DEC - 1 2010

Mr. Jim Robinson
Vintage Production California LLC
9600 Ming Avenue, Suite 300
Bakersfield, CA 93311

Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1326
Project # S-1103505

Dear Mr. Robinson:

Enclosed for your review and comment is the District's analysis of an application for Authority to Construct for Vintage Production California LLC Heavy Oil Central Stationary Source, CA. A 85 MM/Btuhr steam generator with ultra low NOx burner will be installed.

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: SB/cm

Enclosures
DEC - 1 2010

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

Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-1326
Project # S-1103505

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Vintage Production California LLC Heavy Oil Central Stationary Source, CA, which has been issued a Title V permit. Vintage Production California LLC is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. A 85 MM/Btuhr steam generator with ultra low NOx burner will be installed.

Enclosed is the engineering evaluation of this application and proposed Authority to Construct # S-1326-400-0 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: SB/cm

Enclosures
DEC - 1 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-1326
Project # S-1103505

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authority to Construct for Vintage Production California LLC Heavy Oil Central Stationary Source, CA. A 85 MM/ Btuhr steam generator with ultra low NOx burner will be installed.

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 White
Director of Permit Services

DW: SB/cm

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 Vintage Production California LLC for its thermally enhanced oil production facility, Kern Front Field, Kern County, CA. A 85 MM/Btu hr steam generator with ultra low NOx burner will be installed.

The analysis of the regulatory basis for these proposed actions, Project #S-1103505, 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.
San Joaquin Valley Air Pollution Control District
Authority to Construct
New Steam Generator

Facility Name: Vintage Production California, LLC
Mailing Address: 9600 Ming Avenue, Suite 300
Bakersfield, CA 93311
Contact Person: Jim Robinson
Telephone: (661) 869-8074
Fax: (661) 869-8151
E-mail: Jim_Robinson2@Oxy.com
Application #(s): S-1326-400-0
Project #: S-1103505
Deemed Complete: 8/24/2010

I. PROPOSAL

Vintage Production California, LLC (VPC) is an oil production company. VPC is requesting an Authority to Construct (ATC) for the installation of one new 85 MMBtu/hr steam generator for enhanced oil production in the Kern Front Oil Field located within VPC’s Heavy Oil Central Stationary Source. The steam generator will be equipped with an ultra low NOx burner to achieve 7 ppm NOx to satisfy BACT and Rule 4320 requirements.

VPC received their Title V Permit on August 31, 2001. The addition of this proposed steam generator to the facility 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. VPC must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC issued with this project.

See Appendix A for Project Location Map & Facility Plot Plan.

II. APPLICABLE RULES

District Rule 2201 New and Modified Stationary Source Review Rule (12/18/08)
District Rule 2520 Federally Mandated Operating Permits (6/21/01)
District Rule 4001 New Source Performance Standards (4/14/99)
District Rule 4101 Visible Emissions (2/17/05)
District Rule 4102 Nuisance (12/17/92)
District Rule 4201 Particulate Matter Concentration (12/17/92)
District Rule 4301 Fuel Burning Equipment (12/17/92)
District Rule 4305 Boilers, Steam Generators and Process Heaters - Phase 2 (8/21/03)
District Rule 4306 Boilers, Steam Generators and Process Heaters - Phase 3 (3/17/05)
District Rule 4320 Advanced Emission Reductions Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
District Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/03); Not applicable – located west of I-5
District Rule 4405 Oxides of Nitrogen Emissions from Existing Steam Generators Used in Thermally Enhanced Oil Recovery – Central and Western Kern County Fields (12/17/92); Not Applicable – these are not existing steam generators
District Rule 4406 Sulfur Compounds from Steam Generators – Kern County (12/17/92) Not applicable – ATCs issued after 9/12/79
District 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 equipment will be located at the Heavy Oil Central stationary source, within the Kern Front Oil Field, SE1/4 of Section 23, Township 28S, Range 27E. The District has verified that 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

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 making it easier to produce.

VPC plans on using produced gas and/or a mixture of purchased and produced gas as the fuel source for the proposed steam generator. The produced gas will be supplied by the field gas supply pipeline. The steam generator will be authorized to burn only PUC-quality or low-sulfur produced gas.

V. EQUIPMENT LISTING

Equipment Description:

S-1326-400-0: 85 MMBTU/HR STRUTHERS NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA-FLAME™ 4231-85 GLE BURNER OR EQUIVALENT AND A FLUE GAS RECIRCULATION (FGR) SYSTEM
VI. EMISSION CONTROL TECHNOLOGY EVALUATION

Emissions from natural gas-fired steam generators include NO\textsubscript{x}, CO, VOC, PM\textsubscript{10}, and SO\textsubscript{x}. The steam generator in this project will be equipped with ultra low-NO\textsubscript{x} burner to meet the Rule 4320 standard schedule limit of 7 ppmv NO\textsubscript{x} @ 3% O\textsubscript{2} or 0.008 lb-NO\textsubscript{x}/MMBtu.

Ultra low-NO\textsubscript{x} burners reduce NO\textsubscript{x} 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 ultra low-NO\textsubscript{x} 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 NO\textsubscript{x}. 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 flue gas re-circulation (FGR) can reduce nitrogen oxides (NO\textsubscript{x}) 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 has a much lower oxygen content than the inlet air, contains virtually no combustible hydrocarbons, and is essentially an inert gas. The inert flue gas absorbs a significant portion of the heat of combustion, thereby lowering the flame temperature. Since the rate of thermal NO\textsubscript{x} formation increases with increasing temperature, the lower flame temperatures produced by addition of flue gas reduces thermal NO\textsubscript{x} formation.

VII. GENERAL CALCULATIONS

A. Assumptions

- Steam generator operates 24 hours/day and 365 days/year.
- Steam generator is fired exclusively on gaseous fuels.
- Maximum heat input rating for the steam generator = 85 MMBtu/hr
- Units are fired solely on PUC quality natural gas (limited to 1.0 gr-S/100 dscf, per applicant); the natural gas may be a mixture of purchased and produced gas (per Applicant).
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
- F-Factor for Natural Gas: 8,578 dscf/MMBtu corrected to 60°F (40 CFR 60, Appendix B)
- Sulfur content of natural gas is 0.00285 lb-S/MMBtu (District Policy APR-1720)
B. Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Project Emission Factors (EF2)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOX</td>
<td>0.008 lb-NOx/MMBtu</td>
<td>Applicant’s Proposal</td>
</tr>
<tr>
<td>SOX</td>
<td>0.00285 lb-SOX/MMBtu</td>
<td>District Policy APR-1720</td>
</tr>
<tr>
<td>PM10</td>
<td>0.003 lb-PM10/MMBtu</td>
<td>Applicant’s Proposal</td>
</tr>
<tr>
<td>CO</td>
<td>0.00185 lb-CO/MMBtu</td>
<td>Applicant’s Proposal</td>
</tr>
<tr>
<td>VOC</td>
<td>0.0055 lb-VOC/MMBtu</td>
<td>Ap-42 (7/98), Table 1.4-2</td>
</tr>
</tbody>
</table>

