DOCKETED	
Docket Number:	03-AFC-01C
Project Title:	Roseville Energy Park Compliance
TN #:	236808
Document Title:	PCAPCD ATC for Turbine Upgrade, Low Load Turn Down Modifications to REP
Description:	N/A
Filer:	Scott Galati
Organization:	DayZenLLC
Submitter Role:	Applicant Consultant
Submission Date:	2/16/2021 11:57:44 AM
Docketed Date:	2/16/2021

Placer County
AIR POLLUTION CONTROL DISTRICT

110 Maple Street, Auburn, CA 95603 • (530) 745-2330 • Fax (530) 745-2373 • www.placerair.org
Erik C. White, Air Pollution Control Officer

February 11, 2021

Ms. Julie Manfredi
Sr. Compliance Analyst
Roseville Electric Utility
5120 Phillip Road
Roseville, CA 95747

RE: Authorities to Construct AC-REPR-21A & AC-REPR-21B – Roseville Energy Park

Dear Ms. Manfredi,

Enclosed are the Authorities to Construct / Temporary Permits to Operate (ATCs) and associated invoice for the modifications proposed at Roseville Energy Park. Please submit required payment by the due date shown on the invoice.

The modifications proposed by Roseville Electric Utility satisfy the District's permitting and New Source Review requirements. The one-time application of the existing commissioning language found in REPR-20-01 will satisfy the need for initial commissioning of the turbines once the referenced modifications/upgrades have been completed.

Be advised that these ATCs are conditionally issued. Commencing construction under the ATCs will be considered acceptance of the equipment descriptions and conditions specified in the permits. You are responsible for compliance with the permit conditions, District Rules and Regulations, and with the laws and regulations of other governmental agencies which may apply. The permits must be posted or available at the permitted facility.

The Construction Completion Notification found on the final pages of the ATCs should be returned after construction has been completed and not later than seven (7) days after beginning operations. If only a portion of the construction is completed and some operations commence, the Construction Completion Notification should be submitted with the information that not all construction is completed.

The District must be notified of any changes to the equipment listed on the ATCs or any additional changes from the original application. Minor changes which do not affect emissions or regulatory requirements will be addressed administratively. Changes which impact emissions or are not considered minor will require submitting a permit amendment application. Roseville Electric Utility is responsible for notifying the District and obtaining approval of these changes prior to the submittal of the Construction Completion Notification. Roseville Electric Utility may be subject to enforcement for installation and operation of non-compliant emissions units. Upon receipt of the Completion of Construction Notification, a District representative will inspect the equipment. If the equipment is determined to be in compliance, the subject modification will be added to the current Permit to Operate during the annual renewal period.

Please review the equipment description and the conditions. If you have any questions, feel free to contact me at (530) 745-2324.

Sincerely,

Emmanuel Orozco
Air Pollution Control Engineer

Placer County
AIR POLLUTION CONTROL DISTRICT

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Erik C. White, Air Pollution Control Officer

Terms	Date	Invoice #
Due: 03/13/2021	02/11/2021	153383

ROSEVILLE ENERGY PARK
JULIE MANFREDI
2090 HILLTOP CIRCLE
ROSEVILLE, CA 95747

--- FACILITY ADDRESS ---
5120 PHILLIP RD
ROSEVILLE, CA 95747

AC-REPR-21A	Authority to Construct - Fuel Heat Input	21.30 MMBtu/hr	4,685.88
AC-REPR-21A.	Sacramento Valley Air Basin fee	1.00 per permit	5.00
AC-REPR-21B	Authority to Construct - Fuel Heat Input	21.30 MMBtu/hr	4,685.88
AC-REPR-21B.	Sacramento Valley Air Basin fee	1.00 per permit	5.00

TOTAL	$9,381.76

THE PERMIT(S) TO OPERATE WILL BE ISSUED AFTER RECEIPT OF PAYMENT FOR THIS INVOICE.

Payment of Fees is due by the above due date. Late fees apply if payment is postmarked 30 days or more after invoicing, If permit and late fees are not paid within 60 days of invoicing permit will expire. Late fee is 50% of the invoice. Please note there will be a fee of $63.00 for all returned checks.

---------- Detach and return the bottom portion with your remittance ----------

ROSEVILLE ENERGY PARK
JULIE MANFREDI
2090 HILLTOP CIRCLE
ROSEVILLE, CA 95747

Invoice #	153383
Amount Due	$9,381.76
Amount Enclosed	

PLACER COUNTY APCD
110 Maple Street
Auburn, CA 95603

PLACER COUNTY APCD
110 Maple Street
Auburn, CA 95603
(530) 745-2330 - Fax (530) 745-2373

Authority to Construct
Temporary Permit To Operate

ISSUED TO

ROSEVILLE ENERGY PARK
5120 PHILLIP RD
ROSEVILLE, CA 95747

AC NUMBER: AC-REPR-21A

FACILITY LOCATION

ROSEVILLE ENERGY PARK
5120 PHILLIP RD
ROSEVILLE, CA 95747

EXPIRATION DATE: 9/30/2021

Bruce Springston for

Erik C. White
Air Pollution Control Officer

ISSUE DATE: 02/11/2021

PROCESS DESCRIPTION:

ROSEVILLE ENERGY PARK IS PROPOSING TO MODIFY TWO SIEMENS SGT-800 COMBUSTION TURBINES AT THEIR EXISTING POWER GENERATION FACILITY BY INSTALLING THE SIEMENS A-PLUS TURBINE UPGRADE PACKAGE (REPLACEMENT OF ROW 1 COMPRESSOR BLADES AND ROW 1 AND ROW 2 TURBINE VANES), FUEL SUPPLY LOW LOAD TURNDOWN (LLT) PACKAGE, AND ADVANCED EMISSIONS TUNING (AET) UPGRADE. THERE IS NO PROPOSED NET INCREASE IN PERMITTED CRITERIA POLLUTANTS. THIS AUTHORITY TO CONSTRUCT PERMIT ADDRESSES THE APPROVED MODIFICATIONS TO COMBUSTION TURBINE #1.

