SEP 17 2010

Tim Alburger
Seneca Resources
2131 Mars Court
Bakersfield, CA 93308

Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1114
Project # 1095502

Dear Mr. Alburger:

Enclosed for your review and comment is the District's analysis of an application for Authority to Construct for Seneca Resources. The subject equipment will operate at various specified locations in Seneca's western Kern County fields heavy oil stationary source, CA. Seneca Resources is requesting an Authority to Construct for an 85 MMBTU/hr steam generator.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, 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.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: DT/cm

Enclosures
Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1114
Project # 1095502

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Seneca Resources. The subject equipment will operate at various specified locations in Seneca’s western Kern County fields heavy oil stationary source, CA, which has been issued a Title V permit. Seneca Resources is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Seneca Resources is requesting an Authority to Construct for an 85 MMBTU/hr steam generator.

Enclosed is the engineering evaluation of this application, along with the current Title V permit, and proposed Authority to Construct # S-1114-113-0 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. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW: DT/cm

Enclosures
SEP 17 2010

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P.O. Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1114
Project # 1095502

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authority to Construct for Seneca Resources. The subject equipment will operate at various specified locations in Seneca’s western Kern County fields heavy oil stationary source, CA. Seneca Resources is requesting an Authority to Construct for an 85 MMBTU/hr steam generator.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AUTHORITY TO CONSTRUCT

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Authority To Construct to Seneca Resources for its heavy oil production facility. The subject equipment will operate at various specified locations in Seneca’s western Kern County fields heavy oil stationary source, California. Seneca Resources is requesting an Authority to Construct for an 85 MMBTU/hr steam generator.

The analysis of the regulatory basis for these proposed actions, Project #1095502, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308-9725.
I. Proposal

Seneca Resources (Seneca) is requesting an Authority to Construct for an 85 MMBTU/hr steam generator. The unit will be equipped with flue gas recirculation (FGR), an ultra low NOx burner and will be fired on natural gas and waste gas and will be authorized to operate at various specified locations.

Seneca received their Title V Permit on 4/30/06. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, 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. Seneca must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC(s) issued with this project.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (9/21/06)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4301 Fuel Burning Equipment (12/17/92)
Rule 4305 Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306 Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4351 Boilers, Steam Generators and Process Heaters – Phase I (8/21/03)
Rule 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 subject equipment will operate at various specified locations in Seneca's Heavy Oil Western stationary source. 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

Seneca plans to install an 85 MMBtu/hr natural gas fired steam generators to produce steam to thermally enhance oil production in their Western Heavy Oil Stationary Source. The steam generator will be fired on natural gas.

Steam generators are used to provide high quality steam for injection into heavy crude oil production zones. The heat added by the steam reduces the viscosity of the crude oil facilitating production.

V. Equipment Listing

Equipment Description:

S-1114-113-0: 85 MMBTU/HR PCL, OR EQUIVALENT, NATURAL GAS OR WASTE GAS-FIRED STEAM GENERATOR, WITH A NORTH AMERICAN LEL, OR EQUIVALENT, ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION AUTHORIZED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired steam generators include NOx, CO, VOC, PM10, and SOx. The units are equipped with low NOx burners and flue gas re-circulation (FGR).

Low-NOx burners reduce NOx formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NOx burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NOx. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

The use of FGR can reduce nitrogen oxides (NOx) emissions by 60% to 70%. In an FGR system, a portion of the flue gas is re-circulated back to the inlet air. As flue gas is composed mainly of nitrogen and the products of combustion, it is much lower in oxygen than the inlet air.
and contains virtually no combustible hydrocarbons to burn. Thus, flue gas is practically inert. The addition of an inert mass of gas to the combustion reaction serves to absorb heat without producing heat, thereby lowering the flame temperature. Since thermal NO\textsubscript{X} is formed by high flame temperatures, the lower flame temperatures produced by FGR serve to reduce thermal NO\textsubscript{X}.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 8760 hours per year (per Applicant).
- Heating value of natural gas is 1,000 MMBtu/MMscf (District policy).
- The unit is fired on natural gas and TEOR gas (per Applicant).
- F-factor for natural gas, corrected to 68 °F, is 8.578 dscf/MMBtu (40 CFR 60, Appendix B).
- Sulfur content of natural gas is 1 gr/100 scf (=0.00285 lb-SO\textsubscript{x}/MMBtu) (BACT limit and per Applicant).

B. Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>ppmv @ 3% O\textsubscript{2}</th>
<th>lb/MMBtu</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{X}</td>
<td>7</td>
<td>0.0085</td>
<td>Applicant and Rule 4320</td>
</tr>
<tr>
<td>SO\textsubscript{X}</td>
<td>-</td>
<td>0.00285</td>
<td>District Policy APR 1720</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>-</td>
<td>0.0076</td>
<td>Applicant and AP-42 Table 1.4-2</td>
</tr>
<tr>
<td>CO</td>
<td>42</td>
<td>0.031</td>
<td>Applicant</td>
</tr>
<tr>
<td>VOC</td>
<td>-</td>
<td>0.00537</td>
<td>Applicant and AP-42 Table 1.4-2</td>
</tr>
</tbody>
</table>

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)
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.

Facility emissions are already above the Offset and Major Source Thresholds; therefore, SSPE1 calculations are not necessary.

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.

Facility emissions are already above the Offset and Major Source Thresholds; therefore, SSPE2 calculations are not necessary.

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."

This source is an existing Major Source and will remain a Major Source. No change in other pollutants are proposed or expected as a result of this project.

6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project, to calculate the QNEC and if applicable, to determine the amount of offsets required.

Pursuant to Section 3.7 of District Rule 2201, 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), calculated pursuant to Section 3.22 of District Rule 2201.

Since emissions unit new the BE = PE1 = 0 for all pollutants.

7. Major Modification

Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

As discussed in Section VII.C.5 above, the facility is an existing Major Source; however, the project by itself would need to be a significant increase in order to trigger a Major Modification. The emissions unit(s) within this project do(es) not have a total potential to emit which is greater than Major Modification thresholds (see table below). Therefore, the project cannot be a significant increase and the project does not constitute a Major Modification.
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. Detailed QNEC calculations are included in Appendix A.

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 AIPE 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 seen in Section VII.C.2 of this evaluation, the applicant is proposing to install a new steam generator with a PE greater than 2 lb/day for NOX, SOX, PM10, CO, and

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Project PE (lb/year)</th>
<th>Threshold (lb/year)</th>
<th>Major Modification?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOX</td>
<td>6329</td>
<td>50,000</td>
<td>No</td>
</tr>
<tr>
<td>SOX</td>
<td>2122</td>
<td>80,000</td>
<td>No</td>
</tr>
<tr>
<td>PM10</td>
<td>5659</td>
<td>30,000</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>3999</td>
<td>50,000</td>
<td>No</td>
</tr>
</tbody>
</table>
VOC. BACT is triggered for SO\textsubscript{x}, SO\textsubscript{x}, PM\textsubscript{10}, CO, and VOC since the PEs are greater than 2 lbs/day.

2. BACT Guideline

Please note that BACT Guideline 1.2.1 [Steam Generator (≥ 5 MMBtu/hr, Oilfield) has been rescinded. The NO\textsubscript{x} emission limit requirement of District Rule 4320 is lower than the Achieved-in-Practice requirement of BACT Guideline 1.2.1 (14 ppmv @ 3% O\textsubscript{2}); therefore a project specific BACT analysis will be performed to determine BACT for this project. More details regarding this are provided in Appendix B.

