Mr. Jerry Frost
Vintage Production California, LLC
9600 Ming Ave
Bakersfield, CA 93311

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # S-1326, S-1327, S-1737 and S-1738
Project # S1140286, S1140291, S1140292 and S1140496

Dear Mr. Frost:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Vintage Production California, LLC (Vintage) is applying for Authority to Construct (ATC) permits for a new 25 MMBtu/hr steam generator to be used at various unspecified locations within Vintage's Heavy Oil Western (S-1327 and S-6848), Light Oil Western (S-1738), Light Oil Central (S-1737) and Heavy Oil Central (S-1326) stationary sources.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-8000  FAX: (559) 230-8061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500  FAX: 661-392-5585

www.valleyair.org  www.healthyairliving.com
Thank you for your cooperation in this matter.

Sincerely,

[Signature]

Arnaud Marjollet
Director of Permit Services

AM:DT/st

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email
San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Steam Generator

Facility Name: Vintage Production California, LLC
Mailing Address: 9600 Ming Ave
Bakersfield, CA 93311

Engineer: David Torii
Lead Engineer: Rich Karrs

Contact Person: Jerry Frost
Telephone: 661-869-8000

Application #(s): S-1326-443-0, S-1327-195-0, S-1737-195-0 and S-1738-493-0
Project #: 1140286, 1140291, 1140292 and 1140496
Deemed Complete: 3/18/14

I. Proposal

Vintage Production California, LLC (Vintage) is applying for Authority to Construct (ATC) permits for a new 25 MMBtu/hr steam generator to be used at various unspecified locations in the S-1326, S-1327, S-1737 and S-1738 stationary sources. To accommodate the requirements of New Source Review, a separate ATC will be issued for each stationary source.

Vintage has received their Title V Permit for each of the facilities. This modification can be classified as a Title V significant modification pursuant to Rule 2520, 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. Vintage must apply to administratively amend their Title V permit.

II. Applicable Rules

- Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
- Rule 2410 Prevention Of Significant Deterioration (11/26/12) N/A – see discussion in section VII.C.9
- Rule 2520 Federally Mandated Operating Permits (6/21/01)
- Rule 4001 New Source Performance Standards (4/14/99)
- Rule 4101 Visible Emissions (2/17/05)
- Rule 4102 Nuisance (12/17/92)
- Rule 4201 Particulate Matter Concentration (12/17/92)
- Rule 4301 Fuel Burning Equipment (12/17/92)
- Rule 4305 Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
- Rule 4306 Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
- Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
- 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)
III. Project Location

The equipment will be authorized to operate at various unspecified locations within Vintage's Heavy Oil Western (S-1327 and S-6848), Light Oil Western (S-1738), Light Oil Central (S-1737) and Heavy Oil Central (S-1326) stationary sources. The equipment will not be 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

In thermally enhanced oil recovery (TEOR) operations, steam generators produce steam for injection into crude oil bearing strata via injection wells to reduce the viscosity of the crude oil, thereby facilitating thermally enhanced oil production.

V. Equipment Listing

S-1326-443-0, S-1327-195-0, S-1737-195-0 and S-1738-493-0:

25 MMBTU/HR NATURAL GAS/TEOR GAS/FIELD GAS/PROPANE FIRED PORTABLE STEAM GENERATOR WITH NORTH AMERICAN LE, COEN QLN-11, OR EQUIVALENT BURNER AND FLUE GAS RECIRCULATION (VARIOUS UNSPECIFIED LOCATIONS WITHIN S-1326, S-1327, S-1738, S-6848)

VI. Emission Control Technology Evaluation

Emissions from natural gas-fired steam generators include NOX, CO, VOC, PM10, and SOx.

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

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

VII. General Calculations
A. Assumptions

- The maximum operating schedule is 24 hours per day
- The unit is fired on natural gas, propane and TEOR gas
- Commercial propane sulfur content: 15 gr/100 scf

B. Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factors (EF)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>0.008 lb-NOx/MMBtu</td>
<td>7 ppmvd NOx (@ 3%O2)</td>
</tr>
<tr>
<td>SOx</td>
<td>0.016 lb-SOx/MMBtu</td>
<td></td>
</tr>
<tr>
<td>PM10</td>
<td>0.0076 lb-PM10/MMBtu</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>0.0185 lb-CO/MMBtu</td>
<td>25 ppmvd CO (@ 3%O2)</td>
</tr>
<tr>
<td>VOC</td>
<td>0.0055 lb-VOC/MMBtu</td>
<td></td>
</tr>
</tbody>
</table>

C. Calculations

1. Pre-Project Potential to Emit (PE1)

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

2. Post Project Potential to Emit (PE2)

The potential to emit for the boiler is calculated as follows, and summarized in the table below:

\[
PE2_{NOx} = (0.008 \text{ lb/MMBtu}) \times (25 \text{ MMBtu/hr}) \times (24 \text{ hr/day})
\]

\[
= 4.8 \text{ lb NOx/day}
\]

\[
= (0.008 \text{ lb/MMBtu}) \times (25 \text{ MMBtu/hr}) \times (24 \text{ hr/day}) \times (365 \text{ day/year})
\]

\[
= 1752 \text{ lb NOx/year}
\]

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Daily Emissions (lb/day)</th>
<th>Annual Emissions (lb/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>4.8</td>
<td>1752</td>
</tr>
<tr>
<td>SOx</td>
<td>9.6</td>
<td>3504</td>
</tr>
<tr>
<td>PM10</td>
<td>4.6</td>
<td>1664</td>
</tr>
<tr>
<td>CO</td>
<td>11.1</td>
<td>4052</td>
</tr>
<tr>
<td>VOC</td>
<td>3.3</td>
<td>1205</td>
</tr>
</tbody>
</table>
3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the 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 (AER) that have occurred at the source, and which have not been used on-site.

<table>
<thead>
<tr>
<th>Facility Unit</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>CO</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1326*</td>
<td>147,133</td>
<td>51,780</td>
<td>51,941</td>
<td>348,451</td>
<td>180,962</td>
</tr>
<tr>
<td>S-1327**</td>
<td>142,128</td>
<td>48,695</td>
<td>22,681</td>
<td>447,927</td>
<td>420,269</td>
</tr>
<tr>
<td>S-1737***</td>
<td>69,037</td>
<td>1133</td>
<td>12,952</td>
<td>164,459</td>
<td>57,795</td>
</tr>
</tbody>
</table>

*From 1134488  
**From 1123645  
***From 1132866  
****Facility emissions are already above the Offset and Major Source thresholds for all pollutants; therefore, SSPE1 calculations are not necessary. (includes LOW facilities S-382, S-1216, S-1738 and S-8282)

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

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>CO</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSPE1</td>
<td>147,133</td>
<td>51,780</td>
<td>51,941</td>
<td>348,451</td>
<td>180,962</td>
</tr>
<tr>
<td>ATC S-1326-443-0</td>
<td>1752</td>
<td>3504</td>
<td>1664</td>
<td>4052</td>
<td>1205</td>
</tr>
<tr>
<td>SSPE2</td>
<td>148,885</td>
<td>55,284</td>
<td>53,605</td>
<td>352,503</td>
<td>182,167</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>CO</th>
<th>VOC</th>
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</thead>
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<td>22,681</td>
<td>447,927</td>
<td>420,269</td>
</tr>
<tr>
<td>ATC S-1327-210-0</td>
<td>1752</td>
<td>3504</td>
<td>1664</td>
<td>4052</td>
<td>1205</td>
</tr>
<tr>
<td>SSPE2</td>
<td>143,880</td>
<td>52,199</td>
<td>24,345</td>
<td>451,979</td>
<td>421,474</td>
</tr>
</tbody>
</table>
Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>CO</th>
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<tr>
<td>SSPE1</td>
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<td>12,952</td>
<td>164,459</td>
<td>57,795</td>
</tr>
<tr>
<td>ATC S-1737-195-0</td>
<td>1752</td>
<td>3504</td>
<td>1684</td>
<td>4052</td>
<td>1205</td>
</tr>
<tr>
<td>SSPE2</td>
<td>70,789</td>
<td>4637</td>
<td>14,616</td>
<td>168,511</td>
<td>59,000</td>
</tr>
</tbody>
</table>

S-1737 emissions are already above the Offset and Major Source Thresholds for all pollutants; therefore, SSPE2 calculations are not necessary.

S-1326 is an existing Major Source for NOx, CO and VOC emissions and will remain so. No change in other pollutants are proposed or expected as a result of this project.

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>CO</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility emissions pre-project</td>
<td>147,133</td>
<td>51,780</td>
<td>51,941</td>
<td>348,451</td>
<td>180,962</td>
</tr>
<tr>
<td>Facility emissions – post project</td>
<td>148,885</td>
<td>55,284</td>
<td>53,377</td>
<td>352,393</td>
<td>182,167</td>
</tr>
<tr>
<td>Major Source Threshold</td>
<td>20,000</td>
<td>140,000</td>
<td>140,000</td>
<td>200,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Major Source?</td>
<td>y</td>
<td>n</td>
<td>n</td>
<td>y</td>
<td>y</td>
</tr>
</tbody>
</table>

S-1327

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NOx</th>
<th>SOx</th>
<th>PM10</th>
<th>CO</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
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<td>24,117</td>
<td>352,393</td>
<td>182,167</td>
</tr>
<tr>
<td>Major Source Threshold</td>
<td>20,000</td>
<td>140,000</td>
<td>140,000</td>
<td>200,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Major Source?</td>
<td>y</td>
<td>n</td>
<td>n</td>
<td>y</td>
<td>y</td>
</tr>
</tbody>
</table>

5
S-1327 is an existing Major Source for NOx, CO and VOC emissions and will remain so. No change in other pollutants are proposed or expected as a result of this project.

| Rule 2201 Major Source Determination (lb/year) |
|---------------------------|-------------------|----------------|-----------------|----------------|
| Facility emissions pre-project | NO\textsubscript{X} | SO\textsubscript{X} | PM\textsubscript{10} | CO | VOC |
| 69,037 | 1133 | 12,952 | 164,459 | 57,795 |
| Facility emissions – post project | 70,789 | 4637 | 14,616 | 168,401 | 59,000 |
| Major Source Threshold | 20,000 | 140,000 | 140,000 | 200,000 | 20,000 |
| Major Source? | y | n | n | n | y |

S-1327 is an existing Major Source for NOx and VOC emissions and will remain so. No change in other pollutants are proposed or expected as a result of this project.