EQUIPMENT

Equipment	Rating
01 Combustion Turbine Generator #1, Natural Gas Fired, Dry Low NOx Combustors, Manufacturer: Siemens, Model: SGT800, Serial Number: B005712, Nominal Heat Input Rating: 478.6 MMBtu/hr, Nominal Power Generation Rating of 65.5 MW, and Peak Capacity of 83 MW (with Duct Burner).	478.60 MMBtu/hr
02 Heat Recovery Steam Generator #1, with Duct Burner, Natural Gas Fired, Manufacturer: Coen, Serial Number: 40D-14757-1-000, Nominal Heat Input Rating: 225 MMBtu/hr.	225.00 MMBtu/hr

03 Selective Catalytic Reduction (SCR) System, Ammonia Injection System within the Heat Recovery Steam Generator, Manufacturer: Peerless, Serial Number: 70373	
04 Carbon Monoxide (CO) Oxidation Catalyst	
05 Continuous Emissions Monitoring System (CEMS)	
06 Condensing Steam Turbine Generator - Shared with Combustion Turbine #2	

	MMBtu/hr
Total	703.60

OPERATING CONDITIONS

[This Authority to Construct incorporates by reference all Operating Conditions from Permit to Operate REPR-20-01]

PERMIT EMISSION LIMIT CONDITIONS

[This Authority to Construct incorporates by reference all Emission Limit Conditions from Permit to Operate REPR-20-01]

Placer County
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Erik C. White, Air Pollution Control Officer

COMPLETION OF CONSTRUCTION NOTIFICATION

Upon completion of equipment construction and within seven (7) days of initial operation, please fill out the following information and submit a copy of this form to Zach Lee by mail at 110 Maple Street, Auburn, CA 95603 or by email at zlee@placer.ca.gov. This form notifies the District that the equipment is ready for inspection. The District will contact you to schedule an inspection.

Company Name: ROSEVILLE ENERGY PARK

Authority to Construct #: AC-REPR-21A

Date Construction Complete: _____

Date Operation Began/Will Begin: _____

Company Contact: _____

Contact Phone Number: _____

Print Name of Responsible Official: _____

Signature of Responsible Official: _____

PLACER COUNTY APCD
110 Maple Street
Auburn, CA 95603
(530) 745-2330 - Fax (530) 745-2373

Authority to Construct
Temporary Permit To Operate

ISSUED TO

ROSEVILLE ENERGY PARK
5120 PHILLIP RD
ROSEVILLE, CA 95747

AC NUMBER: AC-REPR-21B

FACILITY LOCATION

ROSEVILLE ENERGY PARK
5120 PHILLIP RD
ROSEVILLE, CA 95747

EXPIRATION DATE: 9/30/2021

Bruce Springsteen for

Erik C. White
Air Pollution Control Officer

ISSUE DATE: 02/11/2021

PROCESS DESCRIPTION:

ROSEVILLE ENERGY PARK IS PROPOSING TO MODIFY TWO SIEMENS SGT-800 COMBUSTION TURBINES AT THEIR EXISTING POWER GENERATION FACILITY BY INSTALLING THE SIEMENS A-PLUS TURBINE UPGRADE PACKAGE (REPLACEMENT OF ROW 1 COMPRESSOR BLADES AND ROW 1 AND ROW 2 TURBINE VANES), FUEL SUPPLY LOW LOAD TURNDOWN (LLT) PACKAGE, AND ADVANCED EMISSIONS TUNING (AET) UPGRADE. THERE IS NO PROPOSED NET INCREASE IN PERMITTED CRITERIA POLLUTANTS. THIS AUTHORITY TO CONSTRUCT PERMIT ADDRESSES THE APPROVED MODIFICATIONS TO COMBUSTION TURBINE #2.

EQUIPMENT

Equipment	Rating
01 Combustion Turbine Generator #2, Natural Gas Fired, Dry Low NOx Combustors, Manufacturer: Siemens, Model: SGT800, Serial Number: B005713, Nominal Heat Input Rating: 478.6 MMBtu/hr, Nominal Power Generation Rating of 65.5 MW, and Peak Capacity of 83 MW (with Duct Burner).	478.60 MMBtu/hr
02 Heat Recovery Steam Generator #2, with Duct Burner, Natural Gas Fired, Manufacturer: Coen, Serial Number: 40D-14757-1-000, Nominal Heat Input Rating: 225 MMBtu/hr.	225.00 MMBtu/hr

03 Selective Catalytic Reduction (SCR) System, Ammonia Injection System within the Heat Recovery Steam Generator, Manufacturer: Peerless, Serial Number: 70373	
04 Carbon Monoxide (CO) Oxidation Catalyst	
05 Continuous Emissions Monitoring System (CEMS)	
06 Condensing Steam Turbine Generator - Shared with Combustion Turbine #1	

	MMBtu/hr
Total	703.60

OPERATING CONDITIONS

[This Authority to Construct incorporates by reference all Operating Conditions from Permit to Operate REPR-20-01]

PERMIT EMISSION LIMIT CONDITIONS

[This Authority to Construct incorporates by reference all Emission Limit Conditions from Permit to Operate REPR-20-01]

Placer County
AIR POLLUTION CONTROL DISTRICT

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Erik C. White, Air Pollution Control Officer

COMPLETION OF CONSTRUCTION NOTIFICATION

Upon completion of equipment construction and within seven (7) days of initial operation, please fill out the following information and submit a copy of this form to Zach Lee by mail at 110 Maple Street, Auburn, CA 95603 or by email at zlee@placer.ca.gov. This form notifies the District that the equipment is ready for inspection. The District will contact you to schedule an inspection.

