



DEC 22 2009

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St
San Francisco, CA 94105

Re: **Proposed Authority to Construct / Certificate of Conformity (Minor Mod)**
District Facility # N-2697
Project # N-1094399

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Northern California Power Agency, located at 12751 North Horton Road, which has been issued a Title V permit. Northern California Power Agency is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Northern California Power Agency has proposed to lower their annual VOC emissions from 51,830 lb-VOC/year to 19,992 lb-VOC/year in order to not be subject to Compliance Assurance Monitoring (CAM).

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authority to Construct # N-2697-1-6 with Certificate of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
cc: Thom Maslowski, Permit Services

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

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DEC 22 2009

Vinnie Venethongkham
Northern California Power Agency
P O Box 1478
Lodi, CA 95242

**Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)
District Facility # N-2697
Project # N-1094399**

Dear Mr. Venethongkham:

Enclosed for your review is the District's analysis of your application for Authority to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Northern California Power Agency has proposed to lower their annual VOC emissions from 51,830 lb-VOC/year to 19,992 lb-VOC/year in order to not be subject to Compliance Assurance Monitoring (CAM).

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Jim Swaney, Permit Services Manager, at (559) 230-5900.

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

Enclosures

cc: Thom Maslowski, Permit Services

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Authority to Construct Application Review

Modification of Simple Cycle Natural Gas-Fired Turbine

Facility Name: Northern California Power Agency Date: December 14, 2009
Mailing Address: PO Box 1478
Lodi, CA 95241

Contact Person: Vinnie Venethongkham
Telephone: (209) 333-6370 X 109

Engineer: Thom Maslowski
Application #: N-2697-1-6

Project #: N-1094399

Deemed Complete: November 25, 2009

I. Proposal

Northern California Power Agency (NCPA) has requested an Authority to Construct permit for the modification of the General Electric LM5000 natural gas fired turbine permitted under permit N-2697-1. The modification consists of adding a VOC emission limit of 19,992 lb-VOC/year. This modification is being performed to lower annual VOC emissions in order to not be subject to Compliance Assurance Monitoring (CAM). The facility is currently a Title V facility and will remain one even though the facility's VOC emissions will be below the Major Source threshold for VOC since there are submitted ATC projects that will cause the VOC Major Source threshold to be surpassed due to the addition of new emission units.

NCPA received their Title V Permit on January 13, 2000. This modification can be classified as a Title V Minor Modification pursuant to Rule 2520, Section 3.29, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. NCPA must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC issued with this project.

II. Applicable Rules

- 2201 New and Modified Stationary Source Review Rule (9/21/06)
- 2520 Federally Mandated Operating Permits (6/21/01)
- 4001 New Source Performance Standards (4/14/99)
- 4101 Visible Emissions (11/15/01)
- 4102 Nuisance (12/17/92)
- 4201 Particulate Matter Concentration (12/17/92)
- 4703 Stationary Gas Turbines (4/25/07)

4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:
CEQA Guidelines

III. Project Location

The facility is located at 12751 Thornton Road in Lodi, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

Natural gas is burned in the turbine and the shaft power produced powers an electrical generator. Emissions will be solely from the burning of natural gas.

V. Equipment Listing

Pre modification Equipment Listing:

ONE (1) GENERAL ELECTRIC LM5000 NATURAL GAS FIRED GAS TURBINE ENGINE WITH STEAM INJECTION, SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION, AND AN OXIDATION CATALYST SERVING A 49 MW ELECTRICAL GENERATOR

Post modification Equipment Listing:

ONE (1) GENERAL ELECTRIC LM5000 NATURAL GAS FIRED GAS TURBINE ENGINE WITH STEAM INJECTION, SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION, AND AN OXIDATION CATALYST. THE TURBINE POWERS A 49 MW ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

NO_x formation is proportional to the heat of combustion. Water injection into the combustion zone has the affect of reducing NO_x formation by reducing the flame temperature.

Selective Catalytic Reduction utilizes a catalytic bed and a reducing agent, usually ammonia, to convert NO_x to nitrogen. Ammonia is injected into the exhaust up stream of a catalyst and creates a reducing atmosphere. The exhaust stream then passes through a catalyst, which promotes the reduction reaction. The reduction reaction results in nitrogen oxide being converted to nitrogen and oxygen.

An oxidation catalyst oxidizes carbon monoxide and unburned hydrocarbons in the presence of a precious metal catalytic bed. The bed aids the reaction of CO and

hydrocarbons mainly to CO₂ and water at a lower temperature than would be required otherwise.

VII. General Calculations

A. Assumptions

- Post project annual VOC emission will not exceed 19,999 lb/year (per applicant)

B. Emission Factors

Pre-project Emission Factors:

NO_x, CO, VOC and PM₁₀:

The emissions of these pollutants are currently limited by the permit on a mass basis. Emission factor calculations are not necessary for these pollutants.

SO_x:

$$EF_{SO_x} = 0.00285 \text{ lb/MMBtu (AP 42)}$$

Post-project Emission Factors:

A. NO_x, CO and PM₁₀: Assumptions

The emissions of these pollutants are currently limited by the permit on a mass basis. Emission factor calculations are not necessary for these pollutants.

VOC:

$$EF_{VOC} = 0.0021 \text{ lb/MMBtu (AP 42)}$$

SO_x:

$$EF_{SO_x} = 0.00285 \text{ lb/MMBtu (District Policy APR 1720)}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

1. Daily PE

$$PE_{NO_x} = 112.0 \text{ lb/day}$$

$$PE_{SO_x} = (0.00285 \text{ lb/MMBtu})(463 \text{ MMBtu/hr})(24 \text{ hr/day}) = 31.7 \text{ lb/day}$$

$$PE_{PM_{10}} = 48.0 \text{ lb/day}$$

$$PE_{CO} = 322.0 \text{ lb/day}$$

$$PE_{VOC} = 142.0 \text{ lb/day}$$

2. Annual PE

$PE_{NOx} = (112.0 \text{ lb/day})(365 \text{ days/yr}) = 40,880 \text{ lb/yr}$
 $PE_{SOx} = (31.7 \text{ lb/day})(365 \text{ days/yr}) = 11,571 \text{ lb/yr}$
 $PE_{PM10} = (48.0 \text{ lb/day})(365 \text{ days/yr}) = 17,520 \text{ lb/yr}$
 $PE_{CO} = (322.0 \text{ lb/day})(365 \text{ days/yr}) = 117,530 \text{ lb/yr}$
 $PE_{VOC} = (142.0 \text{ lb/day})(365 \text{ days/yr}) = 51,830 \text{ lb/yr}$

Pre-Project Potential to Emit (PE1)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	112	40,880
SO _x	31.7	11,571
PM ₁₀	48	17,520
CO	322	117,530
VOC	142	51,830

2. Post Project Potential to Emit (PE2)

1. Daily PE

$PE_{NOx} = 112.0 \text{ lb/day}$
 $PE_{SOx} = (0.00285 \text{ lb/MMBtu})(463 \text{ MMBtu/hr})(24 \text{ hr/day}) = 31.7 \text{ lb/day}$
 $PE_{PM10} = 48.0 \text{ lb/day}$
 $PE_{CO} = 322.0 \text{ lb/day}$
 $PE_{VOC} = 142.0 \text{ lb/day}$