S-1738 is an existing Major Source for all pollutants and will remain so. No change in other pollutants are proposed or expected as a result of this project.

**Rule 2410 Major Source Determination:**

The facilities or the equipment evaluated under this project are not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

| PSD Major Source Determination (tons/year) |
|---------------------|-------------------|----------------|----------------|----------------|
| Estimated Facility PE before Project Increase | NO\textsubscript{2} | VOC | SO\textsubscript{2} | CO | PM | PM10 | CO\textsubscript{2e} |
| See above | See above | See above | See above | See above | See above | >100,000 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | 250 | 100,000 |
| PSD Major Source ? (Y/N) | y | |

As shown above, the facilities are existing major sources for PSD for at least one pollutant. Therefore the facilitys are existing major sources for PSD.

**6. Baseline Emissions (BE)**

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

Pursuant to District Rule 2201, BE = PE1 for:
- Any unit located at a non-Major Source,
• Any Highly-Utilized Emissions Unit, located at a Major Source,
• Any Fully-Offset Emissions Unit, located at a Major Source, or
• Any Clean Emissions Unit, located at a Major Source.
otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

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

7. SB 288 Major Modification

Pursuant to the applicant this application is a separate "project" from other applications submitted by VPC for new steam generators at the same contiguous and adjacent property, because the proposed steam generators are not economically or technically dependent on the installation of the other proposed steam generators.

As such, the calculations below include only the subject project.

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

S-1738 is a major source for all pollutants; the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Project PE2 (lb/year)</th>
<th>Threshold (lb/year)</th>
<th>SB 288 Major Modification Calculation Required?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>1752</td>
<td>50,000</td>
<td>N</td>
</tr>
<tr>
<td>SOx</td>
<td>3504</td>
<td>80,000</td>
<td>N</td>
</tr>
<tr>
<td>PM10</td>
<td>1664</td>
<td>30,000</td>
<td>N</td>
</tr>
<tr>
<td>VOC</td>
<td>1205</td>
<td>50,000</td>
<td>N</td>
</tr>
</tbody>
</table>

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

Pursuant to the applicant this application is a separate "project" from other applications submitted by VPC for new steam generators at the same contiguous and adjacent property, because the proposed steam generators are not economically or technically dependent on the installation of the other proposed steam generators.

As such, the calculations below include only the subject project.

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.
The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission increases are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

The project's combined total emission increases are compared to the Federal Major Modification Thresholds in the following table.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Total Emissions Increases (lb/yr)</th>
<th>Thresholds (lb/yr)</th>
<th>Federal Major Modification?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO₂*</td>
<td>1752</td>
<td>0</td>
<td>Y</td>
</tr>
<tr>
<td>VOC*</td>
<td>1205</td>
<td>0</td>
<td>Y</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>1684</td>
<td>30,000</td>
<td>N</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>1436</td>
<td>20,000</td>
<td>N</td>
</tr>
<tr>
<td>SO₂</td>
<td>3504</td>
<td>80,000</td>
<td>N</td>
</tr>
</tbody>
</table>

*If there is any emission increases in NO₂ or VOC, this project is a Federal Major Modification and no further analysis is required.

Since there is an increase in NO₂ and VOC emissions, this project constitutes a Federal Major Modification, and no further analysis is required.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀
- Greenhouse gases (GHG): CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆

PSD significant increase determination:

Pursuant to the applicant this application is a separate "project" from other applications submitted by VPC for new steam generators at the same contiguous and adjacent property, because the proposed steam generators are not economically or technically dependent on the installation of the other proposed steam generators.

As such, the calculations below include only the subject project.
I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing major source for PSD. Because the unit will not be located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no further analysis will be needed.

| PSD Significant Emission increase Determination: Potential to Emit (tons/year) |
|-----------------------------|-----------------|----------------|----------------|----------------|----------------|
|                             | NO2  | SO2  | CO   | PM  | PM10 | CO2e       |
| Total PE from New and      | 0.9  | 1.8  | 2.0  | 0.8 | 0.8  | 12,811.5   |
| Modified Units             |
| PSD Significant Emission   | 40   | 40   | 100  | 25  | 15   | 75,000     |
| Increase Thresholds        |
| PSD Significant Emission    | n    | n    | n    | n   | n    | n          |
| Increase?                   |

As demonstrated above, because the project has a total potential to emit from all new and modified emission units below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 due to a significant emission increase and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix A.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule
A. Best Available Control Technology (BACT)
1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions:

9
a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the 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 above, the applicant is proposing to install a new steam generator with a PE greater than 2 lb/day for NOx, SOx, PM10, CO, and VOC. BACT is triggered for NOx, SOx, PM10, CO and VOC only 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.

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.

d. **SB 288/Federal Major Modification**

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute an SB 288 and/or Federal Major Modification for NOx and VOC emissions. Therefore BACT is triggered for NOx and VOC for all emissions units in the project for which there is an emission increase.

2. **BACT Guideline**

Please note that BACT Guideline 1.2.1 [Steam Generator (> 5 MMBtu/hr, Oilfield] has been rescinded. The NOx emission limit requirement of District Rule 4320 is lower than the Achieved-in-Practice requirement of BACT Guideline 1.2.1 (14 ppmv @ 3% O2); therefore, a project specific BACT analysis will be performed to determine BACT for this project. More details regarding this are provided in Appendix B.

3. **Top-Down BACT Analysis**

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.
Pursuant to the attached Top-Down BACT Analysis (see Appendix B), BACT has been satisfied with the following:

**NOX:** 7 ppmvd @ 3% O2

**SOX:** 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

**PM10:** 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

**CO:** 24 ppmvd or less @ 3% O2

**VOC:** Gaseous fuel

**B. Offsets**

1. **Offset Applicability**

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

Pursuant to section 4.6.7 of Rule 2201, only one set of offsets will be required for the a transfer of location of an emissions unit from one Stationary Source to another within the District, under the same owner and provided:

4.6.7.1 The Potential to Emit of any affected pollutant will not be greater at the new location than at the previous location when all emissions units are operated at the same permitted conditions, and

4.6.7.2 The offsets that would be otherwise required for the unit at the new location have been provided for the emissions unit previously.

The Potential to Emit of is the same at each location and offsets will be provided prior to operating at the initial location. Therefore, only one set of offsets will be required for the unit.

<table>
<thead>
<tr>
<th>Offset Determination (lb/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOX</td>
</tr>
<tr>
<td>SSPE2</td>
</tr>
<tr>
<td>Offset Thresholds</td>
</tr>
<tr>
<td>Offsets triggered?</td>
</tr>
</tbody>
</table>

2. **Quantity of Offsets Required**
As seen above, the SSPE2 is greater than the offset thresholds for all pollutants. Therefore offset calculations will be required for this project.

However, Section 4.6.1 of Rule 2201 states that emissions offsets are not required for increases in CO in attainment areas provided the applicant demonstrates to the satisfaction of the APCO that the Ambient Air Quality (AAQ) Standards are not violated in the areas to be affected, such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of AAQ Standards. The District performed an AAQ Analysis and determined that this project will not result in or contribute to a violation of an AAQ Standard for CO (see Appendix D). Therefore, CO offsets are not required for this project.

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) = \((\sum (PE2 - BE) + ICCE) \times DOR\), for all new or modified emissions units in the project,

Where,

- \(PE2\) = Post Project Potential to Emit, (lb/year)
- \(BE\) = Baseline Emissions, (lb/year)
- \(ICCE\) = Increase in Cargo Carrier Emissions, (lb/year)
- \(DOR\) = Distance Offset Ratio, determined pursuant to Section 4.8

\(BE = PE1\) 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,

\(BE = HAE\)

The facility is proposing to install a new emissions unit; therefore \(BE = 0\). Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

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

\(BE = 0\) lb/year
\(ICCE = 0\) lb/year

The applicable offset ratio is 1.5 as the unit will be authorized to operate at various unspecified locations within Vintage Production's four stationary sources.

Therefore offsets required (lb/year) = \(PE2 \times 1.5\).


