Regulated Pollutants

As discussed above, the Project will result in no changes to the daily, quarterly, and annual potential to emit (PTE) of the CSG gas turbine for NOx, CO, VOC, SOx, PM_{10}, and $PM_{2.5}$.

Historic actual emissions are estimated based on the actual emissions from the combustion turbine and duct burner that occurred during a representative 24-month period within the five-year period immediately preceding the date of application. The emissions reported in the SFA's Annual Emission Reports (AERs) to the SMAQMD were based on CEMS data (for NO_x and CO) or fuel use and emission factors (for VOC, PM_{10} and SOx). Therefore, historic actual emissions for the CSG turbine and duct burner are estimated using the reported values in the AERs as described in Section 3 of this application.

The hourly, daily, quarterly, and annual emissions from the CSG gas turbine and duct burners are presented in SMAQMD PTO No. 27118 and 27116 and in Section 3 of this application. Additionally, there will be no change in the toxic air contaminant (TAC) PTE from the CSG gas turbine.

2.2.2 Prevention of Significant Deterioration (PSD) Emission Calculations

CSG is located in an attainment area for NO_2, CO, PM_{10}, and SO_2. The proposed Project does not trigger PSD applicability because CSG is not a PSD major stationary source. Refer to Section 3.1.1.3 for additional details on the applicability of the PSD permitting program. Detailed emissions calculations are included in Appendix A.

3. REGULATORY ANALYSIS

The Facility is subject to federal and SMAQMD air regulations. This section summarizes the air permitting requirements and the key air quality regulations that apply to the emission units impacted by the Project.

3.1 SMAQMD Requirements

3.1.1 Regulation 2 – Permits

3.1.1.1 Rule 201 – General Permit Requirements

Rule 201 states that any facility building, erecting, installing, altering, or replacing non-exempt equipment that causes or controls the emission of air pollutants must first obtain an authority to construct from the SMAQMD. Because the CSG turbine permit will be altered as a result of this Project, SFA is submitting this application for an authority to construct.

3.1.1.2 Rule 202 – New Source Review

SMAQMD adopted Rule 202 to provide for preconstruction review of new or modified facilities, to ensure that affected sources do not interfere with the attainment of ambient air quality standards. In general, Rule 202 contains three separate elements as part of a New Source Review (NSR) analysis:

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

In order to determine which of these NSR elements is applicable to the project, we must first determine if CSG is a "major stationary source" and then whether the Project is a "major modification."

CSG is a "major stationary source" per Rule 202, section 228 for NOx per the information presented in Table 3-1.

Table 3-1. SMAQMD Major Stationary Source Applicability Determination

Pollutant	Major Source Threshold (tpy)	Current CSG Facility Annual Permit Limit (tpy)	Major Source?
VOC	25	21.1	**NO**
NOx	25 (or 100 tpy as $PM_{2.5}$ precursor)	49.9	**YES**
SO_2	100	3.7	**NO**
PM_{10}	100	22.5	**NO**
$PM_{2.5}$	100	22.5	**NO**
CO	100	95.2	**NO**

For the pollutants VOC, CO, SO_2, PM_{10}, and $PM_{2.5}$, which do not result in a "major stationary source" determination, emission increases are calculated pursuant to Rule 202, Sections 411 and 225 based on a comparison of "historic potential emissions" to future potential emissions. Since SFA is not proposing to change its permitted emission limits for these pollutants, there will be no increase in emissions of these pollutants under Rule 202.

For the pollutant NOx which results in a major stationary source determination, it must be determined whether the project is a "major modification" for these pollutants even with no proposed increase in permitted emissions.

Emission increases are determined by the calculation method in Rule 202, Section 411.5:

> *The sum of the Potential to Emit for the project minus the Historic Actual Emissions, as defined in Section 224.1, for the project. However, the potential to emit, instead of historic actual emissions, can be used for emissions units if either of the following conditions applies:*
>
> a. *Actual emissions are at least 80% of the potential to emit limit, or*
> b. *The emissions unit was fully offset for any emissions increase during the 5 year period prior to the date that the application is deemed complete.*

CSG has not had a permitted project affecting the gas turbine that required offsets in the last five years. Therefore, the next step is to check whether "actual emissions are at least 80% of the potential to emit limit." SMAQMD regulations do not specify how this "actual emissions" value is calculated. "Actual emissions" are defined as follows in Rule 202 and do not include a time period reference:

> *201* ***ACTUAL EMISSIONS:*** *Measured or estimated emissions which most accurately represent the emissions from an emissions unit.*

SMAQMD staff have interpreted this definition to mean that "actual emissions" are determined the same way as "historic actual emissions." "Historic Actual Emissions" are defined in Section 224 as follows for existing emissions units:

> *224.1* ***Existing emissions units****: Historic actual emissions for the existing emissions unit averaged over the two year period immediately preceding the date of application for an Authority to Construct.*
>
> a. *If the last two years are unrepresentative of normal source operations as determined by the Air Pollution Control Officer, then any two consecutive years of the last five years that represent normal source operation may be used.*

Therefore, the Project must first compare the two-year (24-consecutive month) average actual emission rates for the "major" pollutants to the CSG annual emission limits. If the total annual (12-month average) emission rate is less than 80% of the CSG annual permit limit, the Project must then use these baseline "historic actual emissions" to determine whether a "major modification" has occurred.

A "major modification" is defined in Rule 202, Section 227 as any physical change, change in method of operation, or addition to any stationary source classified as a "major source" that results in emission increases above the levels specified in Section 227. The emission increase calculation is based on the same Section 411.5 procedure described above for determining the 80% of potential to emit value.

Appendix A includes the two-year baseline emissions calculation. As noted in Appendix A, the previous two-year period ending August 31, 2025 results in an average 12-month baseline of 44,108 lb/yr NOx for the CSG turbine and duct burner. The average 12-month baseline for the previous 60-month (five-year) period ending August 31, 2025 is 52,082 lb/yr NOx.

The previous two-year baseline ending August 31, 2025 is the 2nd lowest two-year baseline in the entire 60-month baseline period, followed only by the two-year baseline ending July 31, 2025 (44,008 lb/yr NOx). This is mainly due to less than normal CSG operation in the 2025 calendar year.

Therefore, the two-year period preceding application submittal is "unrepresentative of normal source operations" pursuant to Rule 202, Section 224.1, and, consequently, the Project may use "any two consecutive years of the last 5-years that represent normal source operation." SFA is proposing that the representative baseline period include the two-year period that most closely matches the average 12-month baseline during the 60-month period (November 2022 through October 2024). During this two-year period, the 12-month average NOx emissions over the prior 24 months were 51,962 lb/yr (26.0 tons/yr).

Table 3-2 compares these historic actual NOx emissions to the potential to emit for the facility for comparison to the 80% threshold.

Table 3-2. SMAQMD Rule 202 80% of Potential to Emit Comparison

Pollutant	CSG Actual Emissions Baseline (tpy)[1]	CSG Turbine PTE Permit Limit (tpy)	Percent of Potential to Emit	Actual at Least 80% of PTE?
NOx	26.0	49.9	**52%**	**NO**

Note: [1] Baseline period November 2022 through October 2024

As indicated in Table 3-2, NOx emissions are not greater than 80% of the CSG facility potential to emit during the baseline period; therefore, the next step is to compare the "emission increase" calculated by subtracting the historic actual emissions from the potential (permitted) emissions and comparing this difference to the "major modification" emission increase thresholds in Rule 202, Section 227. Table 3-3 below shows this comparison.

Table 3-3. SMAQMD Major Modification Applicability Determination

Pollutant	CSG Actual Emissions (tpy)[1]	Current CSG Potential to Emit (tpy)	Actual to Potential Increase (tpy)	Major Modification Threshold (tpy)	Major Modification?
NOx	26.0	49.9	23.9	25	**NO**

Note: [1] Baseline period November 2022 through October 2024

As indicated in Table 3-3, the Project is not a major modification for NOx. Therefore, the Project does not result in a "major modification" under SMAQMD Rule 202. Hourly, daily, and quarterly CSG emission limits for all pollutants will not change from the current permitted values in PTO Nos. 27118 and 27116. The temporary commissioning period would only allow the CSG turbine to exceed the hourly startup CO limit of 550.0 lb/hr.