Company Name: ROSEVILLE ENERGY PARK

Authority to Construct #: AC-REPR-21B

Date Construction Complete: _____

Date Operation Began/Will Begin: _____

Company Contact: _____

Contact Phone Number: _____

Print Name of Responsible Official: _____

Signature of Responsible Official: _____

PLACER COUNTY APCD
110 Maple Street
Auburn, California 95603
(530) 745-2330 - Fax (530) 745-2373

PERMIT TO OPERATE

ISSUED TO:
ROSEVILLE ENERGY PARK
5120 PHILLIP RD
ROSEVILLE, CA 95747

PERMIT NUMBER: REPR-20-01

FACILITY LOCATION:
ROSEVILLE ENERGY PARK
5120 PHILLIP RD
ROSEVILLE, CA 95747

VALID FROM:
10/1/2020 - 9/30/2021

Bruce Springsteen for

Erik C. White
Air Pollution Control Officer

09/29/2020
Issue Date

PROCESS DESCRIPTION: COMBUSTION TURBINE GENERATOR #1

EQUIPMENT

No.	Equipment	Rating
1	Combustion turbine generator #1, natural gas fired, combined cycle with dry low NOx combustors; manufacturer: Siemens, model: SGT800; serial # B005712, heat input rating 457.3 MMBtu/hr; nominal MW rating of 62.5 MW and peak capacity of 80 MW (with duct burner)	MBTU-457300
2	Heat recovery steam generator #1, with duct burner; manufacturer Coen, serial # 40D-14757-1-000; rated 188 MMBtu/hr (LHV) and maximum of 225 MMBtu/hr	MBTU-225000
3	Steam turbine	
4	Selective catalytic reduction (SCR), ammonia injection system within the heat recovery steam generator, make: Peerless, serial# 70373	
5	Carbon Monoxide (CO) catalyst	
6	Continuous emissions monitoring system	

TOTAL RATINGS – MBTU- 682300.

1. If the Siemens SGT800 turbines are selected, emission offsets shall be provided for all calendar quarters for NOx and PM-10 in the following amounts, at the offset ratio specified in the PCAPCD Rule 502, New Source Review (8/01). (Offsets are not required for CO, SOx and VOC emissions under PCAPCD Rules and Regulations.)

SIEMENS SGT800 - OFFSETS REQUIRED					
POLLUTANT	QUARTER 1 (lbs/quarter)	QUARTER 2 (lbs/quarter)	QUARTER 3 (lbs/quarter)	QUARTER 4 (lbs/quarter)	Tons/year
NOx	15,546	13,412	17,646	15,572	31.09
PM-10	17,673	15,513	19,168	19,158	35.95

2. The ERC certificates to be surrendered if the Alstom Siemens SGT800 turbines are selected shall include the following:

ERCs SIEMENS SGT800						
NOx	District/ Certificate	Quarter 1 (lbs)	Quarter 2 (lbs)	Quarter 3 (lbs)	Quarter 4 (lbs)	Annual (Tons)
City of Roseville	PCAPCD/ 2001-23 (2004-03)	5,050	5,050	5,050	5,050	10.1
Calpine Corp.	YSAQMD/ EC-209 (EC-238)	0	6,199	0	3,188	4.69
Calpine Corp.	YSAQMD/ EC-210	0	9,558	0	3,973	6.77
Energy 2001 or SMAQMD Bank		5,300	5,300	5,250	4,150	10.00
VOCs for NOx	District/ Certificate	Quarter 1 (lbs)	Quarter 2 (lbs)	Quarter 3 (lbs)	Quarter 4 (lbs)	Annual (Tons)
SMUD	2008-02	12,475	12,695	12,573	12,644	24.19
SMUD	2006-09	1,260	1,260	1,260	1,260	2.52
SMUD	2007-03	2,200	470	1,359	924	2.48
SMUD	2007-06	431	557	557	475	1.01
City of Roseville	PCAPCD/ 2001-26	33,512	33,512	33,512	33,512	67.0
PM10	District/ Certificate	Quarter 1 (lbs)	Quarter 2 (lbs)	Quarter 3 (lbs)	Quarter 4 (lbs)	Annual (Tons)
City of Roseville	PCAPCD/ 2001-24	2,578	20,167	16,085	15,916	27.37
City of Roseville	PCAPCD/ 2001-22	22,680	-	13,440	22,680	29.40
Enron North America	PCAPCD/2 2001-24 (2004-06)	362	-	420	-	0.39

3. The ERC Certificates PCAPCD 2001-23, YSAQMD EC-209 (EC-238), YSAQMD EC-210, PCAPCD 2001-26, PCAPCD 2001-24 and PCAPCD/ 2001-22 shall be submitted to the PCAPCD at least 30 days prior to start of construction. Copies of the ERCs surrendered shall be submitted to the Energy Commission by that date. For the purpose of this condition, start of construction shall be defined as the pouring of foundation on site.

4. ERCs obtained from reductions at Energy 2001 shall be submitted to the PCAPCD at least 30 days prior to commencing operation of any of the stationary source equipment (gas turbines, boiler, emergency fire pump, or emergency generator). Copies of the ERCs surrendered shall be submitted to the Energy Commission by that date. For the purpose of this condition, commencing operation shall be defined as first fire of any of the stationary source equipment listed herein.

5. If the NOx ERCs listed in the Energy 2001 row are alternatively obtained in part at or in whole from the Sacramento Air Quality Management District (SMAQMD) Bank at an offset ratio of 2.1 to 1. The offset ratio of 1.3 to 1 shall apply to Energy 2001 offsets. An offset ratio of 2.1 to 1 shall apply to SMAQMD Bank offsets. The combined quantity shall be sufficient to offset the following NOx emissions:

NOx	Quarter 1 (lbs)	Quarter 2 (lbs)	Quarter 3 (lbs)	Quarter 4 (lbs)	Annual (Tons)
	4,077	4,077	4,038	3,192	7.69

Compliance to be determined by the following :

(NOx ERCs Energy 2001 /1.3) + (NOx ERCs SMAQMD Bank /2.1) = Quarterly requirement.

6. ERCs obtained from the SMAQMD Bank shall be submitted to the PCAPCD at least 30 days prior to commencing operation of any of the stationary source equipment (gas turbines, boiler, emergency fire pump, or emergency generator). Copies of the ERCs surrendered shall be submitted to the Energy Commission by that date. For the purpose of this condition, commencing operation shall be defined as first fire of any of the stationary source equipment listed herein.