* Note: The emission factor proposed by the applicant is lower than the factor (0.0076 lb-PM10/MMBtu) found in Ap-42 (7/98), Table 1.4-2; Two existing units (S-1326-385, and -390) at the facility have undergone startup source testing for PM10 and have demonstrated compliance with the permitted 0.003 lb-PM10/MMBtu with an adequate margin; 0.0017 and 0.0008 lb-PM10/MMBtu respectively. Therefore, a limit of 0.003 lb- PM10/MMBtu is acceptable for a similar unit operating within the Kern County Front Lease firing low sulfur fuel.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

2. Post-Project Potential to Emit (PE2)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>EF2</th>
<th>Heat input</th>
<th>Operating</th>
<th>Daily PE2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb/MMBTU</td>
<td>(MM/ BTU/HR)</td>
<td>(hrs/day)</td>
<td>(lb/day)</td>
</tr>
<tr>
<td>NOx</td>
<td>0.008</td>
<td>85</td>
<td>24</td>
<td>16.3</td>
</tr>
<tr>
<td>SOx</td>
<td>0.00285</td>
<td>85</td>
<td>24</td>
<td>5.8</td>
</tr>
<tr>
<td>PM10</td>
<td>0.003</td>
<td>85</td>
<td>24</td>
<td>6.1</td>
</tr>
<tr>
<td>CO</td>
<td>0.0185</td>
<td>85</td>
<td>24</td>
<td>37.7</td>
</tr>
<tr>
<td>VOC</td>
<td>0.0055</td>
<td>85</td>
<td>24</td>
<td>11.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>EF2</th>
<th>Heat input</th>
<th>Operating</th>
<th>Annual PE2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb/MMBTU</td>
<td>(MM/ BTU/HR)</td>
<td>(hrs/yr)</td>
<td>(lb/yr)</td>
</tr>
<tr>
<td>NOx</td>
<td>0.008</td>
<td>85</td>
<td>8,760</td>
<td>5,957</td>
</tr>
<tr>
<td>SOx</td>
<td>0.00285</td>
<td>85</td>
<td>8,760</td>
<td>2,122</td>
</tr>
<tr>
<td>PM10</td>
<td>0.003</td>
<td>85</td>
<td>8,760</td>
<td>2,234</td>
</tr>
<tr>
<td>CO</td>
<td>0.0185</td>
<td>85</td>
<td>8,760</td>
<td>13,775</td>
</tr>
<tr>
<td>VOC</td>
<td>0.0055</td>
<td>85</td>
<td>8,760</td>
<td>4,095</td>
</tr>
</tbody>
</table>
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 and Major Source Thresholds for NOx and VOC emissions; and above the Offset Thresholds for NOx, and VOC (see Appendix B for SSPE1) emissions as seen in the table below.

<table>
<thead>
<tr>
<th>Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
</tr>
<tr>
<td>Pre-Project SSPE (SSPE1)</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
</tr>
<tr>
<td>SSPE1</td>
</tr>
<tr>
<td>PE2</td>
</tr>
<tr>
<td>SSPE2</td>
</tr>
</tbody>
</table>

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a major source is a stationary source with a Post-Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the Major Source threshold values (excluding ERCs banked onsite that have not been used onsite).

This source is an existing Major Source for NOx and VOC and will continue to remain a Major Source for NOx and VOC emissions as shown in the table below.
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.

\[
BE = \text{Pre-project Potential to Emit (PEI) for:}
\]

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit (80% of pre-project emissions), located at a Major Source,
- Any Fully-Offset Emissions Unit (a unit for which offsets have been provided), located at a Major Source, or
- Any Clean Emissions Unit located at a Major Source.

Otherwise,

\[
BE = \text{Historic Actual Emissions (HAE)}
\]

Since this is a new emissions unit, \( BE = PEI = 0 \) for all criteria pollutants.

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 (as in effect on Dec. 19, 2002) 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.”

For the purposes of this definition, the SB 288 major modification thresholds for existing major sources are listed as follows:

<table>
<thead>
<tr>
<th>SB 288 Major Modification Thresholds (lb/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
</tr>
<tr>
<td>Net Project Increases</td>
</tr>
<tr>
<td>5,957</td>
</tr>
<tr>
<td>Threshold</td>
</tr>
<tr>
<td>50,000</td>
</tr>
<tr>
<td>SB 288 Major Mod?</td>
</tr>
<tr>
<td>No</td>
</tr>
</tbody>
</table>

As shown above, the project is not a significant increase and therefore does not constitute a SB 288 Major Modification.
8. Federal Major Modification

A Federal Major Modification is defined in 40 CFR Part 51.165 (as in effect on Dec. 19, 2002) 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."

Rule 2201 Section 3.17 states that an SB 88 Major Modification is not a Federal Major Modification if the emission increase for the project or the net emission increase for the facility (calculated pursuant to 40 CFR 51.165(a)(2)(ii)(B) through (D) does not result in a significant emission increase as defined in Rule 2201 Table 3-1 (shown below).

Emissions Increase (EI) Calculations:

S-1326-400-0 (new unit):

Per District Draft Policy (dated 7/8/10) for Implementation of Rule 2201 (as amended on 12/18/08 and effective on 6/10/10) for SB288 Major Modifications and Federal Major Modifications:

EI for new units = Potential to emit for each emission unit

PAE = PE2 (for unit '400-0)
BAE = 0 (new unit)
EI = PE2 (lb/yr)

The total PE from the new emissions unit is shown in the table below:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Project PE (lb/year)</th>
<th>Threshold (lb/year)</th>
<th>Significant Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{x}</td>
<td>5,957</td>
<td>0</td>
<td>Yes</td>
</tr>
<tr>
<td>SO\textsubscript{x}</td>
<td>2,122</td>
<td>80,000</td>
<td>No</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>2,234</td>
<td>30,000</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>4,095</td>
<td>0</td>
<td>Yes</td>
</tr>
</tbody>
</table>

As shown in the above calculations, the project will result in an increase in NO\textsubscript{x} and VOC emissions greater than the Federal Major Modification threshold. Therefore, this project is a Federal Major Modification and the facility shall address alternative siting requirements pursuant to Section 4.15.1 of Rule 2201. VPC provided an alternative siting analysis to comply with this requirement (Appendix C).
In addition, pursuant to Section 4.15.2, the owner of the proposed new major source or federal major modification shall demonstrate to the satisfaction of the APCO that all major stationary sources owned or operated by such person (or any entity controlling, controlled by, or under common control with such person) in California which are subject to emission limitations are in compliance or on a schedule for compliance with all applicable limitations and standards. VPC provided verification that all major Stationary Sources owned or operated by VPC in California are in compliance or on a schedule for compliance with all applicable emission limitations and standards (Appendix C).

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. QNEC calculations are included below:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PE2 (lb/yr)</th>
<th>PE1 (lb/yr)</th>
<th>QNEC (lb/qtr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>5,957</td>
<td>0</td>
<td>1,489</td>
</tr>
<tr>
<td>SOx</td>
<td>2,122</td>
<td>0</td>
<td>531</td>
</tr>
<tr>
<td>PM10</td>
<td>2,234</td>
<td>0</td>
<td>558</td>
</tr>
<tr>
<td>CO</td>
<td>13,775</td>
<td>0</td>
<td>3,444</td>
</tr>
<tr>
<td>VOC</td>
<td>4,095</td>
<td>0</td>
<td>1,024</td>
</tr>
</tbody>
</table>

**VIII. COMPLIANCE**

**District 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 AlPE exceeding two pounds per day, and/or
d) Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as directed in this rule.