<table>
<thead>
<tr>
<th>PE2 Offsets Required (lb/year)</th>
<th>DOR</th>
<th>Offsets Required (lb/year)</th>
<th>Lb/qtr</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOX</td>
<td>1752</td>
<td>2628</td>
<td>657</td>
</tr>
<tr>
<td>SOX</td>
<td>3504</td>
<td>5256</td>
<td>1314</td>
</tr>
<tr>
<td>PM_{10}</td>
<td>1664</td>
<td>2496</td>
<td>624</td>
</tr>
<tr>
<td>VOC</td>
<td>1205</td>
<td>1808</td>
<td>452</td>
</tr>
</tbody>
</table>

**NOx:**

The applicant has stated that the facility plans to use ERC certificate C-1225-2 to offset the increases in NO\textsubscript{x} emissions associated with this project. The above certificate has available quarterly NO\textsubscript{x} credits as follows:

\[
\begin{array}{cccc}
\text{ERC #C-1225-2}^* & 1^{\text{st}} \text{ Quarter} & 2^{\text{nd}} \text{ Quarter} & 3^{\text{rd}} \text{ Quarter} & 4^{\text{th}} \text{ Quarter} \\
0 & 788 & 788 & 788 \\
\text{ERC #N-946-2} & 4686 & 0 & 0 & 0 \\
\end{array}
\]

*ERC #C1225-2 is currently owned by Guardian Industries and is being partially transferred to Occidental via project C1141203 in the above amount.

As seen above, the facility has sufficient credits to fully offset the quarterly NO\textsubscript{x} emissions increases associated with this project.

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

- \{GC# 4447 - edited\} Prior to operating equipment under this Authority to Construct, permittee shall surrender NO\textsubscript{x} emission reduction credits for the following quantity of emissions: 1st quarter – 657 lb, 2nd quarter - 657 lb, 3rd quarter - 657 lb, and fourth quarter - 657 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Numbers C-1225-2 and N-946-2 (or a 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]

**SOx:**

The applicant has stated that the facility plans to use ERC certificate N-1121-5 to offset the increases in SO\textsubscript{x} emissions associated with this project. The above certificate has available quarterly NO\textsubscript{x} credits as follows:

\[
\begin{array}{cccc}
\text{ERC #N-1121-5} & 1^{\text{st}} \text{ Quarter} & 2^{\text{nd}} \text{ Quarter} & 3^{\text{rd}} \text{ Quarter} & 4^{\text{th}} \text{ Quarter} \\
27,760 & 25,097 & 18,155 & 28,336 \\
\end{array}
\]
As seen above, the facility has sufficient credits to fully offset the quarterly SOx emissions increases associated with this project.

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

- Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions: 1st quarter - 1314 lb, 2nd quarter - 1314 lb, 3rd quarter - 1314 lb, and fourth quarter - 1314 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**PM10:**

Vintage has proposed using SOx ERCs to offset the increases in PM10.

Interpollutant offset ratios for trades between SOx and PM10 are allowed pursuant to Rule 2201, Section 4.13.3.1.2. Pursuant to draft District policy APR 1430, SOx ERCs may be used to offset PM10 at an interpollutant ratio of 1.0 : 1.0. An interpollutant ratio of 1.0 : 1.0 for SOx to PM10 will be applied.

The applicant has stated that the facility plans to use ERC certificate N-1121-5 to offset the increases in PM10 emissions associated with this project. After subtracting the credits to be withdrawn to offset SOx the above certificate has available quarterly SOx credits as follows:

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Quarter</td>
<td>26,610</td>
</tr>
<tr>
<td>2nd Quarter</td>
<td>23,947</td>
</tr>
<tr>
<td>3rd Quarter</td>
<td>17,005</td>
</tr>
<tr>
<td>4th Quarter</td>
<td>27,186</td>
</tr>
</tbody>
</table>

As seen above, the facility has sufficient credits to fully offset the quarterly PM10 emissions increases associated with this project.

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

- Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of PM10 emissions: 1st quarter - 624 lb, 2nd quarter - 624 lb, 3rd quarter - 624 lb, and fourth quarter - 624 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be
reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**VOC:**

The applicant has stated that the facility plans to use ERC certificate S-3579-1 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-3579-1</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>472</td>
<td>3747</td>
<td>5263</td>
<td>642</td>
</tr>
</tbody>
</table>

Pursuant to section 4.13.8 of Rule 2201, AER for VOC that occurred from April through November may be used to offset increases in VOC during any period of the year.

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

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

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 452 lb, 2nd quarter - 452 lb, 3rd quarter - 452 lb, and fourth quarter - 452 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

- ERC Certificate Number S-3579-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

C. Public Notification

1. Applicability

Public noticing is required for:
  a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
  b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
  c. Any project which results in the offset thresholds being surpassed, and/or
  d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

  a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications
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.

As demonstrated in Sections VII.C.7 and VII.C.8, this project is a Federal Major Modification. Therefore, public noticing for Federal Major Modification purposes is required.

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

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

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

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>SSPE1 (lb/year)</th>
<th>SSPE2 (lb/year)</th>
<th>Offset Threshold</th>
<th>Public Notice Required?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>142,128</td>
<td>143,880</td>
<td>20,000 lb/year</td>
<td>N</td>
</tr>
<tr>
<td>SOx</td>
<td>48,695</td>
<td>52,199</td>
<td>54,750 lb/year</td>
<td>N</td>
</tr>
<tr>
<td>PM10</td>
<td>22,681</td>
<td>24,345</td>
<td>29,200 lb/year</td>
<td>N</td>
</tr>
<tr>
<td>CO</td>
<td>447,927</td>
<td>451,869</td>
<td>200,000 lb/year</td>
<td>N</td>
</tr>
<tr>
<td>VOC</td>
<td>420,269</td>
<td>421,474</td>
<td>20,000 lb/year</td>
<td>N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>SSPE1 (lb/year)</th>
<th>SSPE2 (lb/year)</th>
<th>Offset Threshold</th>
<th>Public Notice Required?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>142,128</td>
<td>143,880</td>
<td>20,000 lb/year</td>
<td>N</td>
</tr>
<tr>
<td>SOx</td>
<td>48,695</td>
<td>52,199</td>
<td>54,750 lb/year</td>
<td>N</td>
</tr>
<tr>
<td>PM10</td>
<td>22,681</td>
<td>24,345</td>
<td>29,200 lb/year</td>
<td>N</td>
</tr>
<tr>
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<td>447,927</td>
<td>451,869</td>
<td>200,000 lb/year</td>
<td>N</td>
</tr>
<tr>
<td>VOC</td>
<td>420,269</td>
<td>421,474</td>
<td>20,000 lb/year</td>
<td>N</td>
</tr>
</tbody>
</table>
As detailed above, offset thresholds were surpassed for SO\textsubscript{x} with this project; therefore public noticing is required for offset purposes.

d. **SSIPE > 20,000 lb/year**

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE\textsubscript{2} - SSPE\textsubscript{1}. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>SSIPE Public Notice Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{x}</td>
<td>20,000 lb/year</td>
</tr>
<tr>
<td>SO\textsubscript{x}</td>
<td>20,000 lb/year</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>20,000 lb/year</td>
</tr>
<tr>
<td>CO</td>
<td>20,000 lb/year</td>
</tr>
<tr>
<td>VOC</td>
<td>20,000 lb/year</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 for triggering a Federal Major Modification and for surpassing an offset 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)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit’s maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. 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.

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

- Except for periods of startup and shutdown, emissions shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.016 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 24 ppmvd CO @ 3% O2 or 0.018 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320]

E. Compliance Assurance

1. Source Testing

These units 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 5.0 MMBtu/hr**. Source testing requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rule 4320 of this evaluation.

2. Monitoring

As required by 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 5.0 MMBtu/hr**, this unit is subject to monitoring requirements. Monitoring requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rule 4320 of this evaluation.

3. Recordkeeping

As required by 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 5.0 MMBtu/hr**, this unit is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rule 4320 of this evaluation.

4. Reporting
No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

An AAQA shall 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 District’s Technical Services Division conducted the required analysis.

The proposed location is in an attainment area for NOx, CO, and SOx. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NOx, CO, or SOx.

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 0.45 lb/hr CO, 0.2 lb/hr NOx, 0.35 lb/hr SOx, and 0.19 lb/hr PM10. The engineer supplied the maximum fuel rate for the steam generator used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

<table>
<thead>
<tr>
<th>Criteria Pollutant Modeling Results*</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>Pass</td>
<td>X</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>SOx</td>
<td>Pass</td>
<td>X</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>PM10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>PM2.5</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 criteria pollutants are below EPA’s level of significance as found in 40 CFR Part 51.165 (b)(2).

G. Compliance Certification

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Title I 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 Section VIII above, this facility is a new major source and this project does constitute a Title I modification, therefore this requirement is applicable. Vintage’s compliance certification is included in Appendix C.

H. Alternate Siting Analysis

The current project occurs at an existing facility. The applicant proposes to install a steam generator.

Since the project will provide steam to be used at the same location, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures on a much greater scale, and would therefore result in a much greater impact.

Rule 2520 Federally Mandated Operating Permits
This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

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

Rule 4001 New Source Performance Standards (NSPS)

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 generator has a rating of 25 MMBtu/hr and is fired on natural/TEOR gas or propone. Subpart Dc has no standards for gas-fired steam generators. Therefore the subject steam generators are not an affected facility and subpart Dc does not apply.

Rule 4101 Visible Emissions

Per Section 5.0, no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). As the steam generators are fired solely on natural gas and the TEOR system will result in fugitive emissions only, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. The following condition will remain listed on the facility-wide permit to ensure compliance:

- No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (11/15/01). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101]

Rule 4102 Nuisance

Rule 4102 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.

Rule 4301 Fuel Burning Equipment

Rule 4301 limits air contaminant emissions from fuel burning equipment as defined in the rule. Section 3.1 defines fuel burning equipment as "any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer". 
Section 5.0 gives the requirements of the rule. A person shall not discharge into the atmosphere combustion contaminants exceeding in concentration at the point of discharge, 0.1 grain per cubic foot of gas calculated to 12% of carbon dioxide at dry standard conditions.