7. Prior to the use of ERCs from the SMAQMD Bank, Roseville Electric shall appear before the PCAPCD District Board and gain approval of the transfer of ERCs per Health and Safety Code, Section 40709.6, Offset by reduction to stationary source located in another District.

A. The project owner may, as an alternative to obtaining emission reduction credits (ERCs) from either the Energy 2001 facility or the Sacramento Air Quality Management District, purchase valid VOC ERCs within the Placer County Air Pollution Control District. The project owner must use an interpollutant trading ratio of no less than 2.6 to 1 (VOC to NOx) and a distance offset ratio consistent with Placer County Air Pollution Control District Rule 502. The project owner must surrender the VOC ERCs from AIR QUALITY AQ-9.5 Table 1 sufficient to offset the project NOx emissions in the amounts shown in AIR QUALITY AQ-9.5 Table 2. The project owner may bank any excess VOC ERCs with the Placer County Air Pollution Control District.

AIR QUALITY Placer County Air Pollution Control District VOC Emission Reduction Credits (pounds)					
	1st	2nd	3rd	4th	

	Quarter	Quarter	Quarter	Quarter	Annual
2008-02	9,889	11,493	10,474	8,131	39,987
2006-09	1,260	1,260	1,260	1,260	5,040
2007-03	2,200	470	1,359	924	4,953
2007-06	431	557	557	475	2,020

AIR QUALITY **Required NOx Offsets for Project NOx Emissions**					
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual
Required NOx Offsets	4,077	4,077	4,038	3,192	7.69

8. The gas turbines and auxiliary boiler shall be fired exclusively on pipeline grade natural gas.

9. Roseville Electric shall maintain an Operating Compliance Plan for the new CTG/HRSG which will assure that the air pollution control equipment will be properly maintained and that necessary operational procedures are in place to continuously achieve compliance with this permit. The Operating Compliance Plan shall include a description of the process monitoring program and devices to be used.

   A. The plan shall specify the frequency of surveillance checks that will be made of process monitoring devices and indicators to determine continued operation within permit limits. A record or log of individual surveillance checks shall be kept to document performance of the surveillance.

   B. The plan shall include the frequency and methods of calibrating the process monitoring devices.

   C. The plan shall specify for each emission control device:
      i. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission producing operations; and
      ii. Records that must be kept to document the performance of required periodic maintenance procedures.

   D. The plan shall identify what records will be kept to comply with air pollution control requirements and regulations and the specific format of the records. These records shall include at least the Recordkeeping information required by this permit. The information must include emission monitoring evaluations, calibration checks and adjustments, and maintenance performed on such monitoring systems.

   E. The plan shall be submitted to the PCAPCD 30 days prior to startup of the gas turbines and boiler. The plan must be implemented upon approval by the PCAPCD Air Pollution Control Officer.

F. The plan shall be resubmitted to the PCAPCD for approval upon any changes to compliance procedures described in the plan, or upon the request of the PCAPCD Air Pollution Control Officer

10. CEMS Remote Polling:

F. Roseville Electric shall install and maintain equipment, facilities, software and systems at the facility and at the PCAPCD office that will allow the District to poll or receive electronic data from the CEMS. Roseville Electric shall make CEMS data available for automatic polling of the daily records. Roseville Electric shall make hourly records available for manual polling within no more than a one hour delay. The basic elements of this equipment include a telephone line, modem and datalogger. Alternatively, an internet based system may be used. The costs of installing and operating this equipment, excluding District costs, shall be borne by the REP.

G. Upon notice by the District that the facility's polling system is not operating, the REP shall provide the data by a District-approved alternative format and method for up to a maximum of 30 days.

H. The polling data is not a substitute for other required recordkeeping or reporting. (Rule 404 § C; Rule 501 § 304.2.c; HSC 42706)

OPERATING LIMITATIONS

11. Roseville Electric shall submit design details for the selective catalytic reduction, oxidation catalyst, and continuous emission monitor system to the PCAPCD at least 30 days prior to commencement of construction of these components.

12. Roseville Electric shall install a selective catalytic reduction (SCR) system and an oxidation catalyst on the gas turbine. The SCR and oxidation catalyst equipment shall be operated whenever the gas turbine is operated except during commissioning.

13. The gas turbine engine and generator lube oil vents shall be equipped with mist eliminators.

14. The gas turbines and auxiliary boiler shall be equipped with continuously recording, non-resettable fuel gas flowmeters on each unit.

15. Each gas turbine exhaust shall be equipped with continuously recording emissions monitor for NOx, CO, and 02 dedicated to this unit. Continuous emission monitor shall meet the requirements of 40 CFR parts 60 and 75, and shall be capable of monitoring emissions during startups and shutdowns as well as normal operating conditions. The system shall be installed and operational prior to the cessation of commissioning when their operability will be confirmed by source testing.

16. The gas turbine exhaust stacks and boiler exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test

methods. Access ladders and/or stairs and platforms shall allow easy access to the sampling ports.

17. The gas turbine engine shall be fired exclusively on pipeline quality natural gas with a sulfur content no greater than 0.50 grains of sulfur compounds per 100 dry scf of natural gas.

18. Startup is defined as the period beginning with turbine light-off (firing) until the unit meets the lb/hr and ppmv emission limits in conditions 52, 54 and 55. Shutdown is defined as the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown durations shall not exceed 3.0 hours and 1 hour, respectively, per occurrence.

19. NOx, excluding the thermal stabilization period (i.e. startup period which is not to exceed 3 hours), shall not exceed the following levels under load conditions:

    9 x EFF/25 ppm, @ 15% O2, averaged over 15 minutes:

    Where: EFF(efficiency) is the higher of the following:

    $$EFF1 = \frac{3412 \times 100\%}{AHR}$$

    AHR =Actual Heat Rate at HHV of Fuel (BTU/KW-HR)]

    or

    $$EFF2 = \frac{MRE \times LHV}{HHV}$$

    MRE = Manufacturer's Rated Efficiency with Air Pollution Equipment at LHV, which is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution equipment after correction from LHV to HHV of the fuel at peak load for that facility.