*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 all air contaminants. BACT is triggered for NO\textsubscript{X}, SO\textsubscript{X}, PM\textsubscript{10}, CO and VOC since the PEs are greater than 2 lbs/day.

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

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered for relocation of an emissions unit with a PE > 2 lb/day.

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

As discussed in Section I above, there are no modified emissions units associated with this project; therefore BACT is not triggered for modification of an emissions unit with an AIPE > 2 lb/day.

d. Major Modification

As discussed in Section VII.C.7 above, this project constitutes a Federal Major Modification for NO\textsubscript{X} and VOC emissions; therefore, BACT is triggered for NO\textsubscript{X} and VOC for Federal Major Modification purposes.

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 D.

3. Top-Down BACT Analysis

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

\begin{itemize}
  \item NO\textsubscript{X}: 7 ppmvd @ 3% O\textsubscript{2}
  \item SO\textsubscript{X}: Natural gas, LPG and 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 SO\textsubscript{2} scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO\textsubscript{2} at stack O\textsubscript{2}.
  \item PM\textsubscript{10}: Natural gas, LPG and 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 SO\textsubscript{2} scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO\textsubscript{2} at stack O\textsubscript{2}.
  \item VOC: Gaseous fuel
  \item CO: 50 ppmvd @ 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 (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 or Rule 2201.

As shown in the table below, offsets are required for NOx, and VOC only.

<table>
<thead>
<tr>
<th>Offset Determination (lb/year)</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>CO</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Project SSPE (SSPE2)</td>
<td>78,139</td>
<td>24,434</td>
<td>24,881</td>
<td>198,857</td>
<td>124,997</td>
</tr>
<tr>
<td>Offset Threshold</td>
<td>20,000</td>
<td>54,750</td>
<td>29,200</td>
<td>200,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Offsets triggered?</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2. Quantity of Offsets Required

As discussed in Section VIII.B.1, the SSPE2 is greater than the offset thresholds for NOx, and VOC; 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) = (Σ[PE2 − BE] + ICCE) x 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:

NOx offsets:

Offsets Required (lb/year) = ([PE2 – BE] + ICCE) x DOR

Since this project constitutes a Federal Major Modification, DOR= 1.5 for NOx emissions (per District Rule 2201, Section 4.8.1)

PE2 (NOx) = 5,957 lb/year
BE (NOx) = 0 lb/year
ICCE = 0 lb/year

The amount of NOx ERCs that need to be withdrawn is:

Offsets Required (lb/year) = ([5,957 – 0] + 0) x 1.5
= 5,957 x 1.5
= 8,936 lb NOx/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>2,234</td>
<td>2,234</td>
<td>2,234</td>
<td>2,234</td>
</tr>
</tbody>
</table>

VPC has stated that the facility plans to use ERC certificate S-3381-2 to offset the increases in NOx emissions associated with this project. The above certificate has available quarterly NOx credits as follows:

<table>
<thead>
<tr>
<th>ERC # S-3381-2</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>39,974</td>
<td>40,710</td>
<td>41,449</td>
<td>41,447</td>
</tr>
</tbody>
</table>

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

VOC offsets:

Offsets Required (lb/year) = ([PE2 – BE] + ICCE) x DOR

PE2 (VOC) = 4,095 lb/year
BE (VOC) = 0 lb/year
ICCE = 0 lb/year

Since this project constitutes a Federal Major Modification, DOR= 1.5 for VOC emissions (per District Rule 2201, Section 4.8.1)

Offsets Required (lb/year) = ([4,095 – 0] + 0) x 1.5
= 4,095 x 1.5
= 6,143 lb VOC/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>1,536</td>
<td>1,536</td>
<td>1,536</td>
<td>1,536</td>
</tr>
</tbody>
</table>

The applicant has stated that the facility plans to use ERC certificate S-1707-1 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>ERC #S-1707-1</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,717</td>
<td>3,992</td>
<td>4,929</td>
<td>2,029</td>
</tr>
</tbody>
</table>

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

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

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

- Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emissions reduction credits for the following quantity of emissions: 1st quarter: 2,234 lb, 2nd quarter: 2,234 lb, 3rd quarter: 2,234 lb, and 4th quarter: 2,234 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 12/18/08). [District Rule 2201]

- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emissions reduction credits for the following quantity of emissions: 1st quarter: 1,536 lb, 2nd quarter: 1,536 lb, 3rd quarter: 1,536 lb, and 4th quarter: 1,536 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 12/18/08). [District Rule 2201]

- ERC Certificate Numbers S-1707-1, and S-3381-2 or certificates split from these certificates 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. Federal/SB 288 Major Modification,
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. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

b. **Federal Major Modification**

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

c. **PE > 100 lb/day**

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units which will have daily emissions greater than 100 lb/day for any pollutant associated with this project; therefore, public noticing is not required.

d. **Offset Threshold**

The facility is already over the offset thresholds for NOx, and VOC emissions. Therefore, since this facility is already over the thresholds for NOx, and VOC emissions, 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>5,957</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>SOx</td>
<td>2,122</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>PM10</td>
<td>2,234</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>CO</td>
<td>13,775</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>4,095</td>
<td>20,000 lb/year</td>
<td>No</td>
</tr>
</tbody>
</table>
As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPe purposes is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project as NOx, and VOC emissions increases exceed the Federal Major Modification threshold. 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)

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

- Emissions from the natural gas-fired unit shall not exceed any of the following limits:
  - NOx: 7 ppmvd @ 3% O2 or 0.008 lb-NOx/MMBtu; PM10: 0.003 lb-PM10/MMBtu;
  - CO: 25 ppmvd @ 3% O2 or 0.0185 lb-CO/MMBtu or VOC: 0.0055 lb-VOC/MMBtu.
    [District Rules 2201 and 4320]

- Natural gas and or TEOR and TVR gas combusted in this unit shall have a sulfur content no greater than 1 gr S/100 scf. [Rules 2201 and 4320]

E. Compliance Assurance

1. Source Testing

The units in this project are subject to District Rule 4305, Boilers, Steam Generators and Process Heaters, Phase 2, District Rule 4306, Boilers, Steam Generators and Process Heaters, Phase 3, and District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5 MMBtu/hr. Source testing requirements will be discussed in the compliance review section of this evaluation.

- Monitoring

As required by District Rules 4305, 4306 and 4320, the units are subject to monitoring requirements. Monitoring requirements, in accordance with District Rules will be discussed in the compliance review section of this evaluation.

- Recordkeeping
As required by District Rules 4305, 4306 and 4320, the units are subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules will be discussed in the compliance review of this evaluation.

The following permit condition will be listed on permit as follows:

- 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]

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 E of this document for the AAQA summary sheet.

G. Federal Major Modification Certification of Compliance

The compliance certification is required for any project, which constitutes a New Major Source or a Federal Major Modification. Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Sections VII-C.8 above, this project constitutes a Federal Major Modification, therefore this requirement is applicable. Included in Appendix C is VPC's compliance certification.

District Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification may be considered a significant modification to the Title V Permit. 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/minor modification, prior to operating with the proposed modifications. VPC's Title V compliance certification form is included in Appendix F. The following permit conditions will be listed to ensure compliance:

- \{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 Rule 2201]

- \{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]  

District Rule 4001 New Source Performance Standards  

40 CFR Part 60, Subpart Dc applies to 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 generators have a rating of 85 MMBtu/hr each and are fired on natural gas. 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.