2. Annual PE

$PE_{NOx} = (112.0 \text{ lb/day})(365 \text{ days/yr}) = 40,880 \text{ lb/yr}$
 $PE_{SOx} = (31.7 \text{ lb/day})(365 \text{ days/yr}) = 11,571 \text{ lb/yr}$
 $PE_{PM10} = (48.0 \text{ lb/day})(365 \text{ days/yr}) = 17,520 \text{ lb/yr}$
 $PE_{CO} = (322.0 \text{ lb/day})(365 \text{ days/yr}) = 117,530 \text{ lb/yr}$
 $PE_{VOC} = 19,992 \text{ lb/yr}$

Post Project Potential to Emit (PE2)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	112	40,880
SO _x	31.7	11,571
PM ₁₀	48	17,520
CO	322	117,530
VOC	142	19,992

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
N-2697-1-3	40,880	11,571	17,520	117,530	51,830
N-2697-4-2	97	0	4	23	7
Pre-Project SSPE (SSPE1)	40,977	11,571	17,524	117,553	51,837

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Post Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
N-2697-1-6	40,880	11,571	17,520	117,530	19,992
N-2697-4-2	97	0	4	23	7
Post Project SSPE (SSPE2)	40,977	11,571	17,524	117,553	19,999

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site."

Major Source Determination (lb/year)					
	NO_x	SO_x	PM₁₀	CO	VOC
Pre-Project SSPE (SSPE1)	40,977	11,571	17,524	117,553	51,837
Post Project SSPE (SSPE2)	40,977	11,571	17,524	117,553	19,999
Major Source Threshold	50,000	140,000	140,000	200,000	50,000
Major Source?	No	No	No	No	Yes

Even though the SSPE2 for VOC is below the major source threshold for VOC the facility will be remaining a Title V source since there are submitted ATC projects that will cause the VOC major source threshold to be surpassed due to the addition of new emission units.

8. Federal Major Modification

As shown above, this project does not constitute a Major Modification. Therefore, in accordance with District Rule 2201, Section 3.17, this project does not constitute a Federal Major Modification and no further discussion is required.

9. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Since the project is being issued with COC the QNEC will not be included.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIFE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

As discussed in Section I above, there are no new emissions units associated with this project; therefore BACT for new units with PE > 2 lb/day purposes is not triggered.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

PE2 = Post-Project Potential to Emit, (lb/day)

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's Potential to Emit prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$\text{AIPE} = \text{PE2} - (\text{PE1} * (\text{EF2} / \text{EF1}))$$

N-2697-1-6:

VOC:

$$\begin{aligned} \text{AIPE} &= 142 - (142 * (0.0021/0.0021)) \\ &= 142 - 142 * 1 \\ &= 0 \text{ lb/day} \end{aligned}$$

As demonstrated above, the AIPE is not greater than 2.0 lb/day for VOC emissions; therefore BACT is not triggered.

d. Major Modification

As discussed in Section VII.C.7 above, this project does not constitute a Major Modification; therefore BACT is not triggered.

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Determination (lb/year)					
	NO_x	SO_x	PM₁₀	CO	VOC
Post Project SSPE (SSPE2)	40,977	11,571	17,524	117,553	19,999
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	No	No	No	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for NO_x only; therefore offset calculations will be required for this project.

Per Sections 4.7.1 and 4.7.3, the quantity of offsets in pounds per year for NO_x is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

$$\text{Offsets Required (lb/year)} = (\sum[\text{PE2} - \text{BE}] + \text{ICCE}) \times \text{DOR, for all new or modified emissions units in the project,}$$

Where,

PE2 = Post Project Potential to Emit, (lb/year)

BE = Baseline Emissions, (lb/year)

ICCE = Increase in Cargo Carrier Emissions, (lb/year)

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE)

This unit is considered a clean emissions unit for NO_x since the unit is equipped with emission control technology that meets the requirements for achieved-in-practice BACT Guideline 3.4.7 as accepted by the APCO during the five years immediately prior to the submission of the complete application.

$$\text{Offsets Required (lb/year)} = ([\text{PE2} - \text{BE}] + \text{ICCE}) \times \text{DOR}$$

$$\begin{aligned} \text{PE2 (NO}_x\text{)} &= 40,977 \text{ lb/year} \\ \text{BE (NO}_x\text{)} &= 40,977 \text{ lb/year} \\ \text{ICCE} &= 0 \text{ lb/year} \end{aligned}$$

Assuming an offset ratio of 1.5:1, the amount of NO_x ERCs that need to be withdrawn is:

$$\begin{aligned} \text{Offsets Required (lb/year)} &= ([40,977 - 40,977] + 0) \times 1.5 \\ &= 0 \times 1.5 \\ &= 0 \text{ lb NO}_x\text{/year} \end{aligned}$$

As demonstrated in the calculation above, the amount of offsets is zero; therefore, offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

b. Major Modification

As demonstrated in VII.C.7, this project is a Major Modification; therefore, public noticing for Major Modification purposes is required.

c. PE > 100 lb/day

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project;

therefore public noticing is not required for this project for Potential to Emit Purposes.

d. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	40,977	40,977	20,000 lb/year	No
SO _x	11,571	11,571	54,750 lb/year	No
PM ₁₀	17,524	17,524	29,200 lb/year	No
CO	117,553	117,553	200,000 lb/year	No
VOC	51,837	19,999	20,000 lb/year	No

As detailed above, there were no thresholds exceeded with this project; therefore public noticing is not required for offset purposes.

e. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. $SSIPE = SSPE2 - SSPE1$. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	40,977	40,977	0	20,000 lb/year	No
SO _x	11,571	11,571	0	20,000 lb/year	No
PM ₁₀	17,524	17,524	0	20,000 lb/year	No
CO	117,553	117,553	0	20,000 lb/year	No
VOC	51,837	19,999	-31,838	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, this project will not result in emissions, for any criteria pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

For this turbine, the DELs are stated in the form of pounds emitted per one day.

Proposed Rule 2201 (DEL) Conditions:

- The NO_x emissions shall not exceed 112.0 pounds during any one day. [District NSR Rule] Y
- The PM₁₀ emissions shall not exceed 48.0 pounds in any one day. [District NSR Rule] Y
- The CO emissions shall not exceed 322.0 pounds in any one day. [District NSR Rule] Y
- The VOC emissions shall not exceed 142.0 pounds during any one day. [District NSR Rule] Y

Start up or shut down time of gas turbine engines are designated as Thermal Stabilization Periods. During Thermal Stabilization Periods, the exhaust gas is not within the normal operating temperature range for a period not exceeding two (2) hours. Therefore, specific conditions regarding Daily Emissions Limits (DELs) during Thermal Stabilization Periods will be listed on permit as follows:

- The unit shall comply with the Rule 4703 NO_x limit of 5 ppmvd @ 15% O₂ within two hours of the commencement of start-up and shut-down periods as defined in Rule 4703. Within three hours of commencing the start-up or shutdown sequence, the NO_x emissions shall not exceed 3.0 ppmvd @ 15% O₂ over a three hour rolling average. [District Rules 2201 and 4703] Y
- The unit shall comply with the Rule 4703 CO limit of 200 ppmvd @ 15% O₂ within two hours of the commencement of start-up and shutdown periods as defined in Rule 4703. Within three hours of commencing the start-up or shutdown sequence, the CO emissions shall not exceed 200 ppmvd @ 15% O₂ over a three hour rolling average [District Rules 2201 and 4703] Y

E. Compliance Assurance

1. Source Testing

Source testing to measure PM₁₀, NO_x (as NO₂), VOC, CO, ammonia and fuel gas sulfur content requirements of the Permit to Operate shall be conducted within 60 days of initial operation and at least once every twelve months thereafter.