3.1.1.3 Rule 203 – Prevention of Significant Deterioration

Rule 203 incorporates the Federal Prevention of Significant Deterioration (PSD) program by reference (40 CFR 52.21). The PSD program requires pre-construction review and permitting of new or modified major stationary sources of air pollution to prevent significant deterioration of ambient air quality. PSD applies to pollutants for which ambient concentrations do not exceed the corresponding National Ambient Air Quality Standards (i.e., attainment pollutants). For the proposed CSG SES/SFC Replacement Project, the emitted pollutants are NOx, SOx, CO, VOC, and $PM_{10}/PM_{2.5}$. While the SMAQMD is classified as an attainment area for NOx, SOx, CO, and PM_{10}, the SMAQMD is a nonattainment area with respect to the $PM_{2.5}$ and ozone (VOC) National Ambient Air Quality Standards. Consequently, the PSD regulations do not apply to VOC and $PM_{2.5}$ emissions from the project.

The federal PSD requirements apply on a pollutant-specific basis to any project that is a new major stationary source or a major modification to an existing major stationary source (these terms are defined in the PSD regulations at 40 CFR 52.21). CSG is not an existing PSD major source because its emissions are not permitted to exceed 100 tons per year for any regulated pollutant per the discussion regarding the Rule 202 "major modification" requirements above. Therefore, no PSD significant increase determination is required because the facility is not a PSD major stationary source.

3.1.1.4 Rule 207 – Title V Federal Operating Permit Program

CSG is an existing Title V facility with combustion turbine and duct burner PTO Nos. 27118 and 27116. The proposed SES/SFC Replacement Project will require a minor modification to CSG's Title V permit, because the CO hourly startup emission limit will not apply during the commissioning period as a result of the Project. SFA requests that the SMAQMD process this application and Title V permit modification as a minor Title V amendment. SFA will submit the SMAQMD application forms necessary for this modification to the CSG Title V permit at a later date.

3.1.1.5 Rule 217 – Public Notification Requirements for Permits

Rule 217, Section 102 notes that notification requirements shall not apply if the application is for any new or modified emissions unit where the combined potential to emit from the project would have an increase in potential to emit less than the amounts listed below (and provided that offsets are not triggered).

Volatile organic compounds	5,000 pounds per quarter
Nitrogen oxides	5,000 pounds per quarter
Sulfur oxides	9,200 pounds per quarter
PM_{10}	7,300 pounds per quarter
$PM_{2.5}$	10 tons per year
Carbon monoxide	49,500 pounds per quarter

There will be no increase in potential to emit from the CSG Project and offsets are not triggered by the Project. Therefore, the Project does not trigger the Rule 217 public notice requirements. However, EPA notification is required under Rule 207 for minor permit modifications under the Title V Federal Operating Permit Program.

In addition to the notification requirements of Rule 217, California Health and Safety Code Section 42301.6 requires that an additional public notice be distributed whenever an Authority to Construct is issued that would allow increased toxic air contaminant emissions within 1,000 feet of the outer boundary of a school site. However, the Project is not within 1,000 feet of the outer boundary of a school site and does not result in an increase in toxic air contaminant emissions; therefore, notification is not required under Section 42301.6.

3.1.2 Regulation 3 – Fees

3.1.2.1 Rule 301 – Stationary Source Permit Fees

The SES/SFC Replacement Project permit application is subject to the permit fees established by Rule 301. The initial permit fee is determined in accordance with SMAQMD Rule 301 based on Sections 301 and 306.2 as follows:

> *301* ***AUTHORITY TO CONSTRUCT FEE:*** *Every applicant for an authority to construct shall pay one half of the estimated initial permit fee in Section 308 of this rule upon filing the application.*
>
> . . .
>
> *306.2 When an application is filed for a revision of conditions on a permit to operate or any alteration or addition, but no increase or change is made in rating, capacity or number of nozzles, and no increases in emissions or health risk, the applicant shall pay a permit fee of $1,206.28 or the initial permit fee in Section 308, whichever is lower.*

Separately, Title V permit fees are listed in Rule 301, Section 313 as follows:

> ***313 TITLE V OPERATING PERMIT FEES:***
>
> ***313.1 Permit Evaluation and Processing Fees***
>
> *a. When a Title V application is submitted to the Air Pollution Control Officer pursuant to Rule 207, TITLE V – FEDERAL OPERATING PERMIT PROGRAM, the applicant shall pay a filing fee of $1,843.80 per Title V application. In addition, the applicant shall pay the respective fee shown below for the following type of Title V application:*

Type of Title V Application	***Fee***
. . .	
Significant Title V permit modification	*$4,892.86 per permit to operate modified or added*
. . .	
Administrative Title V permit amendment	
Enhanced New Source Review (NSR) modified or added*	*$1,310.45 per permit to operate*
. . .	