District 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.

Gas-fired equipment typically operates without visible emissions. Compliance with District Rule 4101 is expected.

District 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 ≤ one. According to the Technical Services Memo for this project (Appendix E), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.
The maximum emission rates in lb/hr for each of the steam generator in this project are as follows:

-  

\[
GL = \frac{0.00300 \text{ lb-PM/MMBtu} \times 7,000 \text{ grain}\left/\text{lb-PM}\right)}{8,578 \text{ ft}^3\text{/MMBtu} \times 1.17}
\]

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

- Particulate matter emissions shall not exceed 0.1 grain/dscf in concentration.

[District Rule 4201]

**District Rule 4301 Fuel Burning Equipment**

This rule specifies maximum emission rates in lb/hr for \(\text{SO}_2\), \(\text{NO}_2\), and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to \(\leq 0.1 \text{ gr/sce}\). According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 \(\mu\text{m}\) in diameter.

The maximum emission rates in lb/hr for each of the steam generator in this project are as follows:
The above table indicates compliance with the maximum lb/hr emissions in this rule; therefore, continued compliance is expected.

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

The proposed steam generators are natural gas-fired with a maximum heat input of 85.0 MMBtu/hr each. Pursuant to Section 2.0 of District Rule 4305, the units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

In addition, the units are also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3* and Rule 3420, *Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 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 proposed steam generators are natural gas-fired with a maximum heat input of 85.0 MMBtu/hr each. Pursuant to Section 2.0 of District Rule 4306, the units are subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

In addition, the units are also subject to District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr*.

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.

**District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr**

This rule limits NOx, CO, SO2 and PM10 emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. This rule also provides a compliance option of payment of fees in proportion to the actual amount of NOx emitted over the previous year.

The proposed unit in this project is rated at greater than 5 MMBtu/hr heat input and is subject to this rule.
Section 5.1 NOx Emission Limits

Section 5.1 states that an operator of a unit(s) subject to this rule shall comply with all applicable requirements of the rule and one of the following, on a unit-by-unit basis:

5.1.1 Operate the unit to comply with the emission limits specified in Sections 5.2 and 5.4; or
5.1.2 Pay an annual emissions fee to the District as specified in Section 5.3 and comply with the control requirements specified in Section 5.4; or
5.1.3 Comply with the applicable Low-use Unit requirements of Section 5.5.

Section 5.2.1 states that on and after the indicated Compliance Deadline, units shall not be operated in a manner which exceeds the applicable NOx limit specified in Table 1 of this rule, shown below. On and after October 1, 2008, units shall not be operated in a manner to which exceeds a carbon dioxide (CO) emissions limit of 400 ppmv.

<table>
<thead>
<tr>
<th>Rule 4320 NOx Emission Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. Oilfield Steam Generators</td>
</tr>
<tr>
<td>NOx Limit</td>
</tr>
<tr>
<td>2. Units with a total rated heat input &gt;20 MMBtu/hr</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>3. Units firing on less than 50% by volume, PUC quality gas</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

For the subject steam generator, VPC is proposing to comply with Category C2 – standard schedule limit of 7 ppmv calculated at 0.008 lb/MMBtu.
- The proposed NOx emission factor is 7 ppmvd @ 3%O2 or (0.008 lb/MMBtu)
- The proposed CO emission factor is 25 ppmvd @ 3% O2 or (0.0185 lb/MMBtu)

Compliance with the rule emission requirements is expected.
Section 5.2.4 applies to units firing on a combination of gaseous and liquid fuels. VPC is not proposing to fire on liquid fuels.

Section 5.4 Particulate Matter Control Requirements

Section 5.4.1 states that to limit particulate matter emissions, an operator shall comply with one of the options listed in the rule. Section 5.4.1.1 provides option for the operator to comply with the rule by firing the unit exclusively on PUC-quality gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;

Section 5.4.1.2 provides option for the operator to comply with the rule by limiting the fuel sulfur content to no more than five (5) grains of total sulfur per hundred (100) standard cubic feet.

Section 5.4.1.3 provides option for the operator to comply with the rule by installing and properly operating an emissions control system that reduces SO2 emissions by at least 95% by weight; or limit exhaust SO2 to less than or equal to 9 ppmv corrected to 3 % O2.

The steam generator will be fired on purchased gas and/or a mixture of purchased and produced gas with a fuel sulfur content limit of 1.0 gr S/100 scf. The ATC will have conditions specifying these limits to ensure compliance with this section of the rule.

Section 5.5 Low-Use Unit

This section discusses the requirements of low-use units. VPC is not requesting low-use status; therefore, this section of the rule is not applicable to this project.

Section 5.6 Startup and Shutdown Provisions

Section 5.6 states that on and after the full compliance deadline specified in Section 5.0, the applicable emission limits of Sections 5.2, Table 1 and 5.5.2 shall not apply during startup or shutdown provided an operator complies with the requirements specified in Sections 5.6.1 through 5.6.5.

VPC is not requesting startup, shutdown and refractory curing provisions for the proposed steam generator.

Section 5.7 Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 shall either install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NOx, CO and O2, or implement an APCO-approved alternate monitoring.

VPC has proposed to implement Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires periodic monitoring of NOx, CO, and O2 concentrations. The
following conditions will be placed in the ATC to ensure compliance with the requirements of this alternate monitoring plan:

- [2395] 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 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]

- If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, 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 performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320]

- All NOx, CO, and O2 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 NOx, CO, and O2 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 sample 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 4102, 4305, 4306 and 4320]

- The permittee shall maintain records of: (1) the date and time of NOx, CO and O2 measurements, (2) the O2 concentration in percent by volume 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]

Section 5.7.6 requires monitoring SOx emissions. The following condition will be placed in the ATC to be in compliance with this rule requirement:

- PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]
• If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320]

• If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320]

Section 5.8 Compliance Determination

Section 5.8.1 requires that the operator of any unit 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). Therefore, the following conditions will be listed on the ATC as follows:

• Initial source testing to measure NOx, and CO emissions be conducted within 60 days of initial start-up of this steam generator with the steam generator in operational conditions. [District Rule 2201]

• {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 shall 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. Therefore, the following permit condition will be listed on the ATC as follows:

• {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. 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 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320]

Section 5.8.4 requires that 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 (5) readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following previously listed permit condition will be on the ATC as follows:

- All NOx, CO, and O2 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, 5.4, 4306, 5.4, and 4320]

Section 5.8.5 requires that 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 (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the permit as follows:

- [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, 5.5.5, 4306, 5.5.5, 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.