This will be satisfied by including the following conditions:

- Compliance testing to measure NO_x (as NO₂), PM₁₀, CO, VOC, ammonia emissions, and fuel gas sulfur content requirements of this permit shall be conducted at least once every twelve months. [District Rules 2201 and 4001]
- Compliance testing to measure NO_x (as NO₂), CO, and ammonia emissions shall be conducted within 60 days of switching the turbine combustion emission control technology from Dry Low NO_x (DLN) to water injection technology, or vice versa. The permittee shall be required to conduct compliance testing for each combustor emission control technology only once every twelve months. [District Rules 2201 and 4001]
- Compliance testing shall be District witnessed, or authorized and samples shall be collected by a California Air Resources Board certified testing laboratory. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
- The following test methods shall be used, PM₁₀: EPA Method 5 (front half and back half), NO_x: EPA Method 7E or 20, CO: EPA Method 10 or 10B, O₂: EPA Method 3, 3A, or 20, VOC: EPA Method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703]

2. Monitoring

Pursuant to the current operating permit, the power generation operation shall be equipped with a continuous monitoring system to measure and record hours of operation and fuel consumption, NO_x (before and after SCR system), CO, and O₂.

The CEM 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 during normal operating conditions. The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO_x, CO, and O₂ analyzer during District inspections.

In addition, the 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.

Further, a monitoring condition will be added to require the permittee CEM system to be compatible with District's CEM data polling software system and to make CEM data available to the District's automated polling system on a daily basis.

Permit Conditions will be listed as follows:

- Gas turbine engines shall be equipped with a continuous monitoring system to measure and record hours of operation and fuel consumption. [District Rules 2201, 4001, and 4703]
- Gas turbine engines shall be equipped with a single continuous emissions monitor (CEM) for NO_x (before and after SCR system), CO, and O₂. The CEM shall meet the requirements of 40 CFR part 60 and shall be capable of monitoring emissions during startups and shutdowns as well as during normal operating conditions. [District Rules 2201, 4001, and 4703]
- The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080]
- Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080]
- The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO_x, CO, and O₂ analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

3. Recordkeeping

Pursuant to the current operating permit, the permittee shall maintain the following records: date and time, 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, and maintenance of any continuous emission monitor, hours of operation, fuel consumption (scf/hr and scf/rolling twelve month period), continuous emission monitor measurements, and calculated NO_x mass emission rates (lb/hr).

Following conditions will be listed on permit as follows:

- The permittee shall maintain the following records: date and time, 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, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703]

- The permittee shall maintain the following records: hours of operation, fuel consumption (scf/hr and scf/rolling twelve month period), continuous emission monitor measurements, and calculated NO_x mass emission rates (lb/hr). [District Rules 2201 and 4703]
- All records shall be maintained, retained on-site for a minimum of five (5) years and shall be made available for District inspection upon request. [District Rule 1070]

4. Reporting

Pursuant to the current operating permit, the following condition will be listed on the ATC as follows:

- The permittee 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 emissions (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. [District Rule 1080]

Rule 2520 Federally Mandated Operating Permits

The applicant is proposing to clarify the VOC emission limit. At this time, the District will proactively clarify the existing VOC emission limit had been placed on the permit originally. There will be no relaxation of record keeping conditions. This modification is a Minor Modification as defined in Rule 2520. The applicant has proposed to receive an Authority to Construct with a Certificate of Conformity in accordance with the requirements of 40 CFR 70.6(c), 70.7 and 70.8. Therefore, the 45-day EPA comment period will be satisfied prior to the issuance of the ATC. The following two federally enforceable conditions will be placed on the Authority to Construct:

- This Authority to Construct serves as a written Certificate of Conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c) [District Rule 2520] Y
- Prior to operating with the modifications authorized by this Authority to Construct, the facility shall submit an application for an administrative amendment to its Title V permit, in accordance with District Rule 2520, Section 11.4.2. [District Rule 2520] Y

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs and
- The source's suggested draft permit (appendix A) and
- Certification by a responsible official that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used (that form was provided).

Per section 5.3.2 of this rule, the applicant must submit an application for a modification prior to implementing the requested changes.

Rule 4001 New Source Performance Standards

Rule 4001 New Source Performance Standards CFR40 Part 60 Subpart GG Stationary Gas Turbines

40 CFR Part 60 Subpart GG applies to all stationary gas turbines with heat inputs of greater than 10.7 gigajoules per hour (10.2 MMBtu/hr), that commence construction, modification, or reconstruction after 10/03/77. Subpart GG applies to this turbine. The unit is subject to the NO_x requirement and water injection exemptions of §60.332, the fuel sulfur content requirement of §60.333, the monitoring requirements of §60.334 and the testing requirements of §60.335.

§60.332(a): NO_x requirement and water injection exemptions:

Per §60.332(b) electric utility stationary gas turbines rated at over 100 MMBtu/hr are subject to §60.332(a). This section requires that the NO_x emission limit be determined utilizing the following equation:

$$\text{STD} = 0.0075 \left(\frac{14.4}{Y} \right) + F$$

Where:

STD: Allowable NO_x emissions in percent by volume @ 15% O₂, on a dry basis

Y: The estimated rating of the unit is 417 MMBtu/hr (HHV) and the power out capacity is 49,000 KW-hr. Based on this information, the unit is rated at 8,510 Btu/KW-hr (HHV). The lower heating value of natural gas is typically 900-950 Btu/scf and the HHV is typically about 1,000 Btu/scf. Assuming the proposed LHV and HHV of 913 Btu/scf and 1,013 Btu/scf, the unit's rating at LHV is approximately 7,620 Btu/kW-hr.

$$Y = \left(7,620 \frac{\text{Btu}}{\text{kW} - \text{hr}} \right) \left(\frac{\text{kW}}{1,000 \text{ W}} \right) \left(\frac{\text{kJ}}{0.9478 \text{ Btu}} \right) = 8.1 \frac{\text{kJ}}{\text{W} - \text{hr}}$$

F: Fuel-bound nitrogen allowance (F = 0 for natural gas)

$$STD = 0.0075 \left(\frac{14.4}{8.1} \right) + 0 = 0.0133\% \text{ (133 ppmv @ 15\% O}_2\text{)}$$

NCPA is limited to a NO_x emission concentration of 3.0 ppmvd @ 15% O₂ (over a 3 hour averaging period). Compliance with the NSPS NO_x standard is expected.

§60.333 paragraph f allows the facility to discontinue water injection when the operator determines that ice fog may be a traffic hazard.

Ice fog is unlikely to occur in this geographic region. This issue therefore will not be addressed on the ATC or the PTO. If it becomes necessary, this option may be available

§60.333 paragraph i allows the administrator to allow discontinuation of water injection, in specific geographic areas, if water restrictions are required by governmental agencies because of drought conditions. The exemption will be allowed only while mandatory water restrictions are in effect.

This issue will not be specifically addressed on the ATC or the PTO. Should the facility be ordered to conserve water by a governmental agency, this option may be available.