A person shall not build, erect, install or expand any non-mobile fuel burning equipment unit unless the discharge into the atmosphere of contaminants will not and does not exceed any one or more of the following rates:

- 200 pound per hour of sulfur compounds, calculated as sulfur dioxide (SO₂)
- 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO₂)
- Ten pounds per hour of combustion contaminants as defined in Rule 1020 and derived from the fuel.

<table>
<thead>
<tr>
<th>District Rule 4301 Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Rule Limit (lb/hr)</td>
</tr>
</tbody>
</table>

The particulate emissions from the steam generators will not exceed 0.1 gr/dscf at 12% CO₂ or 10 lb/hr. Further, the emissions of SOx and NOx will not exceed 200 lb/hr or 140 lb/hr, respectively.

Therefore, compliance with the requirements of this rule is expected.

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

The unit is natural gas-fired with a maximum heat input of 20.0 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4305, the unit is subject to District Rule 4305, Boilers, Steam Generators and Process Heaters – Phase 2.

In addition, the unit is also subject to District Rule 4306, Boilers, Steam Generators and Process Heaters – Phase 3.

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305.

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

The unit is natural gas-fired with a maximum heat input of 20.0 MMBtu/hr. Pursuant to Section 2.0 of District Rule 4306, the unit is subject to District Rule 4306, Boilers, Steam Generators and Process Heaters – Phase 3.

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4306 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4306.
Rule 4320 – Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr

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

Section 5.2 NOX and CO Emission Limits

C. Oilfield Steam Generators

<table>
<thead>
<tr>
<th>Category</th>
<th>Operated on gaseous fuel</th>
<th>Operated on liquid fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NOx Limit</td>
<td>CO Limit</td>
</tr>
<tr>
<td>Standard Schedule</td>
<td>7 ppmv or 0.008 lb/MMBtu; or</td>
<td>400 ppmv @ 3% O2</td>
</tr>
<tr>
<td>Staged Enhanced Schedule</td>
<td>Initial limit: 9 ppmv @ 3% O2, 0.011 lb/MMBtu</td>
<td>Final limit: 5 ppmv @ 3% O2, 0.0062 lb/MMBtu</td>
</tr>
</tbody>
</table>

1. Units with a total rated heat input >20.0 MMBtu/hr

- The proposed NOx emission factor is 7 ppmv.

Therefore, compliance with Section 5.1 of District Rule 4320 is expected.

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

Section 5.3 Annual Fee Calculation

Applicant has proposed to meet the emissions limits requirements of Section 5.1 and therefore this section is not applicable.
Section 5.4 Particulate Matter Control Requirements

Section 5.4 of the rule requires one of four options for control of particulate matter: 1) combustion of PUC-quality natural gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases, 2) limit fuel sulfur content to no more than five (5) grains of total sulfur per one hundred (100) standard cubic, 3) install and properly operate an emission control system that reduces SO$_2$ emissions by at least 95% by weight; or limit exhaust SO$_2$ to less than or equal to 9 ppmv corrected to 3.0% O2 or 4) refinery units, which require modification of refinery equipment to reduce sulfur emissions, shall be in compliance with the applicable requirement in Section 5.4.1 no later than July 1, 2013.

The unit has a sulfur emission limit of 0.014 lb SO2/MMBtu and is authorized to combust natural/TEOR gas. Therefore the units are in compliance with the SOx/PM10 requirements of Section 5.4.1.2 of the rule which states the following:

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

Compliance with the rule is expected.

Section 5.5 Low Use

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

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

Section 5.6, Startup and Shutdown Provisions

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

Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320]
Maximum NOx emissions from the steam generator, including start-up and shutdown, shall not exceed 19.7 lb-NOx/day. [District Rule 2201]

Section 5.7, Monitoring Provisions

Section 5.7 requires either use of an APCO approved Continuous Emissions Monitoring System (CEMS) for NOx, CO, and oxygen, or implementation of an APCO-approved Alternate Monitoring System consisting of:

5.7.1.1 Periodic NOx and CO exhaust emission concentrations,
5.7.1.2 Periodic exhaust oxygen concentration,
5.7.1.3 Flow rate of reducing agent added to exhaust,
5.7.1.4 Catalyst inlet and exhaust temperature,
5.7.1.5 Catalyst inlet and exhaust oxygen concentration,
5.7.1.6 Periodic flue gas recirculation rate, or
5.7.1.7 Other operational characteristics.

In order to satisfy the requirements of District Rule 4320, the applicant has proposed to use pre-approved alternate monitoring scheme A (pursuant to District Policy SSP-1105), which requires that monitoring of NOx, CO, and O2 exhaust concentrations shall be conducted at least once per month (in which a source test is not performed) using a portable analyzer. The following conditions will be incorporated into the permits in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- (4063) The permittee shall monitor and record the stack concentration of 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]

- (4064) If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320]

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

- (4066) The permittee shall maintain records of: (1) the date and time of 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]
5.7.6 Monitoring SOx Emissions

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

Section 5.7.6.2 Operators complying with Section 5.4.1.3 by installing and operating a control device with 95% SOx reduction shall propose the key system operating parameters and frequency of the monitoring and recording. The monitoring option proposed shall be submitted for approval by the APCO.

Section 5.7.6.3 Operators complying with Section 5.4.1.3 shall perform an annual source test unless a more frequent sampling and reporting period is included in the Permit to Operate. Source tests shall be performed in accordance with the test methods in Section 6.2.

Sulfur Monitoring

The following conditions will be included on the ATC.

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

- If the unit is not fired solely 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]

- Fuel sulfur content of unregulated fuel combusted shall be determined using EPA Method 11 or 15, or ASTM D6228; total fuel sulfur content by either ASTM D1072, D3246, D6228 or double GC with mercaptans; or conduct a source test for combustion SOx emissions at least once every 12 months [District Rule 4320]

Section 5.8, Compliance Determination

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

{2976} The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]
Section 5.8.2 requires that all emissions measurements be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0.

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

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

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

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

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

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

Section 6.1 Recordkeeping

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

A permit condition will be listed on the permits as follows:
Section 6.1.1 requires that a unit operated under the exemption of Section 4.2 shall monitor and record, for each unit, the cumulative annual hours of operation. The units are not Section 4.2 exempt and therefore these records are not required.

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

Section 6.1.3 The operator of any unit subject to Section 5.5.1 or Section 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational characteristics of the unit have been performed.

Section 6.1.4 The operator performing start-up or shutdown of a unit shall keep records of the duration of start-up or shutdown.

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

Section 6.2, Test Methods

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

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Units</th>
<th>Test Method Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO&lt;br&gt;ppmv</td>
<td></td>
<td>EPA Method 7E or ARB Method 100</td>
</tr>
<tr>
<td>NO&lt;br&gt;x lb/MMBtu</td>
<td></td>
<td>EPA Method 19</td>
</tr>
<tr>
<td>CO&lt;br&gt;ppmv</td>
<td></td>
<td>EPA Method 10 or ARB Method 100</td>
</tr>
<tr>
<td>Stack Gas O&lt;sub&gt;2&lt;/sub&gt;%</td>
<td></td>
<td>EPA Method 3 or 3A, or ARB Method 100</td>
</tr>
<tr>
<td>Stack Gas Velocities ft/min</td>
<td></td>
<td>EPA Method 2</td>
</tr>
<tr>
<td>Stack Gas Moisture Content %</td>
<td></td>
<td>EPA Method 4</td>
</tr>
<tr>
<td>Oxides of sulfur</td>
<td></td>
<td>EPA Method 6C, EPA Method 8, or ARB Method 100</td>
</tr>
<tr>
<td>Total Sulfur as Hydrogen Sulfide (H&lt;sub&gt;2&lt;/sub&gt;S) Content</td>
<td></td>
<td>EPA Method 11 or EPA Method 15, as appropriate.</td>
</tr>
<tr>
<td>Sulfur Content of Liquid Fuel</td>
<td></td>
<td>ASTM D 6920-03 or ASTM D 5453-99</td>
</tr>
</tbody>
</table>
The following test method conditions are included on the ATCs:

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

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

(2979) Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]

Section 6.2.8.2. The SOx emission control system efficiency shall be determined using the following:

\[
\text{% Control Efficiency} = \left( \frac{C_{SO2, \text{inlet}} - C_{SO2, \text{outlet}}}{C_{SO2, \text{inlet}}} \right) \times 100
\]

where:

\(C_{SO2, \text{inlet}}\) = concentration of SOx (expressed as SO2) at the inlet side of the SOx emission control system, in lb/dscf

\(C_{SO2, \text{outlet}}\) = concentration of SOx (expressed as SO2) at the outlet side of the SOx emission control system, in lb/dscf

The units are not equipped with a SO2 scrubber. Therefore this section is not applicable.

Section 6.3 Compliance Testing

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

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

Section 6.3.1.2 Tune-ups required by Sections 5.5.1 and 6.3.1 do not need to be performed for units that operate and maintain an APCO approved CEMS or an APCO approved Alternate Monitoring System where the applicable emission limits are periodically monitored. Applicant has proposed to monitor the emissions of NOx and CO Alternate Monitoring Scheme “A” and therefore tuning is not required.

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

The following conditions are included on the ATC:
Source testing 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]

Source testing to measure NOx and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320]

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

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

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

Section 6.4, Emission Control Plan (ECP)

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

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

Section 7.0, Compliance Schedule

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

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

Conclusion

Conditions are included on the ATCs in order to ensure compliance with each section of this rule, see attached draft permit(s). Therefore, compliance with District Rule 4320 requirements is expected.