**Section 6.2, Test Methods**

Section 6.2 identifies test methods to be used when determining compliance with the rule. The following existing permit conditions will be retained on the ATCs:

- [109] Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

- The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S content - EPA Method 11 or 15; and fuel hhv (MMBtu) –ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320]
Section 6.3, Compliance Testing

Section 6.3.1 requires that the permit unit subject to the requirements in Section 5.2 shall be source tested at least once every 12 months, except if two consecutive annual source tests demonstrate compliance, source testing may be performed every 36 months. If such a source test demonstrates non-compliance, source testing shall revert to every 12 months. The following conditions will be included in the appropriate ATCs:

- **A source test to demonstrate compliance with NOx, and CO emission limits shall be performed within 60 days of startup of this unit with the steam generator in operational conditions.** [District Rules 2201 and 4320]

- **Source testing to measure natural gas-combustion NOx, and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date).** After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). 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 2201, 4305, 4306 and 4320]

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

Section 6.3.1.2 specifies tune-up requirements. VPC will use pre-approved Alternate Monitoring Scheme “A” or “H” using a portable analyzer. Therefore the tune-up requirements listed in Section 6.3.1.2 are not applicable. This section also requires, that during the 36-month source testing interval, the owner/operator shall monitor monthly the operational characteristics recommended by the unit manufacturer. Since the pre-approved alternate monitoring requires monthly monitoring of NOx, CO and O2 exhaust emission concentrations using a portable analyzer, the operational characteristics monitoring requirements is satisfied.

Conditions will be incorporated into the ATC in order to ensure compliance with each section of this rule, (see attached draft ATC). Therefore, compliance with District Rule 4320 requirements is expected.

**District Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1**

This rule applies to boilers, steam generators, and process heaters at NOx Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. The emission limits, monitoring provisions, and testing requirements of this rule are satisfied when the unit is operated in compliance with Rule 4306. Therefore, compliance with this rule is expected.

**District Rule 4801 Sulfur Compounds**
A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as \( \text{SO}_2 \), on a dry basis averaged over 15 consecutive minutes.

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

\[
\text{Volume } \text{SO}_2 = \frac{nRT}{P}
\]

With:

\[
N = \text{moles } \text{SO}_2
\]

\[
T \text{ (Standard Temperature)} = 60^\circ F = 520^\circ R
\]

\[
P \text{ (Standard Pressure)} = 14.7 \text{ psi}
\]

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

\[
\frac{0.00285 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ R} \times \frac{520^\circ R}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{MMBtu} \cdot \text{million}} = 1.97 \frac{\text{parts}}{\text{million}}
\]

\[
\text{Sulfur Concentration} = 1.97 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2%)}
\]

Therefore, compliance with District Rule 4801 requirements is expected.

**California Health & Safety Code 42301.6 (School Notice)**

There The District has verified that this site is 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) 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. See Appendix G: BPS for CEQA-GHG Compliance documentation.

**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. Issue ATC S-1326-400-0 subject to the permit conditions on the attached draft Authority to Construct in Appendix H.

**X. BILLING INFORMATION**

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APPENDICES

A: Project Location Map & Facility Plot Plan
B: SSPE1 Calculations
C: Alternate Siting & Compliance Certification
D: BACT Guideline 1.2.1 & Top-Down BACT Analysis
E: HRA and AAQA Summaries
F: Title V Compliance Certification Form
G: BPS for CEQA-GHG Compliance
H: Draft ATC
APPENDIX A

Project Location Map & Facility Plot Plan
APPENDIX B

SSPE1 Calculations
## Detailed SSPE Report

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Notes:

- Considering approved NOx (0.5 lb/MBtu).
- Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC’s for onsite reductions must be added in separately per Rule 2201 as well.
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<td></td>
<td></td>
<td>203</td>
</tr>
<tr>
<td>S</td>
<td>1326</td>
<td>382</td>
<td>0</td>
<td>588</td>
<td>29</td>
<td>69</td>
<td>3200</td>
<td>545</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for on-site reductions must be added in separately per Rule 2201 as well.
<table>
<thead>
<tr>
<th>Region</th>
<th>Facility</th>
<th>Unit Mod</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>CO</th>
<th>VOC</th>
<th>Outstanding ATCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>1326</td>
<td>383</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>385</td>
<td>1</td>
</tr>
<tr>
<td>S</td>
<td>1326</td>
<td>384</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>511</td>
<td>0</td>
</tr>
<tr>
<td>S</td>
<td>1326</td>
<td>385</td>
<td>1</td>
<td>8116</td>
<td>2122</td>
<td>2234</td>
<td>13775</td>
<td>4095</td>
</tr>
<tr>
<td>S</td>
<td>1326</td>
<td>387</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>840</td>
<td>0</td>
</tr>
<tr>
<td>S</td>
<td>1326</td>
<td>388</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8101</td>
<td>0</td>
</tr>
<tr>
<td>S</td>
<td>1326</td>
<td>389</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16662</td>
<td>0</td>
</tr>
<tr>
<td>S</td>
<td>1326</td>
<td>390</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4601</td>
<td>0</td>
</tr>
<tr>
<td>S</td>
<td>1326</td>
<td>391</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2223</td>
<td>0</td>
</tr>
<tr>
<td>S</td>
<td>1326</td>
<td>392</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16662</td>
<td>0</td>
</tr>
</tbody>
</table>

SSPE (lbs) | 69549 | 45379 | 29014 | 180740 | 1095 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SSPE (lbs)</td>
<td>72182</td>
<td>127311</td>
<td>22649</td>
<td>185082</td>
<td>120902</td>
</tr>
</tbody>
</table>

Notes:

Blank values for a particular permit unit do not necessarily reflect zero emissions. For units with blank values, the PE must still be determined based on physical PE or as limited by permit condition.

For permits that show outstanding ATCs, consult PAS ATC Emission Profile records to determine what the highest PE is for each pollutant.

ATCs for new units (e.g. S-XXXX-X-0) must be added in separately.

ERC's for onsite reductions must be added in separately per Rule 2201 as well.
APPENDIX C

Alternate Siting & Compliance Certification
Rule 2201, Section 4.15 Alternative Siting Analysis

The proposed steam generator represents an expansion at an existing stationary source (which is properly zoned) and cannot be relocated since it is an existing heavy crude oil production operation. Therefore, an alternate location is not viable for this project.

The maximum off-site (> 25 meters from the unit) ground level concentration of each criteria pollutant for the 1-hour, 3-hour, 8-hour, 24-hour and annual periods was predicted using the most recent version of EPA's AMS/EPA Regulatory Model (AERMOD) dispersion software under the Lakes Environmental ISC-AERMOD View interface. The results of this modeling are as follows:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Period</th>
<th>Background (µg/m³)</th>
<th>Project (µg/m³)</th>
<th>Project + Background (µg/m³)</th>
<th>NAAQS (µg/m³)</th>
<th>CAAQS (µg/m³)</th>
<th>PSD SIL (µg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO₂</td>
<td>1-hour</td>
<td>1.20E+02</td>
<td>2.46E+01</td>
<td>1.45E+02</td>
<td>188.68</td>
<td>470</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>3.96E+01</td>
<td>1.02E+00</td>
<td>4.06E+01</td>
<td>100</td>
<td>---</td>
<td>1</td>
</tr>
<tr>
<td>SO₂</td>
<td>1-hour</td>
<td>3.00E-02</td>
<td>1.55E+01</td>
<td>1.55E+01</td>
<td>---</td>
<td>655</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3-hour</td>
<td>1.50E-02</td>
<td>1.16E+01</td>
<td>1.76E+01</td>
<td>25</td>
<td>---</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
<td>5.00E-03</td>
<td>4.03E+00</td>
<td>9.03E+00</td>
<td>---</td>
<td>105</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>2.00E-03</td>
<td>6.40E-01</td>
<td>6.42E-01</td>
<td>80</td>
<td>---</td>
<td>1</td>
</tr>
<tr>
<td>CO</td>
<td>1-hour</td>
<td>3.66E+03</td>
<td>2.00E+02</td>
<td>3.86E+03</td>
<td>40,000</td>
<td>23,000</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>8-hour</td>
<td>2.40E+03</td>
<td>9.36E+01</td>
<td>3.66E+03</td>
<td>10,000</td>
<td>10,000</td>
<td>500</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>24-hour</td>
<td>1.07E+02</td>
<td>4.25E+00</td>
<td>5.32E+02</td>
<td>150</td>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>4.30E+01</td>
<td>6.74E-01</td>
<td>7.04E+01</td>
<td>---</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>24-hour</td>
<td>7.51E+01</td>
<td>4.25E+00</td>
<td>1.17E+02</td>
<td>35</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>1.87E+01</td>
<td>6.74E-01</td>
<td>1.94E+01</td>
<td>15</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