§60.333(a or b): Fuel Sulfur Content Limit:

Compliance with either §60.333(a) or §60.333(b) is required. It is District practice to check compliance with both §60.333(a) and §60.333(b).

§60.333(a):

This section limits the fuel sulfur content to 0.015% by volume at 15% O₂ on a dry basis.

In order to calculate the volume of SO₂ that will be present in the exhaust it will be necessary to convert the SO₂ emissions from the terms of mass to the terms of volume. To make the necessary conversion, the ideal gas law equation will be utilized:

$$V = \frac{nRT}{P} \quad \text{Where:}$$

V is the volume of SO₂

V will be calculated once n,R,T, and P are determined.

n is the number of moles of SO₂

Determination of n:

SO₂ emission rate: (0.00285 lb/MMBtu)(463 MMBtu/hr) = 1.32
 lb/hr
 Exhaust flow rate: (463 MMBtu/hr)(8,578 dscf/MMBtu)(hr/60 min)
 = 66,194 dscfm
 Molecular Wt. Of SO₂: 64 lb SO₂/lb Mol

$$n = \left(\frac{1.32 \text{ lb SO}_2}{\text{hr}} \right) \left(\frac{\text{min}}{66,194 \text{ dscf}} \right) \left(\frac{1 \text{ hr}}{60 \text{ min}} \right) \left(\frac{1 \text{ lb mol SO}_2}{64 \text{ lb SO}_2} \right) = 5.19 \times 10^{-9} \frac{\text{lb mol SO}_2}{\text{dscf}}$$

R is the universal gas constant

$$R = \frac{10.73 \text{ PSI} - \text{ft}^3}{\text{lb mol} - ^\circ\text{R}}$$

T is standard temperature

Per District rule 1020, sect. 3.4.7, standard temperature is 60 °F (520 °R)

P is the pressure at the stack outlet

The pressure at the stack outlet will be assumed to be 1 ATM. (14.7 PSI)

Determination of V:

$$V = \frac{\left(\frac{5.19 \times 10^{-9} \text{ lb mol SO}_2}{\text{dscf}} \right) \left(\frac{10.73 \text{ PSI} - \text{ft}^3}{\text{lb mol}^\circ\text{R}} \right) (520 ^\circ\text{R})}{14.7 \text{ PSI}} = 1.97 \times 10^{-6} \frac{\text{dscf SO}_2}{\text{dscf exhaust}}$$

$$= 1.97 \text{ ppmvd @ 15\% O}_2 = 0.0002\%$$

NCPA is expected to achieve a SO₂ emission concentration of 0.0002%. This operation will therefore comply with §60.334(a).

§60.333(b):

Density of Natural Gas: 28.3 scf/lb (EPA Document EPA-42 Appendix A)
 Maximum Sulfur Content: 1.0 gr/100 scf (PG&E Tariff)

$$S \text{ (by wt.)} = \left(\frac{1.0 \text{ gr S}}{100 \text{ scf fuel}} \right) \left(\frac{1 \text{ lb S}}{7000 \text{ gr S}} \right) \left(\frac{28.3 \text{ scf fuel}}{\text{lb fuel}} \right) = \frac{0.00004 \text{ lb S}}{\text{lb fuel}} = 0.004\% \text{ S by wt.}$$

Compliance with the 0.8% by weight fuel sulfur content limit is expected.

§60.334: Monitoring

§60.334(b) requires monitoring of the sulfur and nitrogen contents of the fuel being burned by the turbine. In determining the sulfur and nitrogen content of the fuel, §60.335(e) allows the analysis to be performed by the owner/operator, service contractor, fuel vendor, or any other qualified agency. The turbine will be fired only on PUC quality natural gas.

NOx source testing will be accepted in place of fuel nitrogen content testing.

§60.334(c) requires that periods of excess emissions be reported as follows:

Periods during which the water-fuel ratio falls below the level determined by source testing to provide compliance with §60.332(b).

Water injection is not necessary to meet the NOx emission limitation of §60.332(b). Neither the ATC or the PTO will require this reporting.

§60.334(c)(2) requires that the facility report any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8%.

Maximum natural gas fuel sulfur content:	1.0 gr/100 scf
Density of natural gas:	28.2 scf/lb

$$S = (1.0 \text{ gr/100 scf})(28.3 \text{ scf/lb})(\text{lb}/7,000 \text{ gr}) = 0.004\%$$

The maximum sulfur content could be 0.004%. Provided the units burns only natural gas, which the permits require, compliance must be met and records and the records are not required.

§60.334(c)(3) requires reporting of the times that air pollution control equipment was deactivated due to ice fog conditions.

This section applies only to turbines listed in §60.332(g). This unit is not listed in §60.332(g). Compliance with §60.334(c)(3) is not required.

§60.335: Test methods and procedures

§60.335(a) requires that that the facility utilize methods approved by the Administrator to determine the nitrogen content of the fuel burned.

As previously stated, the required annual NOx source test will be accepted in place of fuel nitrogen content testing. The EPA has delegated enforcement of subpart GG to the District and the District therefore has the authority to allow this.

§60.335(b) requires that source testing be conducted utilizing the methods and procedures listed in 40 CFR Part 60 appendix A or other methods listed in section GG.

The appropriate source test methods will be determined as required by Subpart GG.

§60.335(c)(1) requires that an ISO correction factor be applied to the observed NO_x emission concentration.

The requirement to apply the ISO correction factor is to verify compliance with the 40 CFR Part 60 subpart GG emission limits. District Rule 4703, which does not require the ISO correction, is much more stringent than subpart GG. If the turbine meets the Rule 4703 emission limits, it will comply with the subpart GG requirements by a large margin. Correcting to ISO conditions is not necessary.

§60.335(c)(2) requires that the fuel to water monitoring device required in §60.334(a) be used to determine the fuel consumption and the water to fuel ratio necessary to comply with §60.332(a) at 30, 50, 75 and 100 percent of full load.

Although water injection will provide some NO_x control, it will be utilized mainly for power augmentation. The majority of NO_x reductions will occur as a result of the SCR system. Since water injection is not required in order to meet the 133 ppmvd @15% NO_x emission limit of §60.332(a) it is not necessary to determine the water to fuel ratio necessary to comply with §60.332(a).

§60.335(c)(3) requires that EPA method 20 be utilized to determine the NO_x emission, the SO_x and stack O₂ content.

§60.335(b) allows other source testing methods provided they are listed in 40 CFR part 60 Appendix A. EPA method 7E is listed in appendix A and will be allowed also.

Rule 4101 Visible Emissions

As long as the equipment is properly maintained and operated, the visible emissions are not expected to exceed 20% opacity for a period or periods aggregating more than 3 minutes in any one hour. Compliance with the provisions of this rule is expected.

Rule 4102 Nuisance

A. California Health & Safety Code 41700 (Health Risk Analysis)

There will be no change in the permitted fuel usage, emission concentrations or exhaust parameters and therefore there will not be a change in health risk. A health risk assessment is not required.

B. Toxics BACT (T-BACT)

This action will not result in a change in health risk. T-BACT is not triggered.

Rule 4201 Particulate Matter Concentration

This rule limits the PM emission concentration to 0.1 gr/dscf of exhaust flow.