COMMISSIONING

20. The commissioning period commences when all mechanical and electrical systems are installed and individual startup has been completed or when a gas turbine is first fired whichever comes first. The period ends when the plant has completed performance testing and is available for commercial operation.

21. The gas turbines shall be tuned to minimize the air emissions. At the earliest feasible time, in accordance with the recommendations of the equipment manufacturer and construction contractor, the air pollution control equipment shall be installed, adjusted and operated to minimize emissions from the combustion turbines.

22. The total number of firing hours of each gas turbine without abatement shall not exceed 160 hours during the commissioning period. Such operation shall only be limited to such activities that can only be properly executed without the air pollution control equipment. The total operating days during conditioning shall not exceed 33 calendar days.

23. During the commissioning operations, CO emissions shall not exceed 829 pounds per hour for any one-hour block average. Compliance to be determined by emission factors to be determined prior to startup and approved by the District. (This condition was established to prevent impacts from exceeding 500 ug/m3 over an 8-hour average).

24. The total mass emissions of each regulated pollutant that are emitted during the commissioning period shall not exceed the quarterly emission limits specified in these conditions.

REPORTING AND RECORDKEEPING

25. Roseville Electric shall submit a CEMS QA/QC plan to the PCAPCD for approval. Approval should also be required for any future changes to the plan.

26. Roseville Electric shall submit to the PCAPCD, prior to issuance of a Permit to Operate, information correlating the control system operating parameters to the associated NOx, CO, PM-10, VOC and SOx emissions. This information may be used by the PCAPCD Air Pollution Control Officer to determine compliance where there is no continuous emission monitoring system available or when the continuous emission monitoring system is not operating properly.

27. Provide source test information annually regarding the exhaust gas NOx concentration at ISO conditions corrected to 15 percent oxygen on a dry basis, and the demonstrated percent efficiency (EFF) of the turbine unit.

28. A gas turbine operating log shall be kept which includes, on a daily basis, the actual Pacific Standard Time start-up and stop time, total hours of operation, type and quantity of fuel used (liquid/gas). This information shall be available for inspection at any time from the date of entry.

29. Hourly records of NOx and CO emission concentrations (ppmv @ 15% 02), and hourly, daily, and quarterly records of NOx and CO emissions shall be kept. Ongoing compliance with the CO emission limits during normal operation shall be deemed compliance with the VOC emission limits during normal operation.

30. Records of SOx Ib/hr, lb/day, and Ib/quarter emissions shall be kept. SOx emissions shall be based on fuel use records, natural gas sulfur content, and mass balance calculations.

31. The following records shall be kept: occurrence, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, maintenance of any continuous emission monitor emission measurements, total daily and rolling twelve month average hours of operation, hourly quantity of fuel used, and gross three hour average operating load.

32. All records which are required to be maintained by this permit shall be maintained for a period of five years and shall be made readily available for District inspection upon request. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P. paragraphs 5.0 through 5.3.3, or

by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA.

33. Roseville Electric shall notify the PCAPCD of any breakdown condition as soon as reasonably possible, but no later than two PCAPCD business hours after its detection.

34. Any violation of any emission standard listed in this permit which is indicated by the CEMS shall be reported to the PCAPCD no later than 96 hours after such occurrence per California Health and Safety Code 42706.

35. The PCAPCD shall be notified in writing within seven calendar days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations.

36. Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The PCAPCD shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the PCAPCD.

37. Roseville Electric shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F.

38. Roseville Electric shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred.

39. Roseville Electric shall provide the PCAPCD with a written emission statement showing actual emissions of volatile organic compounds and oxides of nitrogen. Pursuant to PCAPCD Rule 503 Roseville Electric shall submit this emission statement on a form or in a format specified by the PCAPCD Air Pollution Control Officer. The statement shall contain the following information:
    A. Information contained in the California Air Resources Board's Emission Inventory Turn Around Document as described in Instructions for the Emission Data System Review and Update Report; and
    B. Actual emissions of volatile organic compounds and oxides of nitrogen, in tons per year, for the calendar year prior to the preparation of the emission statement; and
    C. Information regarding seasonal or diurnal peaks in the emission of affected pollutants; and
    D. Certification by a responsible official of Roseville Electric that the information contained in the emission statement is accurate to the best knowledge of the individual certifying the emission statement.

PERFORMANCE TESTING

40. Compliance with the short term emission limits (lb/hr and ppmv @ 15% O2) shall be demonstrated by a performance test conducted within 60 days of reaching maximum production and not later than 180 days after initial startup of each gas turbine engine.

41. A performance test shall be conducted annually for each combustion turbine/heat recovery steam generator unit.

42. Compliance with the cold start NOx, and CO mass emission limits shall be demonstrated for each of the gas turbines by performance testing no later than 180 days after initial operation and at least once every seven years thereafter by an ARB certified independent test firm.

43. The following test methods shall be used PM10: EPA Method 202 (front half and back half), NOx: EPA Method 20, CO: EPA Method 10, VOC: EPA method 18, and fuel gas sulfur content: ASTM D3246. Alternative test methods as approved by the PCAPCD may also be used to address the source testing requirements of this permit.

EMISSION LIMITATIONS

44. No emissions are permitted, from any source, which are a nuisance per PCAPCD Rule 205, Nuisance. (Rule 205)

45. Stack emission opacity as dark or darker than Ringelmann No. 1 (20% opacity) for period or periods aggregating more than three (3) minutes in any one hour is prohibited and is in violation of PCAPCD Rule 202, Visible Emissions. (Rule 202)

46. Particulate matter emissions shall not exceed 0.1 grains per cubic foot of gas calculated at 12 percent CO at standard conditions. (Rule 210)

47. Sulfur compound emissions calculated as SO2 shall not exceed 0.2 percent by volume. (Rule 210).

48. The ammonia slip shall not exceed 10 ppmv @15% O2. The SCR catalyst shall be replaced, repaired or otherwise reconditioned within 24 months of the ammonia slip exceeding 7 ppm.