SFA understands that per Section 313.1.b. SMAQMD may charge additional fees based on actual review hours spent by District staff and for modification of the Title V Permit to Operate. Table 3-5 Summarizes the SMAQMD fees for the Project.

Table 3-5. SMAQMD Fees for the Proposed CSG Project

Fee Description	SMAQMD Rule 301 Reference	Number of Permit Units	Fee per Permit Unit	Fee
ATC Fee when there is no increase in rating, emissions, or health risk	Section 306.2	1	$1,252.60	$1,252.60
Base Filing Fee per Title V Permit	Section 313.1.a.	1	$1,914.60	$1,914.60
Minor Title V Permit Modification Fee per Title V Permit	Section 313.1.a.3	1	$2,722.63	$2,722.63
			Total Fee[1] =	$5,889.83

Note: [1] Total Fee does not include online surcharge of 3% (here $176.69) for online payment using a credit card.

3.1.3 Regulation 4 – Prohibitions

3.1.3.1 Rule 401 – Ringelmann Chart/Opacity

Rule 401 prohibits the emission of air contaminants that are darker than Ringelmann No. 1 or 20% opacity for more than 3-minutes in a 1-hour period. Water vapor is not included in an opacity determination. The gas-fired turbine will not create visible emissions in excess of the limits of this rule.

3.1.3.2 Rule 402 – Nuisance

This rule prohibits the discharge of air contaminants in quantities that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public. The SMAQMD regulates new and modified sources of TACs under this rule by implementing its HRA Modeling Guidelines dated February 2016. These guidelines implement what is commonly known as "Toxics New Source Review."

Under the SMAQMD's toxics policy, modified projects with TAC emission increases are required to perform a screening-level health risk assessment. CSG was evaluated for health risk when it was originally permitted and the CSG SES/SFC Replacement Project will not result in an increase in TAC emissions above the levels evaluated in that original permit application. Therefore, no further toxics review is required.

3.1.3.3 Rule 404 – Particulate Matter

Rule 404 prohibits emissions of particulate matter (PM) in excess of 0.1 gr/dscf. The exhaust PM concentration from the gas turbine has been measured on multiple occasions during annual source tests and demonstrated compliance with this requirement. The CSG SES/SFC Replacement Project is not expected to change turbine PM emission rates. Therefore, the Project will comply with the Rule 404 PM emission limit.

3.1.3.4 Rule 406 – Specific Contaminants

Rule 406 prohibits emissions of combustion contaminants in excess of 0.1 gr/dscf @ 12% CO_2. As noted above, the exhaust PM concentration from the turbine has been measured on multiple occasions during annual source tests and has demonstrated compliance with this requirement.

Rule 406 also prohibits emissions of sulfur compounds in excess of 0.2% by volume, or 2,000 ppmv. The exhaust SOx concentration from the turbine is significantly less than 2,000 ppmv and has been measured during annual source tests and demonstrated compliance with this requirement. The CSG SES/SFC Replacement Project will not change turbine SOx emission rates. Therefore, the Project will comply with the Rule 406 PM and sulfur compound emission limits.

3.1.3.5 Rule 413 – Stationary Gas Turbines

Rule 413 prohibits NOx emissions in excess of 9 ppmv @ 15% O_2 based on a 15-min average, with exceptions for excursions, from gaseous fuel-fired turbines with a maximum electrical output rating of 10 MW or greater operating 877 hours or more per year. Rule 413 is applicable to the CSG turbine, which has a maximum electrical output rating of 103 MW and operates up to 8760 hours/year. At a permitted NOx concentration of 3 ppmv @ 15% O_2 averaged over three hours, the CSG turbine complies with the Rule 413 NOx limit.

3.1.4 Regulation 8 – Standards of Performance for New Stationary Sources (NSPS)

Rule 801 incorporates, by reference, the federal Standards of Performance for New Stationary Sources (NSPS). NSPS applies to certain types of equipment that are newly constructed, modified, or reconstructed after specified applicability dates. Only the NSPS subparts that may be potentially applicable to the CSG turbine are addressed in this section.

3.1.4.1 40 CFR 60 Subpart A – General Provisions

All affected sources are subject to the general provisions of NSPS Subpart A unless specifically excluded by the source-specific NSPS. Subpart A requires initial notification and performance testing, recordkeeping, monitoring; provides reference methods; and mandates general control device requirements for all other subparts as applicable. SFA will continue to meet all applicable requirements of the general provisions outlined in 40 CFR 60 Subpart A.