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, the sulfur compound emissions are calculated as follows:

\[ \text{Volume } SO_2 = \frac{nRT}{P} \]

With:

- \( n = \text{moles } SO_2 \)
- \( T \) (Standard Temperature) = 60°F = 520°R
- \( P \) (Standard Pressure) = 14.7 psi
- \( R \) (Universal Gas Constant) = \( \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \)

\[
\frac{0.014 \text{ lb } \cdot \text{SO}_{x} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{641 \text{ lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{14.7 \text{ psi} \times 1 \text{,000,000 parts}} \times \frac{520°R}{1 \text{,000,000 parts}}}{\text{MMBtu}} = 9.7 \text{ parts per million (ppm)}
\]

\[
\text{Sulfur Concentration} = 9.7 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2%)}
\]

Therefore, compliance with the requirements of this rule is expected.

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

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

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

The cancer risk for the projects is shown below:

<table>
<thead>
<tr>
<th>RMR Summary</th>
<th>Steam Gen (Unit S-1738-493)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.17</td>
<td>0.17</td>
<td>&gt;1.0</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>0.08</td>
<td>0.08</td>
<td>0.56</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>0.01</td>
<td>0.01</td>
<td>0.08</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk ((10^{-4}))</td>
<td>0.1</td>
<td>0.1</td>
<td>9.98</td>
</tr>
<tr>
<td>T-BACT Required?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Permit Conditions?</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Discussion of T-BACT

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

Rule 4201 Particulate Matter Concentration

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

F-Factor for NG: 8,578 dscf/MMBtu at 60 °F
PM₁₀ Emission Factor: 0.005 lb-PM₁₀/MMBtu
Percentage of PM as PM₁₀ in Exhaust: 100%
Exhaust Oxygen (O₂) Concentration: 3%
Excess Air Correction to F Factor = \frac{20.9}{(20.9 - 3)} \approx 1.17

\[ GL = \left( \frac{0.0076 \text{ lb} - \text{PM}}{\text{MMBtu}} \times 7,000 \text{ grain} \right) \left( \frac{8,578 \text{ ft}^2}{\text{MMBtu}} \times 1.17 \right) \]

\[ GL = 0.005 \text{ grain/dscf} < 0.1 \text{ grain/dscf} \]

Therefore, compliance with the requirements of this rule is expected.

California Health & Safety Code 42301.6 (School Notice)

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)

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 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; and
- 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. Facilities subject to the Cap and Trade regulation are subject to an industry-wide cap on overall GHG emissions. As such, any growth in emissions must be accounted for under that cap such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Therefore, it is reasonable to conclude that implementation of the Cap and Trade program will and must fully mitigate project-specific GHG emissions.

Regardless of, and independent to, the above significance determination, the District finds that, through compliance with the Cap and Trade regulation, project-specific GHG emissions would be fully mitigated. The District therefore concludes that projects occurring at facilities subject to ARB's Cap and Trade regulation would have a less than significant individual and cumulative impact on global climate change.
Facilities S-1326, S-1327 and S-1738 are subject to the Cap and Trade regulation. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

**District CEQA Findings**

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

**IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue ATC -1326-443-0, S-1327-195-0, S-1737-195-0 and S-1738-493-0 subject to the permit conditions on the attached draft ATCs in Appendix E.

**X. Billing Information**

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Fee Schedule</th>
<th>Fee Description</th>
<th>Annual Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1326-443-0</td>
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</tr>
<tr>
<td>S-1327-195-0</td>
<td>3020-02 H</td>
<td>25 MMBtu/hr</td>
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APPENDIX A
Quarterly Net Emissions Change (QNEC)
Quarterly Net Emissions Change (QNEC)

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

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

\[
\begin{align*}
\text{QNEC} &= \text{Quarterly Net Emissions Change for each emissions unit, lb/qtr.} \\
\text{PE}_2 &= \text{Post Project Potential to Emit for each emissions unit, lb/qtr.} \\
\text{PE}_1 &= \text{Pre-Project Potential to Emit for each emissions unit, lb/qtr.}
\end{align*}
\]

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

\[
\begin{align*}
\text{PE}_{2\text{quarterly}} &= \frac{\text{PE}_{2\text{annual}}}{4 \text{ quarters/year}} \\
\text{PE}_{1\text{quarterly}} &= \frac{\text{PE}_{1\text{annual}}}{4 \text{ quarters/year}}
\end{align*}
\]

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### Application Emissions

**Permit #:** S-1326-443-0  
**Last Updated:** 02/21/2014  
**Facility:** VINTAGE PRODUCTION CALIFORNIA

**Equipment Pre-Baselined:** NO

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- Y: Yes

**Offset Ratio**

**Quarterly Offset Amounts (lb/Qtr)**

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**Application Emissions**

**Permit #:** S-1737-195-0  
**Last Updated:** 02/21/2014  
**Facility:** VINTAGE PRODUCTION CALIFORNIA  
**TORID**

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| Offset Ratio | 1.5 | 1.5 | 1.5 | 1.5 |

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Equipment Pre-Baselined: NO

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Offset Ratio

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APPENDIX B
BACT Analyses
Top Down BACT Analysis for the Steam Generator

Oxides of nitrogen (NO\textsubscript{x}) are generated from the high temperature combustion of the natural gas fuel. A majority of the NO\textsubscript{x} emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO\textsubscript{x} emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

1. **BACT Analysis for NO\textsubscript{x} Emissions**:

   a. **Step 1 - Identify all control technologies**

      The District adopted District Rule 4320 on October 16, 2008. The NO\textsubscript{x} emission limit requirements in District Rule 4320 are lower than the current BACT limits; therefore a project specific BACT analysis will be performed to determine BACT for this project. District Rule 4320 includes a compliance option that limits oilfield steam generators with heat input ratings greater than 20 MMBtu/hr to 7 ppm @ 3% O\textsubscript{2}. This emission limit is Achieved in Practice control technology for the BACT analysis. District Rule 4320 also contains an enhanced schedule option that allows applicants additional time to meet the requirements of the rule. The enhanced schedule NO\textsubscript{x} emission limit requirement is 5 ppmv @ 3% O\textsubscript{2}. Since this is an enhanced option in the rule, it will be considered the Technologically Feasible control technology for the BACT analysis.

      The SJVAPCD 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% O\textsubscript{2} with SCR
      2) 7 ppmvd @ 3% O\textsubscript{2}

   b. **Step 2 - Eliminate technologically infeasible options**

      There are no technologically infeasible options to eliminate from step 1.

   c. **Step 3 - Rank remaining options by control effectiveness**

      1) 5 ppmvd @ 3% O\textsubscript{2} with SCR
      2) 7 ppmvd @ 3% O\textsubscript{2}

   d. **Step 4 - Cost Effectiveness Analysis**

      A cost effective analysis is required for technologically feasible control options that are not proposed. The applicant is proposing a NO\textsubscript{x} limit of 7 ppmvd @ 3% O\textsubscript{2}; therefore, a cost effective analysis is required for the 5 ppmvd @ 3% O\textsubscript{2} option (SCR).
SCR Cost Effectiveness Analysis

Assumptions:

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

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

Calculations:

Industry Standard NOx Emissions = 25 MMBtu/hr x 0.018 lb/MMBtu x 8,760 hrs/year
= 3942 lb/year

Tech. Feasible NOx Emissions = 25 MMBtu/hr x 0.006 lb/MMBtu x 8,760 hrs/year
= 1314 lb/year

Selective Catalytic Reduction system (Detailed costs follow the BACT Analysis Section):

Capital Cost (provided by PCL Industrial Services, Inc. for project S1111824): $745,000 (includes all purchased equipment, taxes, freight, and installation of SCR for an 85.0 MMBtu/hr unit).

This cost will be adjusted to reflect the expected cost for a 25 MMBtu/hr capacity steam generator using the “six-tenths” method (see reference below). This cost scaling method is typically applied to costs for the same type of equipment (i.e., steam generators) utilized in a similar process or operation (i.e., steam generating) with a different capacity. The scaled cost is calculated as follows:

Cost Adjustment Factor \(1 = \left(\frac{\text{Capacity New}}{\text{Capacity old}}\right)^{0.60}
(25 \text{ MMBtu/hr})/(85 \text{ MMBtu/hr})\]^{0.60} = 0.48

Adjusted SCR Cost = ($745,000)(0.48) = $357,600

\(^1\) Estimating Equipment Costs by Scaling: Cost Estimation (Chapter 4; Table 6), Plant Design and Economics for Chemical Engineers, McGraw-Hill, 1968.

Equivalent Annual Capital Cost (Capital Recovery):

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

where;

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

Where:
\[ P = $357,600 \]
\[ i = 10\%, \]
\[ n = 10\text{ years} \]
\[ A = $58,198 \]

\textbf{NOx Reduction due to Selective Catalytic Reduction system:}

Total reduction = Emissions_{15 \text{ ppm}} - Emissions_{5 \text{ ppm}}
Total reduction = 3942 lb/year - 1314 lb/year
Total reduction = 2628 lb/year = 1.3 ton NOx per year

Cost effectiveness:
\[
\text{Cost effectiveness} = \frac{$58,198}{1.3 \text{ tpy}} = $45,537/\text{ton}
\]

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.

e. Step 5 - Select BACT

BACT for NOx emissions from this oil field steam generator is a NOx limit of 7 ppmvd @ 3\% O2. The applicant has proposed to install an oil field steam generator with a NOx limit of 7 ppmvd @ 3\% O2; therefore BACT for NOx emissions is satisfied.
2. BACT Analysis for SO\textsubscript{x} Emissions:

Oxides of sulfur (SO\textsubscript{x}) emissions occur from the combustion of the sulfur, which is present in the fuel.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.2.1, 1\textsuperscript{st} quarter 2005, identifies for achieved in practice BACT for SO\textsubscript{x} emissions from oil field steam generators \geq 5 MMBtu/hr 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 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}

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options 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 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}

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

1) The applicant has proposed to 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 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}; therefore BACT for SO\textsubscript{x} emissions is satisfied.
3. BACT Analysis for PM$_{10}$ Emissions:

Particulate matter (PM$_{10}$) emissions result from the incomplete combustion of various elements in the fuel.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2005, identifies for achieved in practice BACT for PM$_{10}$ emissions from oil field steam generators ≥5 MMBtu/hr 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 SO$_2$ scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO$_2$ at stack O$_2$.