    Compliance with ammonia slip shall be demonstrated by using the following calculation procedure:

    Ammonia slip ppmv @ 15% O2= ((a-(bxc/1,000,000))x1,000,000/b) x d.
    where
    a = ammonia injection rate (lb/hr)/17 (lb/lb.mol.),
    b = dry exhaust gas flow rate (lb/hr)/29(lb/lb.mol.),
    c = change in measured NOx concentration ppmv at 15% O2 across catalyst,
    d = correction factor

The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip.

49. The emissions from the gas turbine after air pollution controls shall not exceed the following:

Gas Turbine PPMV Limitations Excluding Startup, Shutdown and Excursions		
NOX	CO	VOC
2.0 ppmvd @ 15% O2, 1-hour average	4 ppmvd @ 15% O2, 3-hour average	2 ppmvd @ 15% O2, 1-hour average

50. The 2.0 ppmvd NOx emission limit is averaged over 1 hour at 15 percent oxygen, dry basis. The limit shall not apply to the first six (6) 1-hour average NOx emissions above 2.0 ppmvd, dry basis at 15% O2, in any calendar quarter period for each combustion gas turbine provided that it meets all of the following requirements:

A. This equipment operates under any one of the qualified conditions ` described below:

1. Rapid combustion turbine load changes due to the following conditions:
   - A. Load changes initiated by the California ISO or a successor entity when the plant is operating under Automatic Generation Control; or
   - B. Activation of a plant automatic safety or equipment protection system which rapidly decreases turbine load
2. The first two 1-hour reporting periods following the initiation/shutdown of a fogging system injection pump
3. The first two 1-hour reporting periods following the initiation/shutdown of combustion turbine water injection
4. The first two 1-hour reporting periods following the initiation of HRSG duct burners

i. Events as the result of technological limitations identified by the operator and approved in writing by the PCAPCD.

B. The 1-hour average NOx emissions above 2.0 ppmv, dry basis at 15% O2, did not occur as a result of operator neglect, improper operation or maintenance, or qualified breakdown under Rule 404, Upset Conditions, Breakdown or Scheduled Maintenance. Notification to the PCAPCD is required within two hours of a qualified event.

C. The qualified operating conditions described in (A) above are recorded in the plant's operating log within 24 hours of the event, and in the CEMS by 5 p.m. the next business day following the qualified operating condition. The notations in the log and CEMS must describe the date and time of entry into the log/CEMS and the plant operating conditions responsible for NOx emissions exceeding the 2.0 ppmv 1-hour average limit. In addition, these excursions must be identified in the CEMS quarterly reports.

D. The 1-hour average NOx concentration for periods that result from a qualified operating condition does not exceed 25 ppmv, dry basis at 15 percent O2.

E. All NOx emissions during these events shall be included in all calculations of hourly, daily, and annual mass emission rates as required by this permit.

51. If the Siemens SGT800 turbines are selected for the project, emission rates from each gas turbine and heat recovery steam generator exhaust during startup and shutdown shall not exceed the following:

Siemens SGT800 Combustion Turbine Emission Limitations during Startup and Shutdown		
Pollutant	Maximum Pounds Per Hour (worst-case turbine)	Pounds per Startup or Shutdown (both turbines combined)
NOx	37.1	122.8
CO	89.5	204.8

52. If the Siemens SGT800 turbines are selected for the project, emission rates from each gas turbine and heat recovery steam generator exhaust, except during startup and/or shutdown, or excursions shall not exceed the following:

Siemens SGT800 - COMBUSTION TURBINE EMISSION LIMITATIONS PER TURBINE EXCLUDING STARTUP AND SHUTDOWN	
POLLUTANT	POUNDS/HOUR
Carbon Monoxide (CO)	6.2 (three-hour rolling average)
Nitrogen Oxides (NOx)	5.1 (one-hour average)
PM-10	4.7
Sulfur Oxides (SOx)	1.0
Volatile Organic Compounds (VOCs)	1.8

53. If the Siemens SGT800 turbines are selected for the project, the daily emissions shall not exceed the following rates:

Siemens SGT800 - FACILITY DAILY EMISSION LIMITS					
POLLUTANT	Two Alstom Turbines	Auxiliary Boiler	Cooling Tower	Diesel Emergency Generator	Diesel Fire Pump
NOx	406.0	16.8	--	4.31	1.72
CO	629.5	52.8	--	0.84	0.09
VOC	223.1	7.2	--	0.16	0.05
PM10	226.8	14.4	16.3	0.14	0.03

SO2	47.1	1.92	--	0.10	0.19

54. If the Siemens SGT800 turbine are selected, the quarterly emissions shall not exceed the levels shown below:

Siemens SGT800 **Gas Turbines**							
Pollutant	Lbs/hr Max Two Turbine	Lbs/day Max Two Turbines	Quarter 1 (lbs/quarter) Two turbines	Quarter 2 (lbs/quarter) Two Turbines	Quarter 3 (lbs/quarter) Two turbines	Quarter 4 (lbs/quarter) Two Turbines	Tons/ Year Two Turbines
NOx	74.2	406.0	15,399	12,965	17,496	15,422	30.64
CO	179.0	629.5	26,787	32,590	28,175	29,862	58.71
VOCs	39.4	223.1	5,791	7,306	6,630	6,848	13.29
PM-10	6.4	211.8	16,300	13,692	17,789	17,569	32.67
SOx	1.3	44.0	3,385	2,843	3,694	3,648	6.78

55. If the Siemens SGT800 turbines are selected for the project, the total facility emissions shall not exceed the following quarterly emission rates:

SIEMENS SGT800 - FACILITY QUARTERLY EMISSION LIMITS					
POLLUTANT	QUARTER 1 (lbs)	QUARTER 2 (lbs)	QUARTER 3 (lbs)	QUARTER 4 (lbs)	Tons/year
NOx	15,546	13,412	17,646	15,572	31.09
CO	27,121	33,872	28,515	30,202	59.86
VOC	5,832	7,455	6,672	6,890	13.42
PM10	17,673	15,513	19,168	19,158	35.95
SO2	3,400	2,893	3,709	3,663	6.83

56. 40 CFR 60 Subpart GG – Standards of Performance for Stationary Gas Turbines

The gas turbines are required to meet the notification, recordkeeping and performance test requirements of this regulation. Roseville Electric must submit a written quarterly excess emission report to the Administrator. A performance test is required within 60 days of achieving maximum production or no later than 180 days of initial startup.