As shown in the preceding table the proposed steam generator will not have a significant impact on the ambient air quality for criteria pollutants. Therefore, reducing the rating of firing capacity of the unit will not result in a significant reduction of potential impacts to the environment.

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD (recompiled for the Lakes ISC-AERMOD View interface) was used to predict the dispersion of emissions from the proposed project. Health risk is determined using the Hotspots Analysis and Reporting Program (HARP) software distributed by the California Air Resources Board, which requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. The results from the AERMOD modeling were input into the HARP model and the resulting health risks are as follows:

<table>
<thead>
<tr>
<th>Potential Maximum Impacts Predicted By HARP</th>
<th>Value</th>
<th>UTM East</th>
<th>UTM North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess Cancer Risk</td>
<td>3.18E-08</td>
<td>316375</td>
<td>3926054</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>2.28E-04</td>
<td>316375</td>
<td>3926054</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>1.23E-02</td>
<td>316727</td>
<td>3928449</td>
</tr>
</tbody>
</table>

*Based on continuous, 70-year residential exposure for the most sensitive receptor.

The potential health risk attributable to the proposed project is determined to be less than significant based on the following conclusions:
1) Potential chronic carcinogenic risk from the proposed project is below the significance level of ten in a million at each of the modeled receptors; and
2) The hazard index for the potential chronic and acute non-cancer risks from the proposed project is below the significance level of 1.0 at each of the modeled receptors.

Therefore, reducing the rating of the unit will not result in a benefit to the environment.

The unit will result in an increase in greenhouse gas (GHG) emissions. However, the proposed unit meets the requirements of the District's best management practices and CEQA requirements have been satisfied. Failure to install the proposed unit could potentially result in additional imports of crude oil which would likely have a GHG impact more significant than this project.

Conclusion

Alternative sites, sizes, or production processes do not exist for the proposed steam generator.
CERTIFICATION

Vintage Production California LLC hereby certifies as follows:

1. Vintage Production California LLC owns or operates certain major stationary sources in the State of California. Such sources are comprised of a vast number of emission points. As used in this certification, the term "major stationary source" shall, with respect to Vintage Production California LLC stationary sources in the SJVUAPCD, have the meaning ascribed thereto in SJVUAPCD Rule 2201, Section 3.23, and shall, with respect to all of Vintage Production California LLC's other stationary sources in the State of California, have the meaning ascribed thereto in section 302(J) of the Clean Air Act (42 U.S.C. Section 7602 (J)).

2. Subject to paragraphs 3 and 4 below, all major stationary sources owned or operated by Vintage Production California LLC in the State of California are either in compliance, or on an approved schedule of compliance, with all applicable emission limitations and standards under the Clean Air Act and all of the State Implementation Plan approved by the Environmental Protection Agency.

3. This certification is made on information and belief and is based upon a review of Vintage Production California LLC's major stationary sources in the State of California by those employees of Vintage Production California LLC who have operational responsibility for compliance. In conducting such reviews, Vintage Production California LLC and its employees have acted in good faith and have exercised best efforts to identify any exceedance of the emission limitations and standards referred to in paragraph 2 thereof.

4. This certification shall speak as of the time and date of its execution.

CERTIFICATION

By: Richard Oringderff
Title: Vice President and General Manager
Date: October 4, 2010
Time: 09:00
APPENDIX D

BACT Guideline 1.2.1 & Top-Down BACT Analysis
(Vendor quote for SCR included)
Top Down 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 listed in BACT Guideline 1.2.1; 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 > 20.0 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 with initial and final limit options that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NOx emission initial limit requirement is 9 ppmv @ 3% O2 and final limit of 5 ppmv @ 3% O2. Since this is an enhanced option in the rule, the final limit of 5 ppmv @ 3% O2 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. 5 ppmvd @ 3% O2 - Technologically Feasible
2. 7 ppmvd @ 3% O2 - Achieved in Practice

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. 5 ppmvd @ 3% O2 - Technologically Feasible
2. 7 ppmvd @ 3% O2 - Achieved in Practice

Step 4 - Cost Effectiveness Analysis

The applicant has proposed a NOx limit of 7 ppmvd @ 3% O2, so, a cost analysis for the 5 ppmvd (SCR) option is required.
SCR Cost Effective Analysis:

Assumptions:

- Industry standard (IS) is assumed to be a NOx emission rate of 15 ppmv @3% O2 in accordance with Rule 4306
- Unit's maximum emissions are defined by the burner size multiplied by the emissions rate and a maximum annual operating schedule of 8,760 hours

Calculations:

Industry Std NOx Emissions = \[85 \text{ MMBtu/hr} \times 0.018 \text{ lb/MMBtu} \times 8,760 \text{ hr/yr}\]
\[= 13,403 \text{ lb/yr}\]

Technologically Feasible NOx Emissions = \[85 \text{ MMBtu/hr} \times 0.0062 \text{ lb/MMBtu} \times 8,760 \text{ hr/yr}\]
\[= 4,617 \text{ lb/yr}\]

NOx reduction due to SCR:

\[\text{Total reduction} = \text{Emissions (15 ppmv)} - \text{Emissions (5 ppmv)}\]
\[= 13,403 \text{ lb/yr} - 4,617 \text{ lb/yr}\]
\[= 8,786 \text{ lb/yr} = 4.39 \text{ ton/yr}\]

SCR Capital Cost: $745,000.00 (includes all purchased equipment, taxes, freight and installation of SCR for a 85 MMBtu/hr unit); (See vendor quote).

Equivalent Annual Capital Cost (CC):

\[A = \left(\frac{P 
(1+i)^n}{(1+i)^n-1}\right)\text{ where:}\]

A: Equivalent annual capital cost of the control equipment
P: Present value of the control equipment
i: Interest rate (District policy is to use 10%)
n: Equipment life (District policy is to use 10 years)

\[A = \left(\frac{\$745,000.00 
(1.1)^{10}}{(1.1)^{10}-1}\right) = \frac{\$121,245.32}{\text{yr}}\]

Annual Direct Cost (ADC):

Operation & Maintenance = $125,000.00 /yr (see quote)

Annual Indirect Cost (AIC) = Included

Total Annualized Cost = CC + ADC + AIC
\[= \$121,245.32 + \$125,000.00 + 0 = \$246,245.32 /yr\]
Cost Effectiveness:

Cost effectiveness = $ 246,245.32 /4.39 ton/yr
Cost effectiveness = $ 56,092.32 /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 for NOx

BACT for NOx emissions from the proposed oilfield steam generator is 7 ppmv @ 3% O2. The applicant has proposed to install the steam generator with a NOx limit of 7 ppmvd @ 3% O2; therefore, BACT for NOx emissions is satisfied.
Top Down BACT Analysis for VOC Emissions:

**Step 1 - Identify all control technologies**

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, (last updated May, 2004), identifies achieved in practice and technologically feasible BACT for Steam Generator $\geq$ 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 is identified and this technology is achieved in practice; therefore, a 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 PM$_{10}$ and SOx Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, (last updated May, 2004), 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 is identified and this technology is achieved in practice; therefore, a cost effectiveness analysis not necessary.