3.1.4.2 40 CFR Part 60 Subpart GG – NSPS for Stationary Gas Turbines

NSPS GG, *Standards of Performance for Stationary Gas Turbines*, applies to stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the lower heating value of the fuel fired. Based on the construction/modification date (after October 1977 but before February 2005) and the heat input at peak loads, the combustion turbine at CSG is subject to NSPS Subpart GG. The project is not a "modification" under NSPS because it

does not result in an increase in hourly emissions of a regulated NSPS pollutant per 40 CFR 60.14. SFA will continue to comply with all applicable NSPS Subpart GG requirements as outlined in the current Title V permit.

3.1.4.3 40 CFR Part 60 Subpart TTTT and TTTTa – Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units

NSPS TTTT, *Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units*, applies to electric generating units that commenced construction after January 8, 2014 but before May 23, 2023 and/or commenced reconstruction after June 18, 2014 but before May 23, 2023. The combustion turbine at CSG was constructed prior to January 8, 2014, and has not undergone any reconstruction since the original installation. As such, NSPS Subpart TTTT does not apply to the existing unit at CSG.

The GHG standards included in NSPS subpart TTTTa apply to any stationary combustion turbine that commences construction or reconstruction after May 23, 2023. The CSG turbine was not constructed or reconstructed after May 23, 2023, and therefore subpart TTTTa does not apply to these turbine.

3.1.5 California Environmental Quality Act (CEQA)

Under Rule 202, Section 307, the Air Pollution Control Officer shall deny an Authority to Construct or Permit to Operate if the Air Pollution Control Officer finds that the project which is the subject of an application would not comply with CEQA. Because CSG underwent review/approval by the California Energy Commission (CEC) as an Application for Certification (AFC), and this Project may require amendment to this AFC, SFA will submit all necessary documentation to the CEC to allow for all required CEQA approvals.

APPENDIX A. EMISSION CALCULATIONS

Month No.	Year	Month	Monthly NOx lbs	24-month Avg NOx lb/yr	
60	2020	Sept	3,754		
59		Oct	2,349		
58		Nov	2,926		
57		Dec	6,393		
56	2021	Jan	1,063		
55		Feb	2,051		
54		Mar	3,046		
53		Apr	6,684		
52		May	1,788		
51		Jun	4,525		
50		Jul	7,040		
49		Aug	7,116		
48		Sept	6,144		
47		Oct	2,767		
46		Nov	1,101		
45		Dec	7,046		
44	2022	Jan	3,227		
43		Feb	1,628		
42		Mar	6,481		
41		Apr	6,477		
40		May	6,564		
39		Jun	6,559		
38		Jul	6,986		
37		Aug	7,219	55,466	
36		Sept	6,108	56,643	
35		Oct	5,698	58,317	
34		Nov	7,102	60,406	
33		Dec	7,309	60,864	
32	2023	Jan	7,372	64,018	
31		Feb	6,739	66,362	
30		Mar	4,212	66,945	
29		Apr	4,224	65,715	
28		May	280	64,961	
27		Jun	696	63,047	
26		Jul	5,734	62,394	
25		Aug	5,786	61,729	
24		Sept	1,360	59,337	
23		Oct	0	57,954	
22		Nov	5,153	59,980	
21		Dec	6,435	59,674	
20	2024	Jan	6,972	61,547	
19		Feb	5,338	63,402	
18		Mar	417	60,370	
17		Apr	6,619	60,441	
16		May	2,913	58,615	
15		Jun	3,667	57,169	
14		Jul	5,746	56,549	
13		Aug	4,997	55,438	
12		Sept	2,740	53,754	
11		Oct	2,114	51,962	
10		Nov	4,300	50,561	
9		Dec	7,370	50,591	
8	2025	Jan	6,916	50,363	
7		Feb	2,422	48,204	
6		Mar	0	46,098	
5		Apr	1,676	44,824	
4		May	1,638	45,503	
3		Jun	11	45,161	
2		Jul	3,427	44,008	
1		Aug	5,987	44,108	
	60 mo avg lb/mo =		4,340	66,945	= max lb/yr
	average lb/yr =		52,082	44,008	= min lb/yr
	average tons/yr =		26.0		
	Recent 24 mo avg lb/mo =		3,676		
	lb/yr =		44,108		
	tons/yr =		22.1		