COOLING TOWERS
OPERATING LIMITATIONS

57. Permittee shall submit drift eliminator design details at least 30 days prior to commencement of construction of the cooling towers basin.

58. No hexavalent chromium containing compounds shall be added to the cooling water.

59. Drift eliminator drift rate shall not exceed 0.0005% of the circulating water flow.

PERFORMANCE TESTING

60. An analysis of the cooling tower water shall be performed within 180 days of initial operation and annually thereafter.

EMISSION LIMITATIONS

61. No emissions are permitted, from any source, which are a nuisance per PCAPCD Rule 205, Nuisance. (Rule 205)

62. PM-10 emission rate shall not exceed the following:

COOLING TOWER EMISSION LIMITATIONS					
Pollutant	**POUNDS PER DAY**	**QUARTER 1** (Pounds/quarter)	**QUARTER 2** (Pounds/quarter)	**QUARTER 3** (Pounds/quarter)	**QUARTER 4** (Pounds/quarter)
PM-10	16.3	1,471	1,487	1,504	1,504

63. Compliance with the PM-10 emission limit shall be demonstrated as follows: PM-10 = cooling water recirculation rate * total dissolved solids concentration in the blowdown water * design drift rate.

AUXILLARY BOILER
OPERATING LIMITATIONS

64. An ultra-low NOx burner and flue gas recirculation system shall be installed and operated on the auxillary boiler.

65. A non-resettable fuel meter shall be installed on the gas line serving the boiler.

66. The hours of operation of the auxillary boiler shall not exceed the following:

Table 66 – Boiler Hours of Operation				
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Boiler Hours of Operation	140	568	143	143

PERFORMANCE TESTING

67. Compliance with the boiler emission limits on pounds per hour and ppmv emission limits shall be demonstrated by an initial performance test conducted within 60 days of reaching maximum production and not later than 180 days from initial startup.

68. The initial performance test shall be conducted for NOx, VOC, SOx, PM-10, CO, CO2, and O2.

69. Performance tests shall be conducted on the boiler every other calendar year after the initial testing. These tests shall include NOx, CO, CO2, and O2.

70. All boiler source tests shall be made in the as-found operating condition, except that source tests shall include at least one test conducted at the maximum feasible firing rate allowed by the PCAPCD permit. No source test shall be conducted within two hours after a continuous period in which fuel flow to the unit is zero, or shut off, for thirty minutes or longer.

71. At least thirty (30) days prior to the compliance source tests, a written test plan detailing the test methods and procedures to be used shall be submitted for approval by the PCAPCD Air Pollution Control Officer. The plan shall cite the test methods to be used for the determination of compliance with the emission limitations of this rule.

72. A report of the compliance test shall be submitted to the PCAPCD within sixty (60) days of completion of the source test.

EMISSION LIMITATIONS

73. The NOx emissions from the boiler shall not exceed 9.0 ppmv @ 3% O2 on a three hour average.

74. The CO emissions from the boiler shall not exceed 50 ppmv @ 3% O2 on a three hour average.

75. The boiler emissions shall not exceed any of the following:

Table 67 - BOILER EMISSION LIMITATIONS

Pollutant	**POUNDS Per Hour**	**QUARTER 1** (Pounds/quarter)	**QUARTER 2** (Pounds/quarter)	**QUARTER 3** (Pounds/quarter)	**QUARTER 4** (Pounds/quarter)
NOx	0.7	92	372	94	94
CO	2.2	311	1,259	317	317
VOC	0.3	36	144	36	36
PM10	0.6	82	332	84	84
SO2	0.08	11	46	12	12

DIESEL FIRED IC ENGINE POWERING FIRE PUMP
OPERATING LIMITATIONS

76. Permittee shall submit IC engine design details to the PCAPCD at least 30 days prior to commencement of construction of the fire water pump foundation.

77. A non-resettable hour meter shall be installed on each engine/generator set to record the hours of operation.

78. Operation for maintenance and testing of the diesel engine fire pump shall be limited to 30 hours per year.

79. Operation for other than maintenance and testing purposes shall be limited to involuntary interruptions of electrical power.

80. The sulfur content of the diesel fuel used shall not exceed 15 ppm by weight.

REPORTING AND RECORDKEEPING

81. Records of operation and maintenance shall be kept by the Owner or Operator for a period of five years and shall be made available to the PCAPCD upon request. Information required for reporting to the PCAPCD includes, but is not limited to:

    A. The hours of operation the engine was run for maintenance and testing.

    B. The hours of operation the engine was run during interruption of electrical power.

    C. Records of the sulfur content of the diesel fuel used.

EMISSION LIMITATIONS

82. No emissions are permitted, from any source, which are a nuisance per PCAPCD Rule 205, Nuisance.

83. Stack emission opacity as dark or darker than Ringelmann No. 1 (20% opacity) for period or periods aggregating more than three (3) minutes in any one hour is prohibited and is in violation of PCAPCD Rule 202, Visible Emissions.

84. Particulate matter emissions shall not to exceed 0.1 grains per cubic foot of gas calculated at 12 percent CO at standard conditions.

85. Sulfur compound emissions calculated as SO2 shall not exceed 0.2 percent by volume.

86. Nitrogen oxide emissions from the fire pump diesel engine shall not exceed 6.9 grams per brake horsepower - hour. This may be demonstrated by manufacturer's emissions data sheet.

87. PM-10 emissions from the fire pump diesel engine shall not exceed 0.4 grams per brake horsepower - hour. This may be demonstrated by manufacturer's emissions data sheet.