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District’s NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see Appendix B), BACT has been satisfied with the following:

\begin{itemize}
  \item NO\textsubscript{x}: 7 ppmv @ 3% O\textsubscript{2}
  \item SO\textsubscript{x}: The use of natural gas or waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, is selected as BACT for SO\textsubscript{x} and PM\textsubscript{10} emissions.
  \item PM\textsubscript{10}: The use of natural gas or waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, is selected as BACT for SO\textsubscript{x} and PM\textsubscript{10} emissions.
  \item VOC: Gaseous fuel
  \item CO: 42 ppmv @ 3% O\textsubscript{2}
\end{itemize}

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 (SSPE\textsubscript{2}) 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.
2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source and the SSPE2 is greater than the offset thresholds; 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 is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = \((\Sigma[PE2 - BE] + ICCE) \times DOR\), 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)

The facility is proposing to install a new emissions unit; therefore Baseline Emissions are equal to zero. Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

Offsets Required (lb/year) = \((\Sigma[PE2 - BE] + ICCE) \times DOR\)

**NOx Offsets**

- \(PE2 (NO_x) = 6329 \text{ lb/year}\)
- \(BE (NO_x) = 0 \text{ lb/year}\)
- \(ICCE = 0 \text{ lb/year}\)
Assuming an offset ratio of 1.5:1, the amount of NO\textsubscript{x} ERCs that need to be withdrawn is:

Offsets Required (lb/year) \(= ([6329 - 0] + 0) \times 1.5\)
\(= 6329 \times 1.5\)
\(= 9494\) lb NO\textsubscript{x}/year

Calculating the appropriate quarterly emissions to be offset is as follows:

<table>
<thead>
<tr>
<th>Quarter</th>
<th>1\textsuperscript{st} Quarter</th>
<th>2\textsuperscript{nd} Quarter</th>
<th>3\textsuperscript{rd} Quarter</th>
<th>4\textsuperscript{th} Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>2374</td>
<td>2374</td>
<td>2374</td>
<td>2374</td>
</tr>
</tbody>
</table>

The applicant has stated that the facility plans to use ERC certificates S-1547-2 and S-3080-2 to offset the increases in NO\textsubscript{x} emissions associated with this project. The above certificate has available quarterly NO\textsubscript{x} credits as follows:

<table>
<thead>
<tr>
<th>ERC</th>
<th>1\textsuperscript{st} Quarter</th>
<th>2\textsuperscript{nd} Quarter</th>
<th>3\textsuperscript{rd} Quarter</th>
<th>4\textsuperscript{th} Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1547-2</td>
<td>1883</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S-3080-2</td>
<td>0</td>
<td>3151</td>
<td>2575</td>
<td>1991</td>
</tr>
</tbody>
</table>

Note that pursuant to section 4.13.8 of Rule 2201, AER for NO\textsubscript{x} that occurred from April through November may be used to offset increases in NO\textsubscript{x} during any period of the year. As seen above, the facility has sufficient credits to fully offset the quarterly NO\textsubscript{x} emissions increases associated with this project.

**Proposed Rule 2201 (offset) Conditions:**

- Prior to operating equipment under this Authority to Construct, permittee shall surrender NO\textsubscript{x} emission reduction credits for the following quantity of emissions: 1st quarter - 1582 lb, 2nd quarter - 1582 lb, 3rd quarter - 1582 lb, and 4th quarter - 1582 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201]

- ERC Certificate Numbers S-1547-2 and S-3080-2 (or certificate(s) split from the certificate(s)) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**SO\textsubscript{x} Offsets**

- PE2 (SO\textsubscript{x}) = 2122 lb/year
- BE (SO\textsubscript{x}) = 0 lb/year
- ICCE = 0 lb/year
Assuming an offset ratio of 1.5:1, the amount of $SO_x$ ERCs that need to be withdrawn is:

Offsets Required (lb/year)  = ([2122 - 0] + 0) x 1.5  
= 2122 x 1.5  
= 3183 lb $SO_x$/year

Calculating the appropriate quarterly emissions to be offset is as follows:

<table>
<thead>
<tr>
<th>Quarter</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>796</td>
<td>796</td>
<td>796</td>
<td>796</td>
</tr>
</tbody>
</table>

The applicant has stated that the facility plans to use ERC certificates S-3293-5 to offset the increases in $SO_x$ emissions associated with this project. The above certificate has available quarterly $SO_x$ credits as follows:

<table>
<thead>
<tr>
<th>ERC</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-3293-5</td>
<td>825</td>
<td>825</td>
<td>825</td>
<td>825</td>
</tr>
<tr>
<td>Amount to be offset</td>
<td>796</td>
<td>796</td>
<td>796</td>
<td>796</td>
</tr>
<tr>
<td>Amount remaining</td>
<td>29</td>
<td>29</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Amount to be used to offset PM10 increase</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
</tbody>
</table>

As seen above, the facility has sufficient credits to fully offset the quarterly $SO_x$ emissions increases associated with this project.

**Proposed Rule 2201 (offset) Conditions:**

- Prior to operating equipment under this Authority to Construct, permittee shall surrender $SO_x$ emission reduction credits for the following quantity of emissions: 1st quarter - 531 lb, 2nd quarter - 531 lb, 3rd quarter - 531 lb, and fourth quarter - 531 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201]

- ERC Certificate Numbers S-3293-5 (or a certificate split from the certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**PM10 Offsets**

PE2 (PM10)  = 5659 lb/year
BE (PM10)  = 0 lb/year
ICCE  = 0 lb/year
Assuming an offset ratio of 1.5:1, the amount of PM10 ERCs that need to be withdrawn is:

Offsets Required (lb/year) = ([5659 - 0] + 0) x 1.5
= 5659 x 1.5
= 8489 lb PM10/year

Calculating the appropriate quarterly emissions to be offset is as follows:

<table>
<thead>
<tr>
<th>Quarter</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Quarter</td>
<td>2122</td>
<td>2122</td>
<td>2122</td>
<td>2122</td>
</tr>
</tbody>
</table>

The applicant has stated that the facility plans to use ERC certificates S-3287-4, S-3289-4 and S-3290-4 to offset the increases in PM10 emissions associated with this project. The above certificate has available quarterly PM10 credits as follows:

<table>
<thead>
<tr>
<th>ERC</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-3287-4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5960</td>
</tr>
<tr>
<td>S-3289-4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1830</td>
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<tr>
<td>S-3290-4</td>
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<td>0</td>
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<tr>
<td>S-3293-5*</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>22</td>
</tr>
</tbody>
</table>

*remaining SOx ERCs after offsetting project's SOx increase (see above)

Note that pursuant to section 4.13.7, AER for PM that occurred from October through March, inclusive, may be used to offset increases in PM during any period of the year. Also, pursuant to draft District policy APR 1430, SOx ERCs may be used to offset PM10 at an interpollutant ratio of 1.0 : 1.0. As seen above, the facility has sufficient credits to fully offset the quarterly PM10 emissions increases associated with this project.

**Proposed Rule 2201 (offset) Conditions:**

- Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 1415 lb, 2nd quarter - 1415 lb, 3rd quarter - 1415 lb, and fourth quarter - 1415 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201]

- ERC Certificate Numbers S-3287-4, S-3289-4, S-3290-4 and S-3293-5 (or certificate(s) split from the certificate(s)) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**VOC Offsets**
Seneca Resources
S-1114, 1095502

PE2 (VOC) = 3999 lb/year
BE (NOx) = 0 lb/year
ICCE = 0 lb/year

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

Offsets Required (lb/year) = ([3999 - 0] + 0) x 1.5
= 3999 x 1.5
= 5999 lb VOC/year

Calculating the appropriate quarterly emissions to be offset is as follows:

<table>
<thead>
<tr>
<th></th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
</tr>
</tbody>
</table>

The applicant has stated that the facility plans to use ERC certificates S-3291-1 to offset the increases in VOC emissions associated with this project. The above certificate has available quarterly VOC credits as follows:

<table>
<thead>
<tr>
<th></th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-3291-1</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
</tr>
</tbody>
</table>

As seen above, the facility has sufficient credits to fully offset the quarterly VOC emissions increases associated with this project.