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options 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 SO$_2$ scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO$_2$ at stack O$_2$.

d. Step 4 - Cost Effectiveness Analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

1) The applicant has proposed to 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 SO$_2$ scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO$_2$ at stack O$_2$; therefore BACT for PM$_{10}$ emissions is satisfied.
4. **BACT Analysis for CO Emissions:**

Carbon monoxide (CO) emissions are generated from the incomplete combustion of air and fuel.

**a. Step 1 - Identify all control technologies**

The SJVAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2005, identifies for achieved in practice BACT for CO emissions from oil field steam generators ≥5 MMBtu/hr as follows:

1) 50 ppmvd @ 3% O₂

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

**b. Step 2 - Eliminate technologically infeasible options**

There are no technologically infeasible options to eliminate from step 1.

**c. Step 3 - Rank remaining options by control effectiveness**

1) 50 ppmvd @ 3% O₂

**d. Step 4 - Cost Effectiveness Analysis**

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

**e. Step 5 - Select BACT**

BACT for CO emissions from an oil field steam generator is a CO limit of 50 ppmvd @ 3% O₂. The applicant has proposed to install oil field steam generators with a CO limit of 24 ppmvd @ 3% O₂; therefore BACT for CO emissions is satisfied.
5. BACT Analysis for VOC Emissions:

Volatile organic compounds (VOC) emissions are generated from the incomplete combustion of the fuel.

a. Step 1 - Identify all control technologies

The SJVAPCD BACT Clearinghouse guideline 1.2.1, 1st quarter 2005, identifies for achieved in practice BACT for VOC emissions from oil field steam generators ≥5 MMBtu/hr as follows:

1) Gaseous fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

1) Gaseous fuel

d. Step 4 - Cost effectiveness analysis

The only control technology in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for VOC emissions from an oil field steam generator is gaseous fuel. The applicant has proposed to install oil field steam generators fired on gaseous fuel; therefore BACT for VOC emissions is satisfied.
APPENDIX C
Compliance Certification
September 30, 2013

Mr. Leonard Scandura
Permit Services Manager
San Joaquin Valley Unified
   Air Pollution Control District
34946 Flyover Ct.
Bakersfield, CA 93308

Subject: ATC Application – Portable Steam Generator
   Federal Major Modification Compliance Certification

Dear Mr. Scandura:

I hereby certify that all major Stationary Sources owned or operated by such person (or by 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 emission limitations and standards.

__________________________
Dwayne Smith
Name

__________________________
Surface Operations Manager
Title

__________________________
Signature
APPENDIX D
HRAs and AAQAs
San Joaquin Valley Air Pollution Control District
Revised Risk Management Review

To: David Torii – Permit Services
From: Kou Thao – Technical Services
Date: 1-28-14
Facility Name: Vintage Production LLC
Location: Various locations in Kern Co
Application #(s): S-1737-195-0
Project #: S-1140496

A. RMR SUMMARY

<table>
<thead>
<tr>
<th>Categories</th>
<th>Type of Unit (Unit 195-0)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.087</td>
<td>0.087</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>5.05E-03</td>
<td>5.05E-03</td>
<td>1.44E-01</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>2.39E-03</td>
<td>2.39E-03</td>
<td>7.39E-02</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk</td>
<td>1.84E-08</td>
<td>1.84E-08</td>
<td>2.74E-06</td>
</tr>
<tr>
<td>T-BACT Required?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Permit Conditions?</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proposed Permit Conditions

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

Unit # 195-0

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

2. This engine shall not be operated within 100 meters of facility boundary.
B. RMR REPORT

I. Project Description

Technical Services received a request on December 23, 2013 to perform a Risk Management Review for a proposed installation of a 25 mmbtu/hr natural gas steam generator to be operated at various locations in Kern County.

II. Analysis

Technical Services performed a prioritization using the District’s HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions calculated using Ventura County emission factors for external combustion of natural gas were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Missouri Triangle to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Analysis Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Type</td>
</tr>
<tr>
<td>Stack Height (m)</td>
</tr>
<tr>
<td>Stack Diameter (m)</td>
</tr>
<tr>
<td>Stack Exit Velocity (m/s)</td>
</tr>
<tr>
<td>Stack Exit Temp. (°K)</td>
</tr>
<tr>
<td>Burner Rating (MMBtu/hr)</td>
</tr>
</tbody>
</table>

**AAQA.**

In addition to the RMR, 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 0.45 lb/hr CO, 0.20 lb/hr NOx, 0.35lb/hr SOx, and 0.19 lb/hr PM10.

The results from the Criteria Pollutant Modeling are as follows:
Criteria Pollutant Modeling Results*

<table>
<thead>
<tr>
<th>Diesel ICE</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>NO&lt;sub&gt;x&lt;/sub&gt;</td>
<td>Pass&lt;sup&gt;1&lt;/sup&gt;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>SO&lt;sub&gt;x&lt;/sub&gt;</td>
<td>Pass</td>
<td>Pass</td>
<td>X</td>
<td>Pass&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Pass&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>PM&lt;sub&gt;10&lt;/sub&gt;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Pass&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>PM&lt;sub&gt;2.5&lt;/sub&gt;</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Pass&lt;sup&gt;1&lt;/sup&gt;</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 criteria pollutants are below EPA’s level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. In accordance with the District’s Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

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

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.

IV. Attachments

A. RMR request from the project engineer
B. Additional information from the applicant/project engineer
C. Toxic emissions summary
D. Prioritization score
E. Facility Summary
San Joaquin Valley Air Pollution Control District
Risk Management Review

To: David Torii – Permit Services
From: Leland Villalvazo – Technical Services
Date: February 9, 2014
Facility Name: Vintage Production California LLC
Location: HOW / LOW / HOC
Application #(s): S-1327-210-0
Project #: S-1140286

B. RMR SUMMARY

<table>
<thead>
<tr>
<th>RMR Summary</th>
<th>Steam Gen (Unit 210)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.17</td>
<td>0.17</td>
<td>&gt;1.0</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>0.08</td>
<td>0.08</td>
<td>0.09</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk (10⁻⁶)</td>
<td>0.1</td>
<td>0.1</td>
<td>1.43</td>
</tr>
<tr>
<td>T-BACT Required?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Permit Conditions?</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proposed Permit Conditions

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

Unit # 210-0

The Unit shall not operate within 100 meters of the facility boundary.

C. RMR REPORT

II. Project Description

Technical Services received a request on February 5, 2014, to perform an Ambient Air Quality Analysis and a Risk Management Review for a 25 MMBTU/hr NG/ TEOR/ field gas/ propane fired steam generator to operate at S-1326 or S-1327 or S-1738.
Ill. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions were calculated using District approved oil field steam generator EFs were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Bakersfield to determine the dispersion factors (i.e., the predicted concentration or \( X \) divided by the normalized source strength or \( Q \)) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Source Type</th>
<th>Unit 210-0</th>
<th>Source Type</th>
<th>Unit 210-0</th>
<th>Source Type</th>
<th>Unit 210-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stack Height (m)</td>
<td>6.096</td>
<td>Location Type</td>
<td>Rural</td>
<td>Location Type</td>
<td>Rural</td>
</tr>
<tr>
<td>Stack Diameter. (m)</td>
<td>0.9144</td>
<td>Closest Receptor (m)</td>
<td>100</td>
<td>Type of Receptor</td>
<td>Worst-case</td>
</tr>
<tr>
<td>Stack Exit Velocity (m/s)</td>
<td>4.3135</td>
<td>Max Hours per Year</td>
<td>8760</td>
<td>Fuel Type</td>
<td>NG/ TEOR/ field gas/ propane</td>
</tr>
<tr>
<td>Stack Exit Temp. (°K)</td>
<td>477.5945</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burner Rating (MMBtu/hr)</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technical Services performed modeling for criteria pollutants CO, NO\(_x\), SO\(_x\) and PM\(_{10}\); as well as a RMR. The emission rates used for criteria pollutant modeling were 0.45 lb/hr CO, 0.2 lb/hr NO\(_x\), 0.35 lb/hr SO\(_x\), and 0.19 lb/hr PM\(_{10}\). The engineer supplied the maximum fuel rate for the steam generator used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

<table>
<thead>
<tr>
<th>Diesel ICE</th>
<th>1 Hour</th>
<th>3 Hours</th>
<th>8 Hours</th>
<th>24 Hours</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>Pass</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NO(_x)</td>
<td>Pass(^1)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass</td>
</tr>
<tr>
<td>SO(_x)</td>
<td>Pass(^1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Pass(^2)</td>
</tr>
<tr>
<td>PM(_{2.5})</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Pass(^3)</td>
</tr>
</tbody>
</table>

*Results were taken from the attached PSD spreadsheet.

\(^1\) The project was compared to the 1-hour NO\(_2\) National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures.