Step 5 - Select BACT for SOx and PM10

BACT for SO$_X$ emissions from this oil field steam generator is natural gas fuel with a sulfur content ≤1 gr-S/100 scf. The applicant has proposed to install an oil field steam generator fired on natural gas with a sulfur content ≤1 gr-S/100 scf; therefore BACT for SO$_X$ emissions is satisfied.
Top Down BACT Analysis for CO Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, (last updated May, 2004), identifies achieved in practice and technologically feasible BACT for Steam Generator $\geq 5$ 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, a cost effectiveness analysis not necessary.

Step 5 - Select BACT for CO

$25$ ppmvd CO @ $3\%$ O2 is proposed and satisfies BACT for CO emissions.
August 19, 2010

Mr. Jim Robison
Vintage Production California
9600 Ming Ave. Suite 300
Bakersfield, CA 93309

Re: Steam Generator SCR Retrofits

Dear Mr. Robison,

In response to your requests, PCL Industrial Services, Inc. offers for your review a budget price to install SCR technology on an 85MM Btu fired once through steam generator. The scope of work as detailed below includes all engineering, materials, labor, and equipment to procure and install a system that will reduce the NOx levels from 9 ppm to sub 5 ppm.

**Project Details**

The SCR system proposed will utilize catalyst which has an optimized operating temperature range of 850 – 925 deg F. Placement of the catalyst housing will require the separation of the economizer to operate in this temperature range. As additional room will be required, the radiant section must also be relocated to accommodate the SCR housing. The SCR unit will add 1 – 2” W.C. additional pressure drop across the steam generator. The added pressure drop will adversely affect the steam generator Lo Nox burner. To offset this additional pressure, an ID fan will be required downstream of the convection section for stable operation.

**Scope of Work**

Remove the convection box from the steam generator

Cut the box frame at row 7. Add flanges to the cut splices. Repair refractory.

Fabricate SCR flanged FGR housing including refractory and painting

Provide and install approx 200 cubic feet catalyst with associated injection system

Excavate, form, and pour 15 foot extension to the generator foundation for SCR and ID Fan

Disconnect electrical and utilities from radiant and cab section.

Relocate the radiant to accommodate new steam generator length (avoid pipe rack relocation)
Reinstall electrical and utilities:

Supply and modify convection box ASME piping to accommodate SCR housing

Modify electrical conduit and wiring for SCR housing

Provide and install a 75 HP ID fan in 316Lss construction

Provide and install interconnecting ductwork for the ID fan

Provide chemical injection and storage system for SCR

Provide instrumentation and controls for SCR and ID fan

Provide insulation repair and new as required for personnel protection

Provide start up and tuning of ID fan and SCR equipment

**Budget Price**  $ 745,000.

Budget price includes taxes and materials and freight to Kern County, CA

Operating costs are estimated to be $125,000 per annum.

The above budget pricing is good for sixty (60) days from date of letter.

We trust the above will be of assistance at this time. Please feel free to contact our office should you have any questions or further requests.

Sincerely,

John Kerchinski
District Manager
PCL Industrial Services, Inc.
APPENDIX E

HRA and AAQA Summaries
A. RMR SUMMARY

<table>
<thead>
<tr>
<th>Categories</th>
<th>NG Steam Generator (Unit 400-0)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.00</td>
<td>0.00</td>
<td>0.04</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>N/A^1</td>
<td>N/A^1</td>
<td>N/A^1</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>N/A^1</td>
<td>N/A^1</td>
<td>N/A^1</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk (10^-5)</td>
<td>N/A^1</td>
<td>N/A^1</td>
<td>N/A^1</td>
</tr>
<tr>
<td>T-BACT Required?</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Special Permit Conditions?</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

1. Cancer risk, Acute and Chronic Hazard Indices were not calculated since the total prioritization score was less than 1.0

**Proposed Permit Conditions**

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 400-0

No special conditions are required.

B. RMR REPORT

1. Project Description

Technical Services received a request on August 24, 2010, to perform an Ambient Air Quality Analysis and a Risk Management Review for a 85 mmbtu/hr natural gas-fired steam generator.
II. Analysis

Toxic emissions for this proposed unit were calculated using WSPA’s emission factors for steam generators. In accordance with the District’s Risk Management Policy for Permitting New and Modified Sources (APR 1905, March 2, 2001), risks from the proposed unit’s toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District’s HEART’s database. The prioritization score for this proposed unit was less than 1.0 (see RMR Summary Table). Therefore, no further analysis was necessary.

The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Analysis Parameters</th>
<th>Unit 400-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Throughput</td>
<td>0.085</td>
</tr>
<tr>
<td>(MMSCF/HR)</td>
<td>8,760</td>
</tr>
<tr>
<td>Closest Receptor (m)</td>
<td>1,280.16</td>
</tr>
</tbody>
</table>

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM10; as well as a RMR. The emission rates used for criteria pollutant modeling were 18.4 lb/day CO, 16.3 lb/day NOx, 5.8 lb/day SOx, and 6.1 lb/day PM10. The engineer supplied the maximum fuel rate for the IC engine used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

<table>
<thead>
<tr>
<th>Natural Gas Steam Generator</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>X</td>
<td>Pass</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NOx</td>
<td>Pass</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SOx</td>
<td>Pass</td>
<td></td>
<td>Pass</td>
<td>Pass</td>
<td></td>
</tr>
<tr>
<td>PM10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass</td>
<td>Pass</td>
</tr>
</tbody>
</table>

*Results were taken from the attached PSD spreadsheet.

1 The project was compared to the 1-hour NO2 National Ambient Air Quality Standard that became effective on April 12, 2010 using the District’s approved procedures.

2 The project was compared to the 1-hour SO2 National Ambient Air Quality Standard that became effective on August 23, 2010 using the District’s approved procedures.