**Proposed Rule 2201 (offset) Conditions:**

- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1000 lb, 2nd quarter - 1000 lb, 3rd quarter - 1000 lb, and fourth quarter - 1000 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201]

- ERC Certificate Number S-3291-1 (or certificate(s) split from the certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**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 SSPE 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. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major Source threshold for any pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

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 does not constitute a Major Modification; therefore, public noticing for Major Modification purposes is not 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. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

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.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>SSPE1 (lb/year)</th>
<th>SSPE2 (lb/year)</th>
<th>Offset Threshold</th>
<th>Public Notice Required?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>&gt;20,000</td>
<td>&gt;20,000</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>SOx</td>
<td>&gt;54,750</td>
<td>&gt;54,750</td>
<td>54,750 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>PM10</td>
<td>&gt;29,200</td>
<td>&gt;29,200</td>
<td>29,200 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>CO</td>
<td>&gt;200,000</td>
<td>&gt;200,000</td>
<td>200,000 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>&gt;20,000</td>
<td>&gt;20,000</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
</tbody>
</table>

As detailed above, there were no thresholds surpassed 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:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>SSIPE (lb/year)</th>
<th>SSIPE Public Notice Threshold</th>
<th>Public Notice Required?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>6,329</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>SO2</td>
<td>2,122</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>PM10</td>
<td>5,659</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>CO</td>
<td>23,083</td>
<td>20,000 lb/year</td>
<td>Yes</td>
</tr>
<tr>
<td>VOC</td>
<td>3999</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
</tbody>
</table>

As demonstrated above, the SSIPE for CO is greater than 20,000 lb/year; therefore public noticing for SSIPE purposes is required.

2. Public Notice Action

As discussed above, public noticing is required for this project for CO emissions in excess of 20,000 lb/year. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELS)

**Proposed Rule 2201 (DEL) Conditions:**

- Emissions shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.0085 lb-NOx/MMBtu, 0.00285 lb-NOx/MMBtu, 0.0076 lb-PM10/MMBtu, 42 ppmvd CO @ 3% O2 or 0.031 lb-CO/MMBtu, or 0.0054 lb-VOC/MMBtu. [District Rules 2201, 4305, and 4306]

E. Compliance Assurance

1. Source Testing

District Rule 4320 requires NOx and CO emission testing not less than once every 12 months. Gaseous fuel fired units demonstrating compliance on two consecutive compliance source tests may defer the following source test for up to thirty-six months. The District Source Test Policy (APR 1705 10/09/97) requires annual testing for all
pollutants controlled by catalysts. The control equipment will include a SCR system and ammonia slip is an indicator of how well the SCR system is performing.

Therefore, source testing for NO\textsubscript{X}, CO, and ammonia will be required within 60 days of initial operation and at least once every 12 months thereafter. Upon demonstrating compliance on two consecutive source tests, the following source test may be deferred for up to thirty-six months. Source testing for Rule 4320 also satisfies any source testing requirements for Rule 2201. No additional source testing is required.

2. Monitoring

District Rule 4320 requires the owner of any unit equipped with NO\textsubscript{X} reduction technology shall either install and maintain continuous emissions monitoring equipment for NO\textsubscript{X}, CO, and oxygen, as identified in Rule 1080 (Stack Monitoring), or install and maintain APCO-approved alternate monitoring plan. Since the boiler will be equipped with a low NO\textsubscript{X} burner and a selective catalytic reduction system, this requirement applies.

The applicant proposed to utilize pre-approve alternate monitoring plan "A" (Periodic Monitoring NO\textsubscript{X}, CO, and O\textsubscript{2} Emissions Concentrations) to meet the requirements of District Rule 4320. Monitoring for Rule 4320 also satisfies the monitoring requirements for Rule 2201. No additional monitoring is required.

3. Recordkeeping

The applicant will also be required to keep records of all of the parameters that are required by the Rule 4320 alternate monitoring requirements.

- The permittee shall maintain records of the date and time of NO\textsubscript{X}, CO, and O\textsubscript{2} measurements, the measured NO\textsubscript{2} and CO concentrations corrected to 3% O\textsubscript{2}, and the O\textsubscript{2} concentration. The records must also include a description of any corrective action taken to maintain the emissions within the acceptable range. These records shall be maintained, retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 4305]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The Technical Services Division of the SJVAPCD conducted the required analysis. Refer to Appendix C of this document for the AAQA summary sheet.
Technical Services performed modeling for criteria pollutants CO, NOx, SOx, and PM10; as well as the RMR. The emission rates used for criteria pollutant modeling were 2.6 lb/hr CO, 0.72 lb/hr NOx, 0.24 lb/hr SOx, and 0.64 lb/hr PM10. All three proposed generator locations were run through the AAQA model, which then determined that all three locations will not cause or significantly contribute to a violation of a State or National AAQS.

The results from the Criteria Pollutant Modeling are as follows:

<table>
<thead>
<tr>
<th>Criteria Pollutant Modeling Results*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values are in µg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit 113-0</th>
<th>1 Hour</th>
<th>3 Hours</th>
<th>8 Hours</th>
<th>24 Hours</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>Pass</td>
<td></td>
<td>Pass</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NOx</td>
<td>Pass</td>
<td>X</td>
<td>X</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>SOx</td>
<td>Pass</td>
<td></td>
<td></td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>PM10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass¹</td>
<td>Pass¹</td>
</tr>
</tbody>
</table>

*Results were taken from the attached PSD spreadsheets.
¹The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

Rule 2520  Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule:

In accordance with Rule 2520, 3.20, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
   a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
   b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to
operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the the Title V administrative amendment/minor modification application.

**40 CFR Part 60, Subpart Dc** Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction).

The subject steam generator has a rating of 85 MMBtu/hr and is gas fired. Subpart Dc has no standards for gas-fired steam generators. Therefore the subject steam generators are not affected facilities and subpart Dc does not apply.

**Rule 4101 Visible Emissions**

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringlemann 1 or equivalent to 20% opacity.

A permit condition will be listed on the permit as follows:

- \{15\} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringlemann 1 or 20% opacity. [District Rule 4101]

Therefore, compliance with District Rule 4101 requirements is expected.

**Rule 4102 Nuisance**

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

**California Health & Safety Code 41700 (Health Risk Assessment)**

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (Appendix C), the total facility prioritization score including this project was greater than one. Therefore, a health risk assessment was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:
**Discussion of T-BACT**

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is required for this project because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements.

For this project T-BACT is satisfied with BACT. As shown above in section VIII.A.3, BACT is satisfied; therefore, T-BACT is satisfied. Therefore, compliance with the District’s Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix C of this report, the emissions increases for this project was determined to be less than significant.

**Rule 4201 Particulate Matter Concentration**

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Cancer Risk</th>
<th>T-BACT Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1114-113-0</td>
<td>2.09 per million</td>
<td>yes</td>
</tr>
</tbody>
</table>

\[
F\text{-Factor for NG: } 8,578 \text{ dscf/MMBtu at 60 °F} \\
\text{PM10 Emission Factor: } 0.0076 \text{ lb-PM10/MMBtu} \\
\text{Percentage of PM as PM10 in Exhaust: } 100\% \\
\text{Exhaust Oxygen (O}_2\text{) Concentration: } 3\% \\
\text{Excess Air Correction to F Factor } = \frac{20.9}{(20.9 - 3)} = 1.17
\]

\[
GL = \left( \frac{0.0076 \text{ lb} - \text{PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb} - \text{PM}} \right) / \left( \frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)
\]

\[
GL = 0.0053 \text{ grain/dscf} < 0.1 \text{ grain/dscf}
\]

Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permit as follows:

- {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

**District Rule 4301 Fuel Burning Equipment**

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion
contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>NO₂</th>
<th>Total PM</th>
<th>SO₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1114-113-0 (lb/hr)</td>
<td>0.7</td>
<td>0.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Rule Limit (lb/hr)</td>
<td>140</td>
<td>10</td>
<td>200</td>
</tr>
</tbody>
</table>

The above table indicates compliance with the maximum lb/hr emissions in this rule; therefore, continued compliance is expected.