88. The fire pump diesel engine shall meet the requirements of the California Air Resources Board Airborne Toxic Control Measure for Stationary Compression Ignition Engines when it becomes effective.

DIESEL IC ENGINE POWERING EMERGENCY GENERATOR

OPERATING LIMITATIONS

89. Permittee shall submit IC engine design details to the PCAPCD at least 30 days prior to commencement of construction of the IC engine foundation.

90. A non-resettable hour meter shall be installed on each engine/generator set to record the hours of operation.

91. Operation for maintenance and testing of the emergency diesel engine and generator shall be limited to 30 hours per year.

92. Operation for other than maintenance and testing purposes shall be limited to involuntary interruptions of electrical power.

93. The sulfur content of the diesel fuel used shall not exceed 15 ppm by weight.

REPORTING AND RECORDKEEPING

94. Records of operation and maintenance shall be kept by the Owner or Operator for a period of five years and shall be made available to the PCAPCD upon request. Information required for reporting to the PCAPCD includes, but is not limited to:

    A. The hours of operation the engine was run for maintenance and testing.

    B. The hours of operation the engine was run during interruption of electrical power.

    C. Records of the sulfur content of the diesel fuel used.

EMISSION LIMITATIONS

95. No emissions are permitted, from any source, which are a nuisance per PCAPCD Rule 205, Nuisance. (Rule 205)

96. Stack emission opacity as dark or darker than Ringelmann No. 1 (20% opacity) for period or periods aggregating more than three (3) minutes in any one hour is prohibited and is in violation of PCAPCD Rule 202, Visible Emissions. (Rule 202)

97. Particulate matter emissions shall not to exceed 0.1 grains per cubic foot of gas calculated at 12 percent CO at standard conditions. (Rule 210)

98. Sulfur compound emissions calculated as SO2 shall not exceed 0.2 percent by volume. (Rule 210).

99. Nitrogen oxide emissions from the emergency generator diesel engine shall not exceed 6.9 grams per brake horsepower - hour. This may be demonstrated by manufacturer's emissions data sheet.

100. PM-10 emissions from the emergency generator diesel engine shall not exceed 0.4 grams per brake horsepower - hour. This may be demonstrated by manufacturer's emissions data sheet.

101. The engine shall meet the requirements of the California Air Resources Board Airborne Toxic Control Measure for Stationary Compression Ignition Engines when it becomes effective.

PORTABLE EQUIPMENT

102. Portable equipment shall comply with all applicable requirements while operating at the facility, including PCAPCD Permit and Prohibitory Regulations, or be State-registered portable equipment. State-registered portable equipment shall comply with State registration requirements. A copy of the State registration shall be readily available whenever the State-registered portable equipment is at the facility.

TITLE V CONDITION

103. The Owner/Operator shall file a complete application for a Title V permit pursuant to Rule 507, Federal Operating Permit Program by no later than one year after commencing operation.

PCAPCD GENERAL CONDITIONS

104. Authorization to construct the equipment listed and as prescribed in the approved plans and specifications is hereby granted, subject to the specified permit conditions. The construction and operation of listed equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted in the conditions. Deviation from the approved plans is not permissible without first securing approval for the changes from the PCAPCD Air Pollution Control Officer. (Rule 501)

105. This permit shall be maintained on the premises of the subject equipment. (Rule 501)

106. The authorized PCAPCD agents shall have the right of entry to any premises on which an air pollution emission source is located for the purpose of inspecting such source, including securing samples of emissions therefrom, or any records required to be maintained therewith by the PCAPCD. (Rule 402)

107. In the event of any violation of the PCAPCD Rules and Regulations, Roseville Electric shall take action to end such violation. (Rule 502)

108. Roseville Electric shall notify the PCAPCD within two hours of any upset conditions, breakdown or scheduled maintenance which cause emissions in excess of limits established by PCAPCD Rules and Regulations. (Rule 404)

109. Any alteration of the subject equipment, including a change in the method of operation, shall be reported to the PCAPCD. Such alterations may require an Authority to Construct Permit. (Rule 501)

110. Exceeding any of the limiting condition is prohibited without prior application for, and the subsequent granting of a permit modification pursuant to PCAPCD Rule 501, General Permit Requirements, Section 400.

111. In the event of a change of ownership, an application must be submitted to the PCAPCD. Upon any change in control or ownership of facilities constructed, operated, or modified

under authority of this permit, the requirements contained in this Authority to Construct shall be binding on all subsequent owners and operators. (Rule 501)

112. Compliance of the permitted facility is required with the provisions of the "Air Toxics `Hot Spots' Information and Assessment Act" of 1987 (Health and Safety Code Sections 44300 et seq.).

113. Performance Test Requirements: If the PCAPCD finds that additional performance tests are required to determine compliance with PCAPCD Rules and Regulations and Conditions of this Authority to Construct, reasonable written notice shall be provided to Roseville Electric. The performance tests shall be subject to the following restrictions (Rule 501):
    A. At least thirty (30) days prior to the actual testing, a written test plan shall be submitted to the PCAPCD Air Pollution Control Officer detailing the sampling methods, analytical methods or detection principles to be used. The prior written approval of the PCAPCD Air Pollution Control Officer is required for the use of alternate test methods.
    B. The PCAPCD may require, upon reasonable written notice, the conduct by Roseville Electric of such emissions testing or analysis as may be deemed necessary by the PCAPCD to demonstrate compliance with PCAPCD Rules and Regulations and the limiting conditions of this permit.

    C. Testing shall be conducted in accordance with 40 CFR 60, Appendix A, Methods, or equivalent methods approved by the State of California Air Resources Board (ARB) by reference in Title 17 of the California Administrative Code, or other methods specified by Roseville Electric and approved in writing by the PCAPCD Air Pollution Control Officer. Independent testing contractors and analytical laboratories shall be Air Resources Board certified for the test or analysis conducted. Particulate matter testing, if requested, shall include both filterable and condensed particulate matter (e.g. Method 5 modified to include impinger catch).
    D. A report of the testing shall be submitted to the PCAPCD no later than sixty (60) days after the source test is performed.