PM Emission Rate: 48.0 lb/day (assuming the PM to PM₁₀ ratio is 1)
Flow Rate: 229,118 dscfm (report for the 10/5/04 source test)

$$(48.0 \text{ lb PM}/24 \text{ hr})(1 \text{ hr}/60 \text{ min})(7,000 \text{ gr}/\text{lb})(\text{min}/229,118 \text{ dscf}) = 0.001 \text{ gr}/\text{dscf}$$

Compliance is expected.

Rule 4703 Stationary Gas Turbines

Rule 4703 is applicable to stationary gas turbines with a rating greater than 0.3 megawatts. The facility proposes to install one 49 MW gas turbine, therefore this rule applies.

Section 5.1 requires that NO_x emissions concentrations measured for compliance with Section 5.0 shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either the applicable test method in Section 6.4, or, if continuous emission monitors are used, all applicable requirements of 40 CFR Part 60, as detailed in Section 6.2. Any variations from these measurement requirements are subject to APCO and EPA approval prior to implementation.

Section 5.1.1 requires that the owner or operator of any stationary gas turbine system shall not operate such unit under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured emissions concentration exceeding the applicable emission limits below, according to the Tier 1 Compliance Schedules listed in Section 7.0.

Rule 4703 Tier 1 Gas Turbine NO_x Emission Limits		
Turbine Rating (MW)	Operation (hrs/yr)	NO_x Emission Limit (ppmv @ 15% O₂)
10.0 MW and greater, with SCR	≥877	9 x EFF/25

Where EFF (efficiency) is the higher of EFF₁ or EFF₂ below. An EFF that is less than 25 shall be assigned a value of 25.

$$EFF_1 = \frac{3,412(\text{Btu} / \text{kW} - \text{hr})}{\text{ActualHeatRate @ HHVB}(\text{Btu} / \text{kW} - \text{hr})} \times 100\%$$

EFF₁ is the demonstrated percent efficiency of the gas turbine only, as calculated without consideration of any downstream energy recovery from the actual heat rate (Btu/KW-hr); corrected to HHV and standard conditions, as measured at peak load for that facility.

$$EFF_2 = EFF_{mfr} \frac{LHV}{HHV}$$

EFF₂ is EFF_{mfr} after correction from LHV to HHV at peak load for that facility. EFF_{mfr} is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution control equipment at LHV.

The Actual Heat Rate @ HHV for the Pratt & Whitney turbine is 13,500 Btu/kW-hr as reported by the manufacturer:

$$EFF_1 = (3,412 / 13,500) \times 100$$

$$EFF_1 = 25.2\%$$

Therefore, when gas fired:

$$NO_x = 9 \times 25.2 / 25$$

$$NO_x = 9.1 \text{ ppmv @ } 15\% O_2$$

EFF₂ calculations are not necessary since Rule 4703 emission limits will be no lower than 9 ppmv NO_x and the turbines will be limited to a maximum of 2.5 ppmv NO_x @ 15% O₂; therefore compliance is expected.

Section 5.1.2 states that The owner or operator of any stationary gas turbine system shall not operate such unit under load conditions, excluding the thermal stabilization period or reduced load period, which results in the measured emissions concentration exceeding the applicable emission limits below, according to the Tier 2 Compliance Schedules listed in Section 7.2.

Tier 2 NO _x Compliance Limits			
Turbine Classification Rating	Compliance Option (see Section 7.2)	NO _x Compliance Limit, ppmvd at 15% O ₂	
		Gas Fuel	Liquid Fuel
e) Greater than 10 MW, Simple cycle, and permit condition for greater than 877 hrs/yr operation.	Standard	5	25
	Enhanced	3	25

The Tier 2 "standard" limits, which are effective April 30, 2005, will require these emission units to achieve a 5-ppmv limit. Since the units are being permitted to a maximum of 5 ppmv NO_x @ 15% O₂, compliance is expected. The following condition will be placed on the permit to assure compliance with the emission limits of these sections.

- The unit shall comply with the Rule 4703 NOx limit of 5 ppmvd @ 15% O2 within two hours of the commencement of start-up and shut-down periods as defined in Rule 4703. Within three hours of commencing the start-up or shutdown sequence, the NOx emissions shall not exceed 3.0 ppmvd @ 15% O2 over a three hour rolling average. [District Rules 2201 and 4703] Y

Section 5.2 requires that the owner or operator of any stationary gas turbine system shall not operate such unit under load conditions, excluding the thermal stabilization period and the reduced load period, which results in the measured CO emissions concentration exceeding the compliance limits listed below:

Rule 4703 Gas Turbine CO Emission Limits		
Turbine Rating (MW)	Operation (hrs/yr)	CO Emission Limit (ppmv @ 15% O₂)
All units except General Electric Frame 7, General Electric Frame 7 with Quiet Combustors, and < 2.0 MW Solar Saturn gas turbine powering a centrifugal compressor	N/A	200

Compliance with this section will be assured by the units DEL condition.

Section 5.3 – Startup and Shutdown Requirements:

This section states that the emission limit requirements of Sections 5.1.1, 5.1.2 or 5.2 shall not apply during startup, shutdown, or a reduced load period provided an operator complies with the requirements specified below:

- The duration of each startup or each shutdown shall not exceed two hours, and the duration of each reduced load period shall not exceed one hour, except as provided below.
- The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during startup, shutdown, or a reduced load period.
- An operator may submit an application to allow more than two hours for each startup or each shutdown or more than one hour for each reduced load period provided the operator meets all of the conditions specified in the rule.

The facility proposes to incorporate startup and shutdown provisions into the operating requirements for the proposed turbine. They have proposed that the duration of each startup or shutdown event will last no more than two hours. The SCR system and oxidation catalyst will be in operation during startup and shutdown in order to minimize emissions insofar as technologically feasible during startups and shutdowns. Therefore, the proposed turbine will

be operating in compliance with the startup and shutdown requirements of this rule. The following conditions will ensure continued compliance with the requirements of this section:

- Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703]
- The duration of each startup or shutdown shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rules 2201 and 4703]
- The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703]

Section 6.1 requires that the owner or operator of any existing stationary gas turbine system, unless exempted in Section 6.1.5, shall submit, to the APCO for approval, an emissions control plan of all actions, including a schedule of increments of progress, which will be taken to comply with the requirements of the applicable NO_x Compliance Limit in Section 5.0 and Compliance Schedule in Section 7.0.

Section 6.1.1 requires that such plan shall contain a list that provides the following for each stationary gas turbine system:

- Permit or identification number,
- Name of gas turbine manufacturer,
- Gas turbine model designation,
- Rated shaft power output, (MW),
- Name of auxiliary burner manufacturer,
- Auxiliary burner model designation,
- Rated heat input of the auxiliary burner, (MMBtu/hr)
- Type of liquid fuel and/or type of gaseous fuel,
- Fuel consumption (cubic feet of gas or gallons of liquid) of turbine and/or auxiliary burner,
- Hours of operation in the previous one-year period,
- Heat rate (Btu/KW-hr), corrected to HHV for each type of fueling (liquid/gas),
- HHV for each fuel.

Section 6.1.2 requires such a plan shall contain a list of all stationary gas turbine systems to be controlled, identifying the type of emission control to be applied to each unit, applicable emission standard from Section 5.0, and documentation showing current emissions of oxides of nitrogen.

Section 6.1.3 requires that such a plan shall contain support documentation for any systems exempt under the provisions of Section 4.0.