**District Rule 4304 - Equipment Tuning Procedure for Boilers, Steam Generators and Process Heaters**

Pursuant to District Rules 4305, 4306 and 4320 Section 6.3.1, the steam generator is not required to tune since it follows a District approved Alternate Monitoring scheme where the applicable emission limits are periodically monitored. Therefore, the steam generators are not subject to this rule.

**District Rule 4305  Boilers, Steam Generators and Process Heaters – Phase 2**

The units are natural gas-fired with a maximum heat input of 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the unit is subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2.*

In addition, the unit is also subject to District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr. Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305.

**District Rule 4306  Boilers, Steam Generators and Process Heaters – Phase 3**

The unit is natural gas-fired with a maximum heat input of 85 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3.*

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4306 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4306.

**Rule 4320 – Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr**

**Section 5.0 Requirements**
Section 5.1 of the rule requires compliance with the NOx and CO emissions limits listed in Table 1 of Section 5.2 or payment of an annual emissions fee to the District as specified in Section 5.3 and compliance with the control requirements specified in Section 5.4; or as stated in Section 5.1.3, comply with the applicable Low-use Unit requirements of Section 5.5.

Section 5.2 NOx and CO Emission Limits

Oilfield Steam Generators

<table>
<thead>
<tr>
<th>Category</th>
<th>Operated on gaseous fuel</th>
<th>Operated on liquid fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NOx Limit</td>
<td>CO Limit</td>
</tr>
<tr>
<td>1. Units with a total rated heat input &gt;20.0 MMBtu/hr</td>
<td>Standard Schedule 7 ppmv or 0.008 lb/MMBtu; or</td>
<td>400 ppmv @ 3% O2</td>
</tr>
<tr>
<td></td>
<td>Staged Enhanced Schedule Initial limit: 9 ppmv @ 3% O2, 0.011 lb/MMBtu</td>
<td>40 ppmv or 0.052 lb/MMBtu</td>
</tr>
<tr>
<td></td>
<td>Final limit: 5 ppmv @ 3% O2, 0.0062 lb/MMBtu</td>
<td></td>
</tr>
</tbody>
</table>

-the proposed NOx emission factor is 7 ppmvd @ 3% O2 (0.0108 lb/MMBtu), and
-the proposed CO emission factor is 42 ppmvd @ 3% O2

Therefore, as both the proposed NOx and CO emissions factors meet the limits of the rule, compliance with Section 5.1 of District Rule 4320 is expected.

A permit condition listing the emissions limits will be listed on permit as shown in the DEL section above.

Section 5.3 Annual Fee Calculation

Applicant has proposed to meet the emissions limits requirements of Section 5.1 and therefore this section is not applicable.

Section 5.4 Particulate Matter Control Requirements

Section 5.4 of the rule requires one of four options for control of particulate matter: 1) combustion of PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases, 2) limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic, 3) install and properly operate an emission control system that reduces SO₂ emissions by at least 95% by weight; or limit
exhaust SO\textsubscript{2} to less than or equal to 9 ppmv corrected to 3.0% O\textsubscript{2} or 4) refinery units, which require modification of refinery equipment to reduce sulfur emissions, shall be in compliance with the applicable requirement in Section 5.4.1 no later than July 1, 2013.

The new steam generator has a sulfur emissions limit of 0.00285 lb SO\textsubscript{2}/MMBtu (1.0 gr S/100scf) and will be in compliance with the SO\textsubscript{x}/PM10 requirements of Section 5.4.1.2 of the rule which states the following:

5.4.1.2 On and after the applicable NO\textsubscript{x} Compliance Deadline specified in Section 5.2 Table 1, operators shall limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet

Section 5.5 Low Use

Section 5.5 requires that units limited to less than or equal to 1.8 billion Btu per calendar year heat input pursuant to a District Permit to Operate Tune the unit at least twice per calendar year, or if the unit does not operate throughout a continuous six-month period within a calendar year, only one tune-up is required for that calendar year. No tune-up is required for any unit that is not operated during that calendar year; this unit may be test fired to verify availability of the unit for its intended use, but once the test firing is completed the unit shall be shutdown; or operate the unit in a manner that maintains exhaust oxygen concentrations at less than or equal to 3.00 percent by volume on a dry basis.

The subject steam generator is not a low use unit and therefore the requirements of Section 5.5 do not apply.

Section 5.6, Startup and Shutdown Provisions

- Applicable emissions limits are not required during startup and shutdown provided the duration of each start-up or each shutdown shall not exceed two hours, the emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown or operator has submitted an application for a Permit to Operate condition to allow more than two hours for each start-up or each shutdown provided the operator meets all of the conditions specified in Sections 5.6.3.1 through 5.6.3.3. Startup and shutdown provisions have not been requested.

Section 5.7, Monitoring Provisions

Section 5.7 requires either use of a APCO approved Continous Emissions Monitoring System (CEMS) for NO\textsubscript{x}, CO, and oxygen, or implementation of an APCO-approved Alternate Monitoring System consisting of:
5.7.1.1 Periodic NO\textsubscript{x} and CO exhaust emission concentrations,
5.7.1.2 Periodic exhaust oxygen concentration,
5.7.1.3 Flow rate of reducing agent added to exhaust,
5.7.1.4 Catalyst inlet and exhaust temperature,
5.7.1.5 Catalyst inlet and exhaust oxygen concentration,
5.7.1.6 Periodic flue gas recirculation rate, or
5.7.1.7 Other operational characteristics.
In order to satisfy the requirements of District Rule 4320, the applicant has proposed to use pre-approved alternate monitoring scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NO\textsubscript{x}, CO, and O\textsubscript{2} exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be incorporated into the permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- **(4063)** The permittee shall monitor and record the stack concentration of NO\textsubscript{x}, CO, and O\textsubscript{2} at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]

- **(4064)** If either the NO\textsubscript{x} or CO concentrations corrected to 3% O\textsubscript{2}, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320]

- **(4065)** All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]

- **(4066)** The permittee shall maintain records of: (1) the date and time of NO\textsubscript{x}, CO, and O\textsubscript{2} measurements, (2) the O\textsubscript{2} concentration in percent by volume and the measured NO\textsubscript{x} and CO concentrations corrected to 3% O\textsubscript{2}, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306, and 4320]

### 5.7.6 Monitoring SO\textsubscript{x} Emissions

Section 5.7.6.1 Operators complying with Sections 5.4.1.1 or 5.4.1.2 shall provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit To Operate. Sulfur analysis shall be performed in accordance with the test methods in Section 6.2.

Section 5.7.6.2 Operators complying with Section 5.4.1.3 by installing and operating a control device with 95% SO\textsubscript{x} reduction shall propose the key system operating parameters and frequency of the monitoring and recording. The monitoring option proposed shall be submitted for approval by the APCO. This option is not proposed and therefore the section is not applicable.
Section 5.7.6.3 Operators complying with Section 5.4.1.3 shall perform an annual source test unless a more frequent sampling and reporting period is included in the Permit To Operate. Source tests shall be performed in accordance with the test methods in Section 6.2. Semi-annual testing of sulfur is required for the new steam generators as stated below.