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

III. Conclusion

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

The prioritization score is less than 1.0. In accordance with the District’s Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.
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 F

Title V Compliance Certification Form
San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[ ] SIGNIFICANT PERMIT MODIFICATION  [ ] ADMINISTRATIVE AMENDMENT
[X] MINOR PERMIT MODIFICATION

COMPANY NAME: Vintage Production California LLC  FACILITY ID: S - 1326

<table>
<thead>
<tr>
<th>1. Type of Organization:</th>
<th>Corporation [X]</th>
<th>Sole Ownership [ ]</th>
<th>Government [ ]</th>
<th>Partnership [ ]</th>
<th>Utility [ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner's Name:</td>
<td>Vintage Production California LLC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agent to the Owner:</td>
<td>Jim Robinson (661) 332-0343</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

☑ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

☑ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

☑ Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

☑ Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

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

[Signature]

Signature of Responsible Official

[Date]

Date

Will Hill

Name of Responsible Official (please print)

Operations Manager

Title of Responsible Official (please print)

Note: New Generator Permits at Kern Front
Mailing Address: Central Regional Office * 1990 E. Gettysburg Avenue * Fresno, California 93726-0244 * (559) 230-5900 * FAX (559) 230-6061

TVFORM-009
Rev: July 2005
APPENDIX G

BPS for CEQA-GHG Compliance
San Joaquin Valley
Unified Air Pollution Control District

**Best Performance Standard (BPS) x.x.xx**

<table>
<thead>
<tr>
<th>Class and Category</th>
<th>Oilfield Steam Generators</th>
</tr>
</thead>
</table>
| Best Performance Standard | [ 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 ] |

| Percentage Achieved GHG Emission Reduction Relative to Baseline Emissions | 12.9% |

<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>

Date: 4/28/10
• Fabricate Radiant support skid with the above material specification. The support skid to have beams on each side of the radiant along with cross beams at each end with three additional cross beams spaced evenly between the end cross beams. The radiant will be attached to the support skid with five saddle type supports. The saddle supports to be fabricated with a web plate and an end plate on each end. The web plates to be constructed with 3/8" A36 plate and the end plates should be constructed with 3/8" A36 plate. The saddle supports are to be welded to the radiant support rings and support skid cross beams and end beams. All steel should be welded both sides.

• All fabrication and welding should meet the requirements of American Welding Society (AWS) D1.1, American Institute of Steel Construction (AISC) and Uniform Building Code (UBC).

• Radiant shell, burner wall, target wall and supports steel should be sandblasted to SP-10 and externally coated with a primer and dunes tan top coat.

Econovection Scope of Work

• Heating Surface Approximate 20450 Ft. Sq.
• Water Tubes
  ASME SA-106-B
  3.5” O.D. Schedule 80
  .300” Thickness
  ASME Section 1 @ 2000 psi
• The Convection section to be a horizontal flow pyramid type design.
• The water flow to be dual pass design for uniform flow. Gas flow passage shall be arranged to facilitate cleaning by flushing lanes between rows of fin tubes.
• The tubes to be removable through the tube sheets.
• All tube turns to be internal in end cover boxes, but external of tube sheets.
• The convection section tube sheets shall have 4” of castable refractory. The doors and end cover will have ceramic fiber insulation to maintain a 140 deg F maximum shell temperature (at ambient temperature 70-degree F).
• The convection section to be equipped with (1) quick opening door on the top of the convection with 4” of folded ceramic fiber insulation which will cover the area of the finned tubes. The door will be secured with threaded stud assemblies. Door gasket flanges and joints will be designed to prevent leakage. All bolts to be welded internally to prevent rotation of bolts during nut removal process.
• The transition section between the radiant and the convection will be insulated with 6” of ceramic fiber on the top and sides. The bottom will be insulated with castable refractory.
• A thermocouple to measure flue gas temperature exiting the convection section shall be mounted in stack.
• All convection box tubes will be SA-106-B.
• All fittings and return bends will be SA-234 WPB.
• One 42” diameter free standing vent stack with nine (9) feet of personal protection grating around stack.
• Mating flange for radiant to convection section to be supplied.
• PCL to perform 10% X-Ray to B31-1.
• Convection box, stack, and transition section will be sandblasted to SP-10 and externally coated with a primer and black top coat.
Optional Super 85MM BTU/hr Steam Generator:

PCL has a radiant design with 30ea. 4" radiant tubes and 30ea. 3" radiant tubes that helps reduce the pressure drop across the water side. This also increases the radiant surface area helping with heat transfer and increase throughput (200 to 400 bpd). This larger in diameter radiant that is also longer helps the combustion process allowing more area for combustion helping reduce the overall NOX. The additional cost is $55,632. per unit plus applicable taxes.

Additional Convection Box Surface Area

Convection Option-1: To add 3,500sqft by adding a row of 3/4" fins (15ea. additional tube) and a row of 1" fins (15ea. additional tube) with applicable taxes.

Convection Option-2: To add 4,150sqft by adding two rows of 3/4" fins (30ea. additional tubes) with applicable taxes.

Convection Option-3: To add 4500sqft by adding two rows of 1" fins (30ea. additional tubes) and increase the fin density in the back of the convection box with applicable taxes.

This quotation is contingent upon a mutually agreeable contract and an award with 30 days. PCL retains the option to modify or withdraw this quotations should any of these items are not obtained.

The delivery schedule is based on an award by January 22, 2010.

Thank you for your continued interest in PCL Industrial Services. If you should have any questions or request regarding this quotation, please feel free to call me any time.

Sincerely,

Mark Pittser

Mark Pittser
(661) 343-2789 cell
(661) 835-4440 office
APPENDIX H

Draft ATC
San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1326-400-0

LEGAL OWNER OR OPERATOR: VINTAGE PRODUCTION CALIFORNIA LLC
MAILING ADDRESS: 9600 MING AVE, SUITE 300
BAKERSFIELD, CA 93311

LOCATION: HEAVY OIL CENTRAL STATIONARY SOURCE
KERN COUNTY, CA

SECTION: 23 TOWNSHIP: 28S RANGE: 27E

EQUIPMENT DESCRIPTION:
85 MMBTU/H STRUTHERS NATURAL GAS/TEOR/TVR-FIRED STEAM GENERATOR WITH NORTH AMERICAN
MODEL MAGNA-FLAMETM 4231-85 GLE BURNER OR EQUIVALENT AND A FLUE GAS RECIRCULATION (FGR)
SYSTEM

CONDITIONS

1. 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(5). [District Rule 2201] 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

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO
OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE.
Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the
approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all
Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this
Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with
all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services
S-1326-400-D: Nov 17 2010 9:22AM - BAKSHIS: Join Inspection Required with BAKSHIS
Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585
19. 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

20. The source test plan shall identify which basis (ppmv or lb/MBMbtu) will be used to demonstrate compliance. [District Rules 4305, 5.5.1, 4306, 5.5.1, and 4320] Federally Enforceable Through Title V Permit

21. (109) Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

22. 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, 5.5.5, 4306, 5.5.5, and 4320] Federally Enforceable Through Title V Permit

23. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or ARB Method 100, stack gas oxygen - EPA Method 3 or 3A or ARB Method 100, stack gas moisture content - EPA Method 4, stack gas velocities - EPA Method 2, and fuel gas sulfur content - ASTM D1072, ASTM D3246, ASTM D6228 (GC-FPD) or double GC for H2S and mercaptans. [District Rule 1081, 4305, 4306, 6.2, 4320, and 4351] Federally Enforceable Through Title V Permit

24. (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 and 4306]

25. 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, 5.4, 4306, 5.4, and 4320] Federally Enforceable Through Title V Permit

26. 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, 5.4, 4306, 5.4, and 4320] Federally Enforceable Through Title V Permit

27. All NOx, CO, and O2 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, 5.4, 4306, 5.4, and 4320] Federally Enforceable Through Title V Permit

28. 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, 6.1, 4306, 6.1, and 4320] Federally Enforceable Through Title V Permit

29. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]