Section 6.1.4 requires that such a plan shall identify the applicable compliance schedule for each unit, as specified in Section 7.0. Each emission control plan for a unit subject to Section 7.1.2 or section 7.2.2 shall include the owner/operator's overhaul schedule.

Section 6.1.5 requires the owner or operator of any existing stationary gas turbine system shall be exempt from the requirements of Section 6.1 provided all such turbines under his ownership or control have NO_x and CO emissions limits which are shown on the current Permit to Operate and which do not exceed the applicable Compliance Limits in Section 5.0.

Section 6.2.1 requires that except for units subject to Section 6.2.3, for turbines with exhaust gas NO_x control devices, the owner or operator shall either install, operate, and maintain continuous emissions monitoring equipment for NO_x and oxygen, as identified in Rule 1080 (Stack Monitoring), or install and maintain APCO-approved alternate monitoring consisting of one or more of the following:

- periodic NO_x emission concentrations,
- turbine exhaust oxygen concentration,
- air-to-fuel ratio,
- flow rate of reducing agents added to turbine exhaust,
- catalyst inlet and exhaust temperature,
- catalyst inlet and exhaust oxygen concentration,
- other operational characteristics.

The turbine in this project is equipped with a CEM system; therefore compliance with this section is expected and the following condition will be added to the permit.

- Gas turbine engines shall be equipped with a continuous monitoring system to measure and record hours of operation and fuel consumption. [District Rules 2201, 4001, and 4703]

Section 6.2.2 requires that except for units subject to Section 6.2.3, for turbines without exhaust-gas NO_x control devices and without continuous emissions monitoring equipment, the owner or operator shall monitor operational characteristics recommended by the turbine manufacturer or emission control system supplier, and approved by the APCO. The turbine in this project is equipped with a CEM system; therefore this section is not applicable to the unit in this project.

Section 6.2.3 requires that for units 10 MW and greater that operated an average of more than 4,000 hours per year over the last three years before August 18, 1994, the owner or operator shall monitor the exhaust gas NO_x emissions. The NO_x monitoring system shall meet EPA requirements as specified in 40 CFR Part 60 App. B, Spec. 2, 40 CFR Part 60 App. F, and 40 CFR Part 60.7 (c), 60.7 (d), and 60.13, or other systems that are acceptable to the EPA. The owner or operator shall submit to the APCO information demonstrating that the emission monitoring system has data gathering and retrieval capability. The facility has proposed to use a CEM system to monitor the NO_x emissions from this unit; therefore compliance with this section is assured.

Section 6.2.4 requires that the owner or operator shall maintain all records for a period of five years from the date of data entry and shall make such records available to the APCO upon request. The following condition will be added to this permit to assure compliance with this section.

- All records shall be maintained, retained on-site for a minimum of five (5) years and shall be made available for District inspection upon request. [District Rules 2201 and 4703]

Section 6.2.5 requires that the owner or operator shall submit to the APCO, before issuance of the Permit to Operate, information correlating the control system operating parameters to the associated measured NO_x output. This information may be used by the APCO to determine compliance when there is no continuous emission monitoring system for NO_x available or when the continuous emission monitoring system is not operating properly. Compliance with this section is assured by the information collected when the power generation system was initially permitted.

Section 6.2.6 requires that the owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local time start-up and stop time, length and reason for reduced load periods, total hours of operation, type and quantity of fuel used (liquid/gas). The following condition will be added to the permit to assure compliance with this section.

- The permittee shall maintain the following records: date and time, 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, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703]
- The permittee shall maintain the following records: quarterly hours of operation, fuel consumption (scf/hr and scf/rolling twelve month period), continuous emission monitor measurements, and calculated NO_x mass emission rates (lb/hr). [District Rules 2201 and 4703]

Section 6.3.1 requires that the owner or operator of any stationary gas turbine systems subject to the provisions of Section 5.0 of this rule shall provide source test information annually regarding the exhaust gas NO_x and CO concentrations, and, if used as a basis for Tier 1 emission limit calculations, the demonstrated percent efficiency (EFF) of the stationary gas turbine, or, for turbines complying with Section 5.1.2.2, the control efficiency of the emission control device. The following condition will be added to the permit to assure compliance with this section.

- Compliance testing to measure NO_x (as NO₂), PM₁₀, CO, VOC, ammonia emissions, and fuel gas sulfur content requirements of this permit shall be conducted at least once every twelve months. [District Rules 2201, 4001, and 4703]

Section 6.3.2 requires that the owner or operator of any stationary gas turbine system operating less than 877 hours per year shall provide source test information biennially regarding the exhaust gas NO_x concentrations at standard conditions and if used as a basis for Tier 1 emission limit calculations, the percent efficiency (EFF) of the stationary gas turbine. The turbine involved in this project operates more than 877 hr/yr; therefore this section of the Rule is not applicable.

Section 6.3.3 requires that the owner or operator of any unit with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. The

turbine in this project is not equipped with intermittently operated auxiliary burners; therefore they are not subject to the requirements of this section.

Section 6.4 requires that the following test measures shall be used unless otherwise approved by the APCO and EPA.

- Oxides of nitrogen emissions for compliance tests shall be determined by using EPA Method 7E or EPA Method 20.
- Carbon monoxide emissions for compliance tests shall be determined by using EPA Test Methods 10 or 10B.
- Oxygen content of the exhaust gas shall be determined by using EPA Methods 3, 3A, or 20.

The following condition will be added to the permit to assure compliance with this section.

- The following test methods shall be used, PM10: EPA Method 5 (front half and back half), NOx: EPA Method 7E or 20, CO: EPA Method 10 or 10B, O2: EPA Method 3, 3A, or 20, VOC: EPA Method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703]

Section 6.4.5 requires that the HHV and LHV of gaseous fuels shall be determined by using:

- *ASTM D3588-91, Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density (Specific Gravity) of Gaseous Fuels, or*
- *ASTM 1826-88, Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, or*
- *ASTM 1945-81, Standard Method for Analysis of Natural Gas by Gas Chromatography.*

Section 6.4.6 requires that the demonstrated percent efficiency of the stationary gas turbine shall be determined using the facility instrumentation for gas turbine fuel consumption and power output. Power output values used to determine gas turbine efficiency shall be either:

- the electrical power output of the gas turbine, provided the gas turbine generates electricity; or
- the mechanical power output of the gas turbine, provided the gas turbine does not generate electricity.

From section 7.1 the Tier 1 Compliance Schedule is as follows: Except for owners or operators of units subject to Section 7.1.4, owners or operators of all applicable stationary gas turbine systems shall submit the emission control plan required by Section 6.1 by May 31, 1995. All owner/operators shall demonstrate and maintain compliance with the applicable provisions of Sections 5.0 and 6.0 in accordance with the following Compliance Schedules:

- *By August 18, 1996, submit to the APCO a complete application for Authority to Construct for all modifications to each unit.*
- *By August 18, 1998, demonstrate full compliance.*

Section 7.1.2 applies to a unit not scheduled for a major overhaul between August 18, 1996 and August 18, 1998. Section 7.1.2 does not apply to any unit that will achieve full compliance with the limits in Section 5.0 through the exclusive use of an increased rate of water or steam injection.