**Sulfur Monitoring**

The following conditions will be included on the ATCs for the steam generators which are authorized to combust natural gas and TEOR gas:

When combusting a combination of natural gas and waste gas the fuel gas sulfur content shall not exceed 1 grains of total sulfur (as H2S) per 100 dscf of fuel gas. [District Rules 2201 and 4320]

If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 3246, D 4084, D 4468, D 6667 or grab sample analysis by GC-FPD/TCD or double GC performed in the laboratory. [District Rule 1070, 2201, 2520, and 4320]

When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 1070, 2201, 2520, and 4320]

If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 1670, 2201, 2520, and 4320]

**Section 5.8, Compliance Determination**

Section 5.8.1 requires that the operator of any unit shall have the option of complying with either the applicable heat input (lb/MMBtu) emission limits or the concentration (ppmv) emission limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling) as stated in the following ATC condition:

{2976} The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]

Section 5.8.2 requires that all emissions measurements be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0.

{2972} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320]

Section 5.8.3 Continuous Emissions Monitoring System (CEMS) emissions measurements shall be averaged over a period of 15 consecutive minutes to demonstrate compliance with
the applicable emission limits. Any 15-consecutive-minute block average CEMS measurement exceeding the applicable emission limits shall constitute a violation. The steam generators are not equipped with CEMSs and therefore this section is not applicable.

Section 5.8.4 For emissions monitoring pursuant to Sections 5.7.1, and 6.3.1 using a portable NOx analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five readings evenly spaced out over the 15-consecutive-minute period.

(2937) All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306, and 4320]

Section 5.8.5 For emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit.

(2980) For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]

**Section 6.1 Recordkeeping**

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO and EPA upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule.

A permit condition will be listed on the permit as follows:

(2983) All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]

Section 6.1.1 requires that a unit operated under the exemption of Section 4.2 shall monitor and record, for each unit, the cumulative annual hours of operation. The units are not Section 4.2 exempt and therefore these records are not required.

Section 6.1.2 requires the operator of any unit that is subject to the requirements of Section 5.5 shall record the amount of fuel use at least on a monthly basis for each unit. On and after the applicable compliance schedule specified in Section 7.0, in the event that such unit exceeds the applicable annual heat input limit specified in Section 5.5, the unit shall be brought into full compliance with this rule as specified in Section 5.2 Table 1. The units are not low use and therefore these records are not necessary.
Section 6.1.3 The operator of any unit subject to Section 5.5.1 or Section 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics of the unit have been performed. The units are not low use and therefore these records are not necessary.

Section 6.1.4 The operator performing start-up or shutdown of a unit shall keep records of the duration of start-up or shutdown. The following condition is included on the ATC:

Permittee shall maintain a record of the duration of each startup and shutdown of this unit. [District Rules 4305, 4306, and 4320] Y

Section 6.1.5 The operator of any unit firing on liquid fuel during a PUC-quality natural gas curtailment period pursuant to Section 5.4.2 shall record the sulfur content of the fuel, amount of fuel used, and duration of the natural gas curtailment period. The unit is not authorized to combust liquid fuel. Therefore this section is not applicable.

Section 6.2, Test Methods

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Units</th>
<th>Test Method Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>ppmv</td>
<td>EPA Method 7E or ARB Method 100</td>
</tr>
<tr>
<td>NOx,</td>
<td>lb/MMBtu</td>
<td>EPA Method 19</td>
</tr>
<tr>
<td>CO</td>
<td>ppmv</td>
<td>EPA Method 10 or ARB Method 100</td>
</tr>
<tr>
<td>Stack Gas O₂</td>
<td>%</td>
<td>EPA Method 3 or 3A, or ARB Method 100</td>
</tr>
<tr>
<td>Stack Gas Velocities</td>
<td>ft/min</td>
<td>EPA Method 2</td>
</tr>
<tr>
<td>Stack Gas Moisture Content</td>
<td>%</td>
<td>EPA Method 4</td>
</tr>
<tr>
<td>Oxides of sulfur</td>
<td></td>
<td>EPA Method 6C, EPA Method 8, or ARB Method 100</td>
</tr>
<tr>
<td>Total Sulfur as Hydrogen</td>
<td></td>
<td>EPA Method 11 or EPA Method 15, as appropriate.</td>
</tr>
<tr>
<td>Sulfide (H₂S) Content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfur Content of Liquid Fuel</td>
<td></td>
<td>ASTM D 6920-03 or ASTM D 5453-99</td>
</tr>
</tbody>
</table>

The following test method conditions are included on the ATCs:

{2977} NOₓ emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]

{2978} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]

{2979} Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]
Section 6.2.8.2. The SOx emission control system efficiency shall be determined using the following:

\[
\text{% Control Efficiency} = \left[ \left( \frac{C_{SOx,\, inlet} - C_{SOx,\, outlet}}{C_{SOx,\, inlet}} \right) \times 100 \right]
\]

where:

- \( C_{SOx,\, inlet} \) = concentration of SOx (expressed as SO\(_2\)) at the inlet side of the SOx emission control system, in lb/dscf

- \( C_{SOx,\, outlet} \) = concentration of SOx (expressed as SO\(_2\)) at the outlet side of the SOx emission control system, in lb/dscf

The units are not equipped with a SO\(_2\) scrubber. Therefore this section is not applicable.

**Section 6.3 Compliance Testing**

Section 6.3.1 requires that this unit be tested to determine compliance with the applicable requirements of section 5.2 not less than once every 12 months (no more than 30 days before or after the required annual source test date). Upon demonstrating compliance on two consecutive compliance source tests, the following source test may be deferred for up to thirty-six months.

Section 6.3.1.1 Units that demonstrate compliance on two consecutive 12-month source tests may defer the following 12-month source test for up to 36 months (no more than 30 days before or after the required 36-month source test date). During the 36-month source testing interval, the operator shall tune the unit in accordance with the provisions of Section 5.5.1, and shall monitor, on a monthly basis, the unit's operational characteristics recommended by the manufacturer to ensure compliance with the applicable emission limits specified in Section 5.2.

Section 6.3.1.2 Tune-ups required by Sections 5.5.1 and 6.3.1 do not need to be performed for units that operate and maintain an APCO approved CEMS or an APCO approved Alternate Monitoring System where the applicable emission limits are periodically monitored. Applicant has proposed to monitor the emissions of NO\(_x\) and CO Alternate Monitoring Scheme "A" and therefore tuning is not required.

Section 6.3.1.3 If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits specified in Section 5.2, the source testing frequency shall revert to at least once every 12 months.

The following conditions are included on the ATC:

- Source testing to measure NO\(_x\) and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, and 4306]

- Source testing to measure natural gas-combustion NO\(_x\) and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-
month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305 and 4306]

When the unit changes fuel source, the unit shall undergo source testing to measure NOx and CO emissions within 60 days of the change unless the unit has already undergone source testing in the last twelve (12) months or thirty-six (36) months after demonstrating compliance on the previous two (2) source tests when fired on that fuel source. [District Rule 2201]

{110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Sections 6.3.2.1 through 6.3.2.7 address the requirements of group testing which is not applicable for this project.

Section 6.4, Emission Control Plan (ECP)

Section 6.4.1 requires that the operator of any unit shall submit to the APCO for approval an Emissions Control Plan according to the compliance schedule in Section 7.0 of District Rule 4320.

The proposed unit is in compliance with the emissions limits listed in Table 1, Section 5.1 of this rule and with periodic monitoring and source testing requirements. Therefore, this current application for the new proposed unit satisfies the requirements of the Emission Control Plan, as listed in Section 6.4 of District Rule 4320. No further discussion is required.

Section 7.0, Compliance Schedule

Section 7.0 indicates that an operator with multiple units at a stationary source shall comply with this rule in accordance with the schedule specified in Table 1, Section 5.2 of District Rule 4320.