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

V. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).
These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change. To ensure that human AAQA impacts will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

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

VI. Attachments

For example:
F. RMR request from the project engineer
G. Additional information from the applicant/project engineer
H. Toxic emissions summary
I. Prioritization score
J. Facility Summary
San Joaquin Valley Air Pollution Control District
Risk Management Review

To: David Torii — Permit Services
From: Leland Villalvazo — Technical Services
Date: February 9, 2014
Facility Name: Vintage Production California LLC
Location: HOW / LOW / HOC
Application #(s): S-1326-443-0
+Project #: S-1140292

C. RMR SUMMARY

<table>
<thead>
<tr>
<th>Categories</th>
<th>Steam Gen (Unit 443)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.17</td>
<td>0.17</td>
<td>&gt;1.0</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>0.08</td>
<td>0.08</td>
<td>0.09</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>0.01</td>
<td>0.01</td>
<td>0.02</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk ($10^{-6}$)</td>
<td>0.1</td>
<td>0.1</td>
<td>1.88</td>
</tr>
<tr>
<td>T-BACT Required?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Permit Conditions?</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proposed Permit Conditions

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

Unit # 443-0

The Unit shall not operate within 100 meters of the facility boundary.

D. RMR REPORT

III. Project Description

Technical Services received a request on February 5, 2014, to perform an Ambient Air Quality Analysis and a Risk Management Review for a 25 MMBTU/hr NG/ TEOR/ field gas/ propane fired steam generator to operate at S-1326 or S-1327 or S-1738.
IV. Analysis

Technical Services performed a prioritization using the District’s HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions were calculated using District approve oil field steam generator EFs were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Bakersfield to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Analysis Parameters</th>
<th>Unit 443-0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source Type</strong></td>
<td>Point</td>
</tr>
<tr>
<td>Stack Height (m)</td>
<td>6.096</td>
</tr>
<tr>
<td>Stack Diameter (m)</td>
<td>0.9144</td>
</tr>
<tr>
<td>Stack Exit Velocity (m/s)</td>
<td>4.3135</td>
</tr>
<tr>
<td>Stack Exit Temp. (°K)</td>
<td>477.5945</td>
</tr>
<tr>
<td>Burner Rating (MMBtu/hr)</td>
<td>25</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 0.45 lb/hr CO, 0.2 lb/hr NOx, 0.35 lb/hr SOx, and 0.19 lb/hr PM10. The engineer supplied the maximum fuel rate for the steam generator used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

<table>
<thead>
<tr>
<th>Diesel ICE</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>X</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>SOx</td>
<td>Pass</td>
<td>X</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>PM10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass*</td>
<td>Pass*</td>
</tr>
<tr>
<td>PM2.5</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.

1The 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.

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

VII. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. In accordance with the District’s Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).
These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change. To ensure that human AAQA impacts will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

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

VIII. Attachments

For example:

K. RMR request from the project engineer
L. Additional information from the applicant/project engineer
M. Toxic emissions summary
N. Prioritization score
O. Facility Summary
San Joaquin Valley Air Pollution Control District
Risk Management Review

To: David Torii – Permit Services
From: Leland Villalvazo – Technical Services
Date: February 9, 2014
Facility Name: Vintage Production California LLC
Location: HOW / LOW / HOC
Application #(s): S1738-493-0
Project #: S-1140291

A. RMR SUMMARY

<table>
<thead>
<tr>
<th>Categories</th>
<th>Steam Gen (Unit 493)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.17</td>
<td>0.17</td>
<td>&gt;1.0</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>0.08</td>
<td>0.08</td>
<td>0.56</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>0.01</td>
<td>0.01</td>
<td>0.08</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk (10⁻⁴)</td>
<td>0.1</td>
<td>0.1</td>
<td>9.98</td>
</tr>
<tr>
<td>T-BACT Required?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Permit Conditions?</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proposed Permit Conditions

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

Unit # 493-0

The Unit shall not operate within 100 meters of the facility boundary.

B. RMR REPORT

I. Project Description

Technical Services received a request on February 5, 2014, to perform an Ambient Air Quality Analysis and a Risk Management Review for a 25 MMBTU/hr NG/ TEOR/ field gas/ propane fired steam generator to operate at S-1326 or S-1327 or S-1738.
II. Analysis

Technical Services performed a prioritization using the District’s HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions were calculated using District approve oil field steam generator EFs were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Bakersfield to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Analysis Parameters</th>
<th>Unit 493-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Type</td>
<td>Point</td>
</tr>
<tr>
<td>Stack Height (m)</td>
<td>6.096</td>
</tr>
<tr>
<td>Stack Diameter. (m)</td>
<td>0.9144</td>
</tr>
<tr>
<td>Stack Exit Velocity (m/s)</td>
<td>4.3135</td>
</tr>
<tr>
<td>Stack Exit Temp. (*K)</td>
<td>477.5945</td>
</tr>
<tr>
<td>Burner Rating (MMBtu/hr)</td>
<td>25</td>
</tr>
<tr>
<td>Location Type</td>
<td>Rural</td>
</tr>
<tr>
<td>Closest Receptor (m)</td>
<td>100</td>
</tr>
<tr>
<td>Type of Receptor</td>
<td>Worst-case</td>
</tr>
<tr>
<td>Max Hours per Year</td>
<td>8760</td>
</tr>
<tr>
<td>Fuel Type</td>
<td>NG/ TEOR/ field gas/ propane</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 0.45 lb/hr CO, 0.2 lb/hr NOx; 0.35 lb/hr SOx, and 0.19 lb/hr PM10. The engineer supplied the maximum fuel rate for the steam generator used during the analysis.

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<tr>
<th>Diesel ICE</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>Pass¹</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass</td>
</tr>
<tr>
<td>SOx</td>
<td>Pass²</td>
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<td>X</td>
<td>Pass²</td>
<td>Pass²</td>
</tr>
<tr>
<td>PM10</td>
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<td>X</td>
<td>Pass²</td>
<td>Pass²</td>
<td>Pass²</td>
</tr>
<tr>
<td>PM2.5</td>
<td>X</td>
<td>X</td>
<td>Pass²</td>
<td>Pass²</td>
<td>Pass²</td>
</tr>
</tbody>
</table>

*Results were taken from the attached PSD spreadsheet.

¹The 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.

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

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. In accordance with the District’s Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).
These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change. To ensure that human AAQA impacts will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

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

PERMIT NO: S-1327-210-0

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

LOCATION: HEAVY OIL WESTERN, KERN COUNTY
CA

EQUIPMENT DESCRIPTION:
25 MMBTU/HR NATURAL GAS/TEOR GAS/FIELD GAS/PROPANE FIRED PORTABLE STEAM GENERATOR WITH NORTH AMERICAN LE, COEN QLN-11, OR EQUIVALENT BURNER AND FLUE GAS RECIRCULATION (VARIOUS UNSPECIFIED LOCATIONS WITHIN HEAVY OIL WESTERN STATIONARY SOURCE)

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(c). [District Rule 2201] Federally Enforceable Through Title V Permit

2. 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. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 657 lb, 2nd quarter - 657 lb, 3rd quarter - 657 lb, and fourth quarter - 657 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

4. ERC Certificate Number C-1225-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] 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

ARNAUD MARJOLLET, Director of Permit Services

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93309 • (661) 392-5500 • Fax (661) 392-5585
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions: 1st quarter - 1314 lb, 2nd quarter - 1314 lb, 3rd quarter - 1314 lb, and fourth quarter - 1314 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

6. ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of PM10 emissions: 1st quarter - 624 lb, 2nd quarter -624 lb, 3rd quarter - 624 lb, and fourth quarter - 624 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

8. ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

9. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 452 lb, 2nd quarter - 452 lb, 3rd quarter - 452 lb, and fourth quarter - 452 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

10. ERC Certificate Number S-4047-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

11. ERCs are only required to be surrendered for one of ATCs S-1327-210-0, S-1326-443-0, S-1737-195-0 or S-1738-493-0. [District Rule 2201, 4.6.7] Federally Enforceable Through Title V Permit

12. This unit is permitted as S-1326-443, S-1327-195, S-1737-195 and S-1738-493 and is approved to operate in Vintage Production's and Occidental's, or its subsidiary's, Light and Heavy Oil Western and Central stationary sources. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit

15. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

16. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

17. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit

18. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Kippsmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
19. The unit shall not operate within 100 meters of the facility boundary. [District Rule 4102]

20. Unit shall not be located within 1000 feet of any K-12 school. [CH&SC 42301.6]

21. Permittee shall notify the District Compliance Division to arrange a start-up inspection at the initial location of the unit. [District Rule 1070]

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

23. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

24. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

25. Unit shall be fired only on LPG or propane, regulated natural gas, or waste/field gas with no more than 1.0 gr-S/100 scf, or waste/field gas treated to remove at least 95% by weight of sulfur compounds. [District Rule 2201]

26. Except for periods of startup and shutdown, emissions shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.016 lb-Sox/MMBtu, 0.0076 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.0185 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

27. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

28. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

29. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

30. When the unit changes fuel type (natural gas to LPG/propane or LPG/propane to natural gas) the unit shall undergo source testing to measure NOx and CO emissions within 60 days of the change unless the unit has already undergone source testing in the last twelve (12) months or thirty-six (36) months after demonstrating compliance on the previous two (2) source tests when fired on that fuel type. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

31. Source testing and/or stack monitoring prescribed in this permit shall not be required while this equipment is in storage or is located outside of the jurisdiction of the San Joaquin Valley Air Pollution Control District. Upon reactivation from storage or relocation of this equipment within the jurisdiction of the SJVUAPCD, normal source testing and/or stack monitoring shall recommence. If a source test is postponed due to the equipment being in storage or located outside of SJVAPCD jurisdiction, a source test shall be conducted within 30 days of recommencing operation within the jurisdiction of the SJVUAPCD. [District Rules 201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