- By August 18, 1996, submit a complete application for Authority to Construct.
- By August 18, 1998, demonstrate full compliance on at least 62% of the owner/operator's units.
- By August 18, 2000 or 30 days after the completion of the next major overhaul following August 18, 1998, whichever comes first, demonstrate full compliance on all remaining units.

Section 7.1.3 applies to any unit which was originally designated to be modified with dry low NO_x combustion technology, as identified in the emission control plan required by Section 6.1, provided the owner/operator of such unit demonstrates that such technology will not be commercially available by August 18, 1998. The owner/operator of each applicable unit shall,

- By February 18, 1998, submit a complete application for Authority to Construct for all modifications to each unit.
- By August 18, 2000, demonstrate full compliance.

Section 7.1.4 applies to any unit equipped with water or steam injection that will achieve full compliance with the emission limits in Section 5.0 through the exclusive use of an increased rate of injection.

- By November 18, 1994, submit a complete application for Authority to Construct for all modifications to each unit.
- By March 18, 1995, demonstrate full compliance.

Section 7.1.5 applies to any unit that will achieve full compliance with the emission limits in Section 5.0 through the exclusive use of an increased rate of water or steam injection and that requires modification of the turbine water/steam injection system or modification to the water storage and treatment system. The owner/operator of each applicable unit shall;

- By August 18, 1995, submit a complete application for Authority to Construct for all modifications to each unit.
- By August 18, 1996, demonstrate full compliance.

From section 7.2 the Tier 2 Compliance Schedule is as follows: Owners or operators of all applicable stationary gas turbine systems shall submit the emission control plan required by Section 6.1 to the District by April 30, 2003. All owner/operators shall demonstrate and maintain compliance with the applicable provisions of Sections 5.0 and 6.0 in accordance with the following Compliance Schedules:

Rule 4703 Tier 2 Gas Turbine Compliance Schedule		
Turbine Rating (MW)	Operation (hrs/yr)	Compliance Date
> 10, combined cycle	N/A	April 30, 2004
> 10, simple cycle with operation greater than 877 hr/yr	> 877	April 30, 2005

Section 7.2.2 requires that notwithstanding Table 7-1, for an operator with multiple units no greater than 10 MW which will comply with the 25 ppmv Standard DLN Option for those units,

- By April 30, 2004, demonstrate full compliance on at least 62% of those units which will comply with the Standard DLN Option.
- By April 30, 2005 or 30 days after the completion of the next Major Overhaul following April 30, 2004 whichever is earliest, demonstrate full compliance on all remaining units which will comply with the Standard DLN Option.

Section 7.2.3 requires that notwithstanding Table 7-1, for an operator with multiple units greater than 10 MW, which will comply with the Standard Option for those units,

- By April 30, 2004, demonstrate full compliance on at least 62% of those units which will comply with the Standard Option.
- By April 30, 2005, or 30 days after the completion of the next Major Overhaul following April 30, 2004, whichever is earliest, demonstrate full compliance on all remaining units which will comply with the Standard Option.

Section 7.2.4 requires that Operators complying with the Enhanced Option of Table 5-2 shall demonstrate and maintain compliance by the earlier of either

- April 30, 2008, or
- within 90 days following the next Major Overhaul, if that overhaul occurs after April 30, 2004.

The facility is already in compliance so no action is needed to show compliance with this section.

Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{n RT}{P}$$

With:

N = moles SO₂

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

EPA F-Factor for Natural Gas: 8,710 dscf/MMBtu at 68 °F, equivalent to

$$\text{Corrected F - factor} = \left(\frac{8,710 \text{ dscf}}{\text{MMBtu}} \right) \times \left(\frac{60^\circ\text{F} + 459.6}{68^\circ\text{F} + 459.6} \right) = 8,578 \frac{\text{dscf}}{\text{MMBtu}} \text{ at } 60^\circ\text{F}$$

$$\frac{0.00285 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.97 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 1.97 \frac{\text{parts}}{\text{million}}$$

Since 1.97 ppmv < 2,000 ppmv (or 0.2%), compliance with District Rule 4101 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

A notice is required if there will be an increase in the emissions of hazardous air pollutants within 1,000 feet of a K-12 school. This project will not result in an increase in HAP emissions and the facility is not located within 1,000 feet of a K-12 school. A school notice is not required.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.

- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct N-2697-1-6 subject to the permit conditions on the attached draft Authority to Construct in Appendix C.

X. Billing Information

Permit #	Description	Fee Schedule
N-2697-1-6	49,000 KW	3020-8A-G

Appendices

- Appendix A: Current PTO N-2697-1-3
- Appendix B: Certificate of Compliance
- Appendix C: Draft ATC N-2697-1-6

Appendix A
Current PTO N-2697-1-3

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-2697-1-3

EXPIRATION DATE: 05/31/2009

EQUIPMENT DESCRIPTION:

ONE GENERAL ELECTRIC LM5000 NATURAL GAS FIRED GAS TURBINE ENGINE WITH STEAM INJECTION, SELECTIVE CATALYTIC REDUCTION WITH AMMONIA INJECTION, AND AN OXIDIZATION CATALYST SERVING A 49 MW ELECTRICAL GENERATOR

PERMIT UNIT REQUIREMENTS

1. This unit shall be fired solely on PUC-quality natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Operator shall operate and maintain in calibration a system which continuously measures and records: control system operating parameters, elapsed time of operation, and the exhaust gas NO_x, CO and O₂ concentrations. [40 CFR 60.334 (b)(1)(2), District NSR Rule and District Rule 1080] Federally Enforceable Through Title V Permit
3. The turbine and associated ancillary equipment must be maintained and kept in good operating condition at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
4. A selective catalytic reduction (SCR) system shall be installed in the path of the heat recovery boiler where the temperature range is 450 to 750 degrees F. [District NSR Rule] Federally Enforceable Through Title V Permit
5. A SCR system shall have an effective catalyst volume of at least 100 cubic feet at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
6. The catalyst bed and other components of the SCR system shall be made available for visual inspection by the District at least once a year. The District shall be notified at least 30 days prior to scheduling such inspection. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The turbine shall be equipped with a CO catalyst to reduce CO and NMHC emissions. [District NSR Rule] Federally Enforceable Through Title V Permit
8. The turbine shall be equipped with an automatic air/fuel ratio control system. [District NSR Rule] Federally Enforceable Through Title V Permit
9. The permittee shall provide a continuous temperature monitoring and recording system to indicate the flue gas temperature through the SCR system. [District NSR Rule] Federally Enforceable Through Title V Permit
10. The stack height shall be minimum of 50 feet, and shall be adequate for stack sampling pursuant to EPA reference methods for source testing. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Results of continuous emissions monitoring must 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. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
12. The NO_x CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4 and 40 CFR 60.334(b)(2)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

13. The continuous NO_x and O₂ monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.7] Federally Enforceable Through Title V Permit
14. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
15. Operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEM. Operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0] Federally Enforceable Through Title V Permit
16. Operations during periods of startup or shutdown shall not constitute representative conditions for the purpose of a NO_x performance test nor shall NO_x emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
17. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.0] Federally Enforceable Through Title V Permit
18. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
19. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with all applicable requirements of CFR 60.13(h). [40 CFR 60.13(h), and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit
20. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
21. Operators of CEM systems installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO. The report is due on the 30th day following the end of the calendar quarter and shall include the following: 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 corresponding to the averaging period specified in the emission test period used to determine compliance with an 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; A negative declaration when no excess emissions occurred. [40 CFR 60.334 (j)(5) and District Rule 1080, 8.0] Federally Enforceable Through Title V Permit
22. The fuel consumption, based on the higher heating value of the fuel, shall not exceed 463 million Btu in any one hour. [District NSR Rule] Federally Enforceable Through Title V Permit
23. All emissions during start-up and shutdown periods shall be counted towards the applicable daily emissions limitations. [District NSR Rule] Federally Enforceable Through Title V Permit
24. The daily emission rates shall be calculated based on the hourly average stack concentrations and the calculated stack gas flow rates. [District NSR Rule] Federally Enforceable Through Title V Permit
25. The continuous emissions monitoring equipment shall be calibrated at least once per day. Relative Accuracy Testing shall be performed annually in accordance with 40 CFR Part 60, Appendices B & F or Part 75 if approved by the EPA. [District Rule 2080] Federally Enforceable Through Title V Permit
26. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201, 3.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

27. The unit shall comply with the Rule 4703 NO_x limit of 5 ppmvd @ 15% O₂ within two hours of the commencement of start-up and shut-down periods as defined in Rule 4703. Within three hours of commencing the start-up or shutdown sequence, the NO_x emissions shall not exceed 3.0 ppmvd @ 15% O₂ over a three hour rolling average. [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
28. The unit shall comply with the Rule 4703 CO limit of 200 ppmvd @ 15% O₂ within two hours of the commencement of start-up and shutdown periods as defined in Rule 4703. Within three hours of commencing the start-up or shutdown sequence, the CO emissions shall not exceed 200 ppmvd @ 15% O₂ over a three hour rolling average [District Rules 2201 and 4703] Federally Enforceable Through Title V Permit
29. Sulfur compound emissions shall not exceed 0.0152% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a); County Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus)] Federally Enforceable Through Title V Permit
30. The ammonia slip shall not exceed 25 ppmv, dry, corrected to 15% O₂. [District Rule 4102]
31. The NO_x emissions shall not exceed 112.0 pounds during any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
32. The PM₁₀ emissions shall not exceed 48.0 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
33. The CO emissions shall not exceed 322.0 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
34. The VOC emissions shall not exceed 142.0 pounds during any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
35. The fuel sulfur content shall not exceed 1.0 gr/100 scf. [District NSR Rule] Federally Enforceable Through Title V Permit
36. There shall be no visible emissions (except for uncombined water) from the entire system except during periods of startup and shutdown. [District NSR Rule] Federally Enforceable Through Title V Permit
37. Visible emissions shall be inspected annually during operation. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. The owner or operator shall be required to conform to the compliance testing and sampling procedures described in District Rule 1081 (as amended 12/16/93). [District Rule 1081] Federally Enforceable Through Title V Permit
39. The owner or operator shall conduct and provide source test information annually regarding the exhaust gas NO_x and CO concentration corrected to 15% O₂ (dry). EPA Methods 7E or 20 shall be used for NO_x emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(a)(b), District NSR Rule and District Rules 2520, Section 9.3.2, 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
40. The owner or operator shall conduct and provide source test information annually regarding, the NH₃ emissions, and shall be measured using BAAQMD Method ST-1B. [District NSR Rule and District Rule 1081] Federally Enforceable Through Title V Permit
41. Source testing shall be conducted using the methods outlined in this permit and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
42. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

43. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 4468, D 6667 or D 3246. [40 CFR 60.335(b)(10)(ii)] Federally Enforceable Through Title V Permit
44. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be documented in a valid purchase contract, a supplier certification, tariff or transportation contract or tested daily in accordance with the requirements of 40 CFR 60.334 (h)(3) or (i)(2). [40 CFR 60.334(h)(3) and (i)(2)] Federally Enforceable Through Title V Permit
45. The operator shall submit a quarterly report of excess emissions and monitor downtime as defined and specified in 40 CFR 60.334 (b)(3) and (j). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. [40 CFR 60.334 (b)(3) and (j)] Federally Enforceable Through Title V Permit
46. A daily log showing the hourly rate of ammonia injection and the pressure drop across the catalyst shall be maintained on the premises at all times. [District NSR Rule] Federally Enforceable Through Title V Permit
47. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Rules 404 (Madera), 406 (Fresno), and 407 (Kings, Merced, San Joaquin, Tulare, Kern, and Stanislaus) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
48. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332(a)(1), (b), 60.333 (b); 60.334, (b)(1), (b)(2), (b)(3), (h)(3), (i)(2), (j)(3); 60.335(a), (b)(1), (b)(2), and (b)(10)(ii); and District Rule 4703 (as amended 4/25/02), Sections 5.1.1, 5.2, 6.1, 6.3.1, 6.3.3, 6.4, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
49. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8(a), (c), (d), and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
50. The owners and operators of each affected source and each affected unit at the source shall have an Acid Rain permit and operate in compliance with all permit requirements. [40 CFR 72] Federally Enforceable Through Title V Permit
51. The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75. [40 CFR 75] Federally Enforceable Through Title V Permit
52. The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program. [40 CFR 75] Federally Enforceable Through Title V Permit
53. The owners and operators of each source and each affected unit at the source shall: (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide. [40 CFR 73] Federally Enforceable Through Title V Permit
54. Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act. [40 CFR 77] Federally Enforceable Through Title V Permit
55. Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program. [40 CFR 72] Federally Enforceable Through Title V Permit
56. An allowance shall not be deducted in order to comply with the requirements under 40 CFR part 73, prior to the calendar year for which the allowance was allocated. [40 CFR 73] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

57. An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization. [40 CFR 72] Federally Enforceable Through Title V Permit
58. An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right. [40 CFR 72] Federally Enforceable Through Title V Permit
59. The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77. [40 CFR 77] Federally Enforceable Through Title V Permit
60. The owners and operators of an affected unit that has excess emissions in any calendar year shall: (i) Pay without demand the penalty required, and pay up on demand the interest on that penalty; and (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77. [40 CFR 77] Federally Enforceable Through Title V Permit
61. The owners and operators of the each affected unit at the source shall keep on site the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority: (i) The certificate of representation for the designated representative for the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site beyond such five-year period until such documents are superceded because of the submission of a new certificate of representation changing the designated representative. [40 CFR 72] Federally Enforceable Through Title V Permit
62. The owners and operators of each affected unit at the source shall keep on site each of the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority; (ii) All emissions monitoring information, in accordance with 40 CFR part 75; (iii) Copies of all reports, compliance certifications and other submissions and all records made or required under the Acid Rain Program; (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission that demonstrates compliance with the requirements of the Acid Rain Program. [40 CFR 75] Federally Enforceable Through Title V Permit
63. The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR 75 Subpart I. [40 CFR 75] Federally Enforceable Through Title V Permit
64. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 4703] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Appendix B
Certificate of Compliance

**San Joaquin Valley
Unified Air Pollution Control District**

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: NORTHERN CALIFORNIA POWER AGENCY	FACILITY ID: N - 2697
1. Type of Organization: <input type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input checked="" type="checkbox"/> Utility	
2. Owner's Name: NORTHERN CALIFORNIA POWER AGENCY	
3. Agent to the Owner:	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:


Signature of Responsible Official

11/5/09
Date

ED WARNER
Name of Responsible Official (please print)

PLANT MANAGER
Title of Responsible Official (please print)