The unit will be in compliance with the emissions limits listed in Table 1, Section 5.2 of this rule, and periodic monitoring and source testing as required by District Rule 4320. Therefore, requirements of the compliance schedule, as listed in Section 7.1 of District Rule 4306, are satisfied. No further discussion is required.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this sites are not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, 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.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

Project specific impacts on global climate change were evaluated consistent with the adopted District policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency. The District’s engineering evaluation (this document – Appendix D) demonstrates that the project includes Best Performance Standards (BPS) for each class and category of greenhouse gas emissions unit. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. 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. Pending a successful NSR Public and EPA Noticing period, issue Authority to Construct S-1114-113-0 subject to the permit conditions on the attached draft Authority to Construct in Appendix E.

X. Billing Information

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Fee Schedule</th>
<th>Fee Description</th>
<th>Annual Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1114-113-0</td>
<td>3020-02-H</td>
<td>85 MMBtu/hr</td>
<td>$1030</td>
</tr>
</tbody>
</table>
APPENDIX A
Quarterly Net Emissions Change (QNEC)
Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

\[ \text{QNEC} = \text{PE}_2 - \text{PE}_1, \]

where:

- \( \text{QNEC} \) = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
- \( \text{PE}_2 \) = Post Project Potential to Emit for each emissions unit, lb/qtr.
- \( \text{PE}_1 \) = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly \( \text{PE}_2 \) and quarterly \( \text{PE}_1 \) can be calculated as follows:

\[ \begin{align*}
\text{PE}_{2\text{,quarterly}} & = \frac{\text{PE}_{2\text{,annual}}}{4 \text{ quarters/year}} \\
& = \frac{6329 \text{ lb/year}}{4 \text{ quarters/year}} \\
& = 1582 \text{ lb NOx/qtr} \\
\text{PE}_{1\text{,quarterly}} & = \frac{\text{PE}_{1\text{,annual}}}{4 \text{ quarters/year}} \\
& = \frac{0 \text{ lb/year}}{4 \text{ quarters/year}} \\
& = 0 \text{ lb NOx/qtr}
\end{align*} \]

<table>
<thead>
<tr>
<th>Quarterly NEC [QNEC]</th>
<th>PE2 (lb/qtr)</th>
<th>PE1 (lb/qtr)</th>
<th>QNEC (lb/qtr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO(_x)</td>
<td>1582</td>
<td>0</td>
<td>1582</td>
</tr>
<tr>
<td>SO(_x)</td>
<td>531</td>
<td>0</td>
<td>531</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>1415</td>
<td>0</td>
<td>1415</td>
</tr>
<tr>
<td>CO</td>
<td>5771</td>
<td>0</td>
<td>5771</td>
</tr>
<tr>
<td>VOC</td>
<td>1000</td>
<td>0</td>
<td>1000</td>
</tr>
</tbody>
</table>
APPENDIX B
BACT and T-BACT Analysis
Top Down BACT Analysis for NOx Emissions:

Step 1 - Identify All Possible Control Technologies

The District adopted District Rule 4320 on October 16, 2008. The NOx emission limit requirements in District Rule 4320 are lower than the current BACT limits; therefore a project specific BACT analysis will be performed to determine BACT for this project. District Rule 4320 includes a compliance option that limits oilfield steam generators with heat input ratings greater than 20 MMBtu/hr to 7 ppm @ 3% O2. This emission limit is Achieved in Practice control technology for the BACT analysis. District Rule 4320 also contains an enhanced schedule option that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NOx emission limit requirement is 5 ppmv @ 3% O2. Since this is an enhanced option in the rule, it will be considered the Technologically Feasible control technology for the BACT analysis.

The SJVUAPCD BACT Clearinghouse Guideline 1.2.1 has been rescinded. Therefore a new BACT analysis is required. The following are possible control technologies:

1. 7 ppmv @ 3% O2 - Achieved in Practice.
2. 5 ppmv @ 3% O2 with SCR - Technologically Feasible

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. 7 ppmv @ 3% O2 - Achieved in Practice.
2. 5 ppmv @ 3% O2 with SCR - Technologically Feasible

Step 4 - Cost Effectiveness Analysis

A cost effective analysis is required for technologically feasible control options that are not proposed. The applicant has proposed 7 ppmv NOx @ 3% O2; therefore, a cost effective analysis is required for the 5 ppmv NOx @ 3% O2 with Selective Catalytic Reduction option.

SCR Cost Effectiveness Analysis

Assumptions:

Industry standard (IS) assumed to be a NOx emission rate of 15 ppmv @ 3% O2 in accordance with District Rule 4306.

Unit's maximum emissions are defined by the burner size multiplied by the emissions factor and a maximum annual operating schedule of 8,760 hr/year.

Calculations:
Industrial Standard NOx Emissions = 85 MMBtu/hr x 0.018 lb/MMBtu x 8760 hrs/year
= 13,403 lb/year

Technologically Feasible NOx Emissions = 85 MMBtu/hr x 0.006 lb/MMBtu x 8760 hrs/year
= 4,468 lb/year

**Selective Catalytic Reduction system:**

Capital Cost (SCR Vendor & TJ Cross): $1,102,046 (includes all purchased equipment, taxes, freight, and installation for a 62.5 MMBtu/hr unit) (from project 1084509, finalized on 12/22/09).

Total Estimated Capital Cost: **$1,102,046**

Equivalent Annual Capital Cost (Capital Recovery)

\[
A = P \frac{i(1+i)^n}{(1+i)^n - 1}
\]

where;

\(A\) = Equivalent Annual Control Equipment Capital Cost
\(P\) = Present value of the control equipment, including installation cost
\(i\) = interest rate (use 10%, or demonstrate why alternate is more representative of the specific operation).
\(n\) = equipment life (assume 10 years or demonstrate why alternate is more representative of the specific operation)

Where

\(P = $1,102,046\)
\(i = 10\%\),
\(n = 10\) years

\(A = $179,303\)

Because the capital recovery and annual costs of ammonia, catalyst replacement, and energy ($179,303/yr + $35,583/yr + $10,512/yr = $225,398) correspond to a 62.5 MMBtu/hr unit they are adjusted using the "6/10" rule as follows:

\(\$225,398 \times (\frac{85}{62.5})^{0.6} = \$271,064/yr\)

Operation and Maintenance Labor = $7875/yr + $1181/yr
Indirect annual costs = $2 x 13,120 + 4725
= $30,965
Total annualized cost = $311,085/yr

**NOx Reduction due to Selective Catalytic Reduction system:**

Total reduction = Emissions_{15 ppm} - Emissions_{5 ppm}
Total reduction = 13,403 lb/year - 4468 lb/year
Total reduction = 8,935 lb/year = 4.5 ton NOx per year
Cost effectiveness:

Cost effectiveness = $311,085/ 4.47 tpy
Cost effectiveness = $69,594/ ton

The cost effectiveness is greater than the $24,500/ton cost effectiveness threshold of the District BACT policy. Therefore the use of SCR with ammonia injection is not cost effective and is not required as BACT.

Step 5 - Select BACT

BACT is satisfied by the applicant’s proposal to meet a NOx limit of 7 ppmvd @ 3% O₂ to be achieved with a Low NOₓ burner and flue gas recirculation (FGR).

Top Down BACT Analysis for VOC Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 3rd quarter 2008, identifies achieved in practice and technologically feasible BACT for Steam Generator ≥ 5 MMbtu/hr, at an oil field as follows:

1. Gaseous fuel - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Gaseous fuel - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology identified and this technology is achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for VOC

The use of gaseous fuel (natural gas) is selected as BACT for VOC emissions.