Conditions continue on next page
33. 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] Federally Enforceable Through Title V Permit

34. 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

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

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

37. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

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

40. The operator shall determine within 60 days of first use and annually thereafter the fuel sulfur content of each source of unregulated natural gas fuel combusted in this unit using EPA Method 11 or 15, or ASTM Method D1072, D3246 or D6228 or double GC with mercaptans. In lieu of fuel sulfur content testing, the operator may conduct a source test for combustion SOx emissions within 60 days of startup and at least once every 12 months thereafter. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

41. If the unit is fired on regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contacts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit

42. If the unit is not fired solely on 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] Federally Enforceable Through Title V Permit

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

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

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

47. 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, 4320, and 40 CFR 60.48c(i)] Federally Enforceable Through Title V Permit
AUTHORITY TO CONSTRUCT

PERMIT NO: S-1738-493-0

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

LOCATION: LIGHT OIL WESTERN STATIONARY SOURCE
KERN COUNTY
CA

EQUIPMENT DESCRIPTION:
25 MMBTU/HR NATURAL GAS/TEOR GAS/FIELD GAS/PROPANE FIRED PORTABLE STEAM GENERATOR WITH NORTH AMERICAN LE, COEN QLN-11, OR EQUIVALENT BURNER AND FLUE GAS RECIRCULATION (VARIOUS UNSPECIFIED LOCATIONS WITHIN LIGHT OIL WESTERN STATIONARY SOURCE)

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(c). [District Rule 2201] Federally Enforceable Through Title V Permit

2. 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. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 657 lb, 2nd quarter - 657 lb, 3rd quarter - 657 lb, and fourth quarter - 657 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

4. ERC Certificate Number C-1225-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] 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 APOCO

ARNAUD MARJOLET, Director of Permit Services

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions: 1st quarter - 1314 lb, 2nd quarter - 1314 lb, 3rd quarter - 1314 lb, and fourth quarter - 1314 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

6. ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of PM10 emissions: 1st quarter - 624 lb, 2nd quarter - 624 lb, 3rd quarter - 624 lb, and fourth quarter - 624 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

8. ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

9. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 452 lb, 2nd quarter - 452 lb, 3rd quarter - 452 lb, and fourth quarter - 452 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

10. ERC Certificate Number N-4047-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

11. ERCs are only required to be surrendered for one of ATC S-1327-210-0, S-1326-443-0, S-1737-195-0 or S-1738-493-0. [District Rule 2201, 4.6.7] Federally Enforceable Through Title V Permit

12. This unit is permitted as S-1326-443, S-1327-195, S-1737-195 and S-1738-493 and is approved to operate in Vintage Production's and Occidental's, or its subsidiary's, Light and Heavy Oil Western and Central stationary sources. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit

15. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

16. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

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

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

CONDITIONS CONTINUE ON NEXT PAGE
19. The unit shall not operate within 100 meters of the facility boundary. [District Rule 4102]

20. Unit shall not be located within 1000 feet of any K-12 school. [CH&SC 42301.6]

21. Permittee shall notify the District Compliance Division to arrange a start-up inspection at the initial location of the unit. [District Rule 1070]

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

23. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

24. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

25. Unit shall be fired only on LPG or propane, regulated natural gas, or waste/field gas with no more than 1.0 gr-S/100 scf, or waste/field gas treated to remove at least 95% by weight of sulfur compounds. [District Rule 2201]

26. Except for periods of startup and shutdown, emissions shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.016 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.0185 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

27. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

28. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit’s emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

29. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

30. When the unit changes fuel type (natural gas to LPG/propane or LPG/propane to natural gas) the unit shall undergo source testing to measure NOx and CO emissions within 60 days of the change unless the unit has already undergone source testing in the last twelve (12) months or thirty-six (36) months after demonstrating compliance on the previous two (2) source tests when fired on that fuel type. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

31. Source testing and/or stack monitoring prescribed in this permit shall not be required while this equipment is in storage or is located outside of the jurisdiction of the San Joaquin Valley Air Pollution Control District. Upon reactivation from storage or relocation of this equipment within the jurisdiction of the SJVUAPCD, normal source testing and/or stack monitoring shall commence. If a source test is postponed due to the equipment being in storage or located outside of SJVUAPCD jurisdiction, a source test shall be conducted within 60 days of recommencing operation within the jurisdiction of the SJVUAPCD. [District Rules 201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

CONDITIONS CONTINUE ON NEXT PAGE
33. 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] Federally Enforceable Through Title V Permit

34. 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

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

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

37. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

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

40. The operator shall determine within 60 days of first use and annually thereafter the fuel sulfur content of each source of unregulated natural gas fuel combusted in this unit using EPA Method 11 or 15, or ASTM Method D1072, D3246 or D6228 or double GC with mercaptans. In lieu of fuel sulfur content testing, the operator may conduct a source test for combustion SOx emissions within 60 days of startup and at least once every 12 months thereafter. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

41. If the unit is fired on regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contacts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit

42. If the unit is not fired solely on 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] Federally Enforceable Through Title V Permit

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

44. If either the NOx or CO concentrations corrected to 3% O2, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

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

47. 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, 4320, and 40 CFR 60.48c(i)] Federally Enforceable Through Title V Permit
AUTHORITY TO CONSTRUCT

PERMIT NO: S-1326-443-0

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

EQUIPMENT DESCRIPTION:
25 MMBTU/HR NATURAL GAS/TEOR GAS/FIELD GAS/PROPANE FIRED PORTABLE STEAM GENERATOR WITH NORTH AMERICAN LE, COEN QLN-11, OR EQUIVALENT BURNER AND FLUE GAS RECIRCULATION (VARIOUS UNSPECIFIED LOCATIONS WITHIN HEAVY OIL CENTRAL STATIONARY SOURCE)

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(c). [District Rule 2201] Federally Enforceable Through Title V Permit

2. 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. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter - 657 lb, 2nd quarter - 657 lb, 3rd quarter - 657 lb, and fourth quarter - 657 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

4. ERC Certificate Number C-1225-2 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] 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

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ARNAUD MARJOBLET, Director of Permit Services

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions: 1st quarter - 1314 lb, 2nd quarter - 1314 lb, 3rd quarter - 1314 lb, and fourth quarter - 1314 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

6. ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 624 lb, 2nd quarter - 624 lb, 3rd quarter - 624 lb, and fourth quarter - 624 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

8. ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

9. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 452 lb, 2nd quarter - 452 lb, 3rd quarter - 452 lb, and fourth quarter - 452 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

10. ERC Certificate Number S-4047-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

11. ERCs are only required to be surrendered for one of ATCs S-1327-210-0, S-1326-443-0, S-1737-195-0 or S-1738-493-0. [District Rule 2201, 4.6.7] Federally Enforceable Through Title V Permit

12. This unit is permitted as S-1326-443, S-1327-195, S-1737-195 and S-1738-493 and is approved to operate in Vintage Production's and Occidental's, or its subsidiary's, Light and Heavy Oil Western and Central stationary sources. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit

15. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

16. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

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

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

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CONDITIONS CONTINUE ON NEXT PAGE

Conditions for S-1326-443-0 (continued)
19. The unit shall not operate within 100 meters of the facility boundary. [District Rule 4102]

20. Unit shall not be located within 1000 feet of any K-12 school. [CH&SC 42301.6]

21. Permittee shall notify the District Compliance Division to arrange a start-up inspection at the initial location of the unit. [District Rule 1070]

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

23. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

24. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

25. Unit shall be fired only on LPG or propane, regulated natural gas, or waste/field gas with no more than 1.0 gr-S/100 scf, or waste/field gas treated to remove at least 95% by weight of sulfur compounds. [District Rule 2201]

26. Except for periods of startup and shutdown, emissions shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.016 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.0185 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

27. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

28. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

29. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

30. When the unit changes fuel type (natural gas to LPG/propane or LPG/propane to natural gas) the unit shall undergo source testing to measure NOx and CO emissions within 60 days of the change unless the unit has already undergone source testing in the last twelve (12) months or thirty-six (36) months after demonstrating compliance on the previous two (2) source tests when fired on that fuel type. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

31. Source testing and/or stack monitoring prescribed in this permit shall not be required while this equipment is in storage or is located outside of the jurisdiction of the San Joaquin Valley Air Pollution Control District. Upon reactivation from storage or relocation of this equipment within the jurisdiction of the SJVUAPCD, normal source testing and/or stack monitoring shall recommence. If a source test is postponed due to the equipment being in storage or located outside of SJVAPCD jurisdiction, a source test shall be conducted within 60 days of recommencing operation within the jurisdiction of the SJVUAPCD. [District Rules 201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

CONDITIONS CONTINUE ON NEXT PAGE
33. 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] Federally Enforceable Through Title V Permit

34. 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

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

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

37. Stack gas Oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

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

40. The operator shall determine within 60 days of first use and annually thereafter the fuel sulfur content of each source of unregulated natural gas fuel combusted in this unit using EPA Method 11 or 15, or ASTM Method D1072, D3246 or D6228 or double GC with mercaptans. In lieu of fuel sulfur content testing, the operator may conduct a source test for combustion SOx emissions within 60 days of startup and at least once every 12 months thereafter. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

41. If the unit is fired on regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contacts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit

42. If the unit is not fired solely on 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] Federally Enforceable Through Title V Permit

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

44. If either the NOx or CO concentrations