Top Down BACT Analysis for PM₁₀ and SOx Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 3rd quarter 2007, identifies achieved in practice and technologically feasible BACT for Steam Generator ≥ 5 MMbtu/hr, at an oil field as follows:
1. Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO2 at stack O2 - achieved in practice

**Step 2 - Eliminate Technologically Infeasible Options**

The above listed technology is technologically feasible.

**Step 3 - Rank Remaining Control Technologies by Control Effectiveness**

1. Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO2 at stack O2 - achieved in practice

**Step 4 - Cost Effectiveness Analysis**

Only one control technology identified and this technology is achieved in practice, therefore, cost effectiveness analysis not necessary.

**Step 5 - Select BACT for SOx and PM10**

The use of natural gas or waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, is selected as BACT for SOx and PM10 emissions.

**Top Down BACT Analysis for CO Emissions:**

**Step 1 - Identify all control technologies**

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 3rd quarter 2007, identifies achieved in practice and technologically feasible BACT for Steam Generator ≥ 5 MMbtu/hr, at an oil field as follows:

1. 50 ppmvd @ 3% O2 - achieved in practice

**Step 2 - Eliminate Technologically Infeasible Options**

The above listed technology is technologically feasible.

**Step 3 - Rank Remaining Control Technologies by Control Effectiveness**

1. 50 ppmvd @ 3% O2 - achieved in practice

**Step 4 - Cost Effectiveness Analysis**
Only one control technology is identified and this technology is achieved in practice; therefore, cost effectiveness analysis not necessary.

**Step 5 - Select BACT for CO**

42 ppmvd CO @ 3% O2 is proposed and satisfies BACT for CO emissions.
San Joaquin Valley Air Pollution Control District
Risk Management Review
REVISED

To: David Torii – Permit Services
From: Cheryl Lawler – Technical Services
Date: August 25, 2010
Facility Name: Seneca Resources
Location: Various Locations
Application #(s): S-1114-113-0
Project #: S-1095502

A. RMR SUMMARY

<table>
<thead>
<tr>
<th>Categories</th>
<th>NG/LPG/Waste Gas Steam Generator (Unit 113-0)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.53</td>
<td>0.53</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>0.00</td>
<td>0.00</td>
<td>0.09</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>0.09</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk</td>
<td>2.09E-06</td>
<td>2.09E-06</td>
<td>3.26E-06</td>
</tr>
<tr>
<td>T-BACT Required?</td>
<td>Yes – VOCs/PM10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Permit Conditions?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. RMR REPORT

I. Project Description

Technical Services received a request on August 17, 2010, to re-run an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for a new 85 MMBtu/hr natural gas, LPG, or waste gas fired steam generator to be operated at various facility site locations. The project is being re-run because three new site locations for the generator were added by the applicant. Per the processing engineer, after adding the three new sites, the generator will only be operated at six different facility locations.

II. Analysis
For the Risk Management Review, toxic emissions from the generator were calculated using District approved emission factors for waste gas. Waste gas was assumed to be the worst case fuel of the three fuels proposed. In accordance with the District’s *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the proposed project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District’s HEART’s database. The prioritization score was less than 1.0 (see RMR Summary Table); however, the facility’s total cumulative prioritization scores already totaled to over 1.0. Therefore, a refined Health Risk Assessment was required and performed for the project. AERMOD was used with point source parameters outlined below and concatenated 5-year meteorological data from Bakersfield to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.

The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Analysis Parameters</th>
<th>Unit 113-0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source Type</strong></td>
<td>Point</td>
</tr>
<tr>
<td>Stack Height (m)</td>
<td>6.1</td>
</tr>
<tr>
<td>Inside Diameter (m)</td>
<td>1.07</td>
</tr>
<tr>
<td>Gas Exit Temperature (K)</td>
<td>378</td>
</tr>
<tr>
<td><strong>Closest Receptor (m)</strong></td>
<td></td>
</tr>
<tr>
<td>Closest Receptor Type</td>
<td>Business</td>
</tr>
<tr>
<td>Project Location Type</td>
<td>Rural</td>
</tr>
<tr>
<td>Stack Gas Velocity (m/s)</td>
<td>8.18</td>
</tr>
</tbody>
</table>

*The worst case receptor distance was used after reviewing the six proposed generator locations.

Technical Services also performed modeling for criteria pollutants CO, NOx, SOx, and PM10; as well as the RMR. The emission rates used for criteria pollutant modeling were 2.6 lb/hr CO, 0.72 lb/hr NOx, 0.24 lb/hr SOx, and 0.64 lb/hr PM10. All six proposed generator locations were run through the AAQA model, which then determined that all six locations will not cause or significantly contribute to a violation of a State or National AAQS.

The results from the Criteria Pollutant Modeling are as follows:

**Criteria Pollutant Modeling Results**

<table>
<thead>
<tr>
<th>Values are in μg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit 113-0</strong></td>
</tr>
<tr>
<td><strong>1 Hour</strong></td>
</tr>
<tr>
<td><strong>3 Hours</strong></td>
</tr>
<tr>
<td><strong>8 Hours</strong></td>
</tr>
<tr>
<td><strong>24 Hours</strong></td>
</tr>
<tr>
<td><strong>Annual</strong></td>
</tr>
<tr>
<td>CO</td>
</tr>
<tr>
<td>Pass</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>Pass</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>NOx</td>
</tr>
<tr>
<td>Pass</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>Pass</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>SOx</td>
</tr>
<tr>
<td>Pass</td>
</tr>
<tr>
<td>Pass</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>Pass</td>
</tr>
<tr>
<td>PM10</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>Pass</td>
</tr>
<tr>
<td>Pass</td>
</tr>
</tbody>
</table>

*Results were taken from the attached PSD spreadsheets.

1The criteria pollutants are below EPA’s level of significance as found in 40 CFR Part 51.165 (b)(2).

**III. Conclusion**

The criteria modeling runs indicate the emissions from the proposed equipment will not cause or significantly contribute to a violation of a State or National AAQS.

The acute and chronic indices are below 1.0; and the maximum individual cancer risk associated with the project is 2.09E-06, which is greater than the 1 in a million threshold. In accordance with
the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT).

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.
APPENDIX D
BPS Analysis
San Joaquin Valley
Unified Air Pollution Control District

Best Performance Standard (BPS) x.x.xx

Date: 4/28/10

<table>
<thead>
<tr>
<th>Class and Category</th>
<th>Oilfield Steam Generators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Performance Standard</td>
<td>[ 88% thermal efficiency (manufacturers rating) Or Horizontal convection section with at least 235 square feet of bare tube surface area per MMBtu/hr of heat input (or thermodynamically equivalent number of square feet of finned tube) ] And [ Variable frequency drive high efficiency electrical motors driving the blower and water pump ]</td>
</tr>
<tr>
<td>Percentage Achieved GHG Emission Reduction Relative to Baseline Emissions</td>
<td>12.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>District Project Number</th>
<th>C-1100391</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluating Engineer</td>
<td>Steve Roeder</td>
</tr>
<tr>
<td>Lead Engineer</td>
<td>Arnaud Marjollet</td>
</tr>
<tr>
<td>Initial Public Notice Date</td>
<td>April 28, 2010</td>
</tr>
<tr>
<td>Final Public Notice Date</td>
<td>May 21, 2010</td>
</tr>
<tr>
<td>Determination Effective Date</td>
<td>TBD</td>
</tr>
</tbody>
</table>

BPS x.x.xx
**Top Down BPS Analysis:**

**Step 1 - Identify All Possible BPS’s**

- Horizontal convection section with at least 235 square feet of bare tube\(\ast\) surface area per MMBtu/hr of heat input (*or thermodynamically equivalent number of square feet of finned tube)

And

- Variable frequency drive high efficiency electrical motors driving the blower and water pump

**Step 2 - Eliminate Technologically Infeasible Options**

- All options are feasible.

**Step 3 - List Remaining BPS’s**

- Horizontal convection section with at least 235 square feet of bare tube\(\ast\) surface area per MMBtu/hr of heat input (*or thermodynamically equivalent number of square feet of finned tube)

And

- Variable frequency drive high efficiency electrical motors driving the blower and water pump

**Step 4: Select BPS:**

- Horizontal convection section with at least 235 square feet of bare tube\(\ast\) surface area per MMBtu/hr of heat input (*or thermodynamically equivalent number of square feet of finned tube)

And

- Variable frequency drive high efficiency electrical motors driving the blower and water pump
APPENDIX E
Draft ATC
AUTHORITY TO CONSTRUCT

PERMIT NO: S-1114-113-0

LEGAL OWNER OR OPERATOR: SENECA RESOURCES
MAILING ADDRESS: 2131 MARS COURT
                  BAKERSFIELD, CA 93308-6830

LOCATION: HEAVY OIL WESTERN
          CA

EQUIPMENT DESCRIPTION:
85 MMBTU/HR PCL, OR EQUIVALENT, NATURAL GAS OR WASTE GAS-FIRED STEAM
GENERATOR, WITH A NORTH AMERICAN LEL, OR EQUIVALENT, ULTRA LOW NOX
BURNER AND FLUE GAS RECIRCULATION AUTHORIZED TO OPERATE AT VARIOUS
SPECIFIED LOCATIONS

CONDITIONS

1. {1830} 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
   NSR Rule] Federally Enforceable Through Title V Permit

2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall
   submit an application to modify the Title V permit with an administrative amendment in accordance with
   District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit

3. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically
   approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the
   District's determination that the submitted design and performance of the proposed alternate equipment is
   equivalent to the authorized equipment [District Rule 2010] Federally Enforceable Through Title V Permit

4. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's
   maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational
   characteristics/parameters [District Rule 2010] Federally Enforceable Through Title V Permit

5. This unit shall be equipped with horizontal convection section with at least 235 square feet of bare tube
   surface area (or thermodynamically equivalent number of square feet of finned tube) per MMBtu/hr of heat
   input. [Public Resources Code 21000-21177]

6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower
   and water pump. [Public Resources Code 21000-21177]

7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule
   4102]

8. Steam generator shall be equipped with operational fuel gas and waste gas volumetric flow meters. [District
   Rule 2201] Federally Enforceable Through Title V Permit

9. Only natural gas, or a combination of natural gas and waste gas shall be used as fuel in this steam generator.
   [District Rule 2201] Federally Enforceable Through Title V Permit

10. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than
    three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District
    Rule 4101] Federally Enforceable Through Title V Permit

11. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally
    Enforceable Through Title V Permit
12. The sulfur content of any fuel, or fuels combined, shall not exceed 1 grains of total sulfur (as H2S) per 100 dscf of fuel gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

13. If the unit is fired on noncertified gaseous fuel and compliance with SOx emission limits is achieved through fuel sulfur content limitations, then the sulfur content of the gaseous fuel being fired in the unit shall be determined using ASTM D 1072, D 3031, D 3246, D 4084, D 4468, D 6667 or grab sample analysis by GC-FPD/TCD or double GC performed in the laboratory. [District Rule 1070, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit

14. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, each fuel source shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for a fuel source, then the fuel testing frequency shall be semi-annually. If a semi-annual fuel content source test fails to show compliance, weekly testing shall resume. [District Rules 1070, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit

15. If fuel analysis is used to demonstrate compliance with conditions of this permit, the fuel higher heating value for each fuel shall be certified by a third party fuel supplier or determined by ASTM D 1826 or D 1945 in conjunction with ASTM D 3588 for gaseous fuels. [District Rules 1070, 2201, 2520, and 4320] Federally Enforceable Through Title V Permit

16. Emissions shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.0085 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 42 ppmvd CO @ 3% O2 or 0.031 lb-CO/MMBtu, or 0.00537 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

17. This steam generator is approved for operation at the following locations: NE/4 Section 18, NE/4 Section 19 and NW/4 Section 20, Township 11 North, Range 23 West; NE/4 Section 15, Township 31 South, Range 22 East; and NE/4 Section 24, Township 26 South, Range 20 East, MDB&M. [District Rule 4201] Federally Enforceable Through Title V Permit

18. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit

19. Flue gas recirculation system shall be operated whenever generator is operated. [District NSR Rule] Federally Enforceable Through Title V Permit

20. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

21. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

23. The permittee shall maintain records of: (1) the date and time of NOx, CO, and O2 measurements, (2) the O2 concentration in percent and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

24. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

26. Source testing to measure NOx and CO emissions from this unit shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

27. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

28. When the unit changes fuel source, the unit shall undergo source testing to measure NOx and CO emissions within 60 days of the change unless the unit has already undergone source testing in the last twelve (12) months or thirty-six (36) months after demonstrating compliance on the previous two (2) source tests when fired on that fuel source. [District Rule 2201] Federally Enforceable Through Title V Permit

29. Compliance demonstration (source testing) shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit

30. 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. [District Rule 1081] Federally Enforceable Through Title V Permit

31. 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

32. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

33. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

34. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
35. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit

36. Emissions of sulfur compounds from this unit shall not exceed 200 lb per hour, calculated as SO2. Compliance with this requirement may be demonstrated by testing the sulfur content of each fuel and determining the maximum hourly emissions of sulfur compounds by multiplying the sulfur content of each fuel in lb/MMBtu by the maximum heat input rating of the unit. [District Rule 2520, 9.3.2 and District Rule 4301, 5.2.1] Federally Enforceable Through Title V Permit

37. The concentration of sulfur compounds in the exhaust from this unit shall not exceed 0.2% by volume as measured on a dry basis over a 15 minute period. To demonstrate compliance with this requirement the operator shall test the sulfur content of each fuel source and demonstrate the sulfur content does not exceed 3.3% by weight for gaseous fuels. [District Rule 2520, 9.3.2, Kern County Rule 407] Federally Enforceable Through Title V Permit

38. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

39. Permittee shall maintain a record of the duration of each startup and shutdown of this unit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

40. Copies of all fuel invoices showing quantity and delivery points of gas delivered and copies of quality terms of gas delivery contracts shall be maintained. The operator shall record daily amount and type(s) of fuel(s) combusted and all dates on which unit is fired on any noncertified fuel and record specific type of noncertified fuel used. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

41. Documentation showing that this unit is equipped with a horizontal convection section with at least 235 square feet of bare tube surface area (or thermodynamically equivalent number of square feet of finned tube) per MMBtu/hr of heat input and equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump shall be retained on site. [Public Resources Code 21000-21177]

42. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

43. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 1582 lb, 2nd quarter - 1582 lb, 3rd quarter - 1582 lb, and fourth quarter - 1582 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201]

44. ERC Certificate Numbers S-1547-2 and S-3080-2 (or certificate(s) split from the certificate(s)) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

45. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOX emission reduction credits for the following quantity of emissions: 1st quarter - 531 lb, 2nd quarter - 531 lb, 3rd quarter - 531 lb, and fourth quarter - 531 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201]

46. ERC Certificate Numbers S-3293-5 (or a certificate split from the certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
47. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 1415 lb, 2nd quarter - 1415 lb, 3rd quarter - 1415 lb, and fourth quarter - 1415 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201]

48. ERC Certificate Numbers S-3287-4, S-3289-4, S-3290-4 and S-3293-5 (or certificate(s) split from the certificate(s)) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

49. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1000 lb, 2nd quarter - 1000 lb, 3rd quarter - 1000 lb, and fourth quarter - 1000 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/06). [District Rule 2201]

50. ERC Certificate Number S-3291-1 (or certificate(s) split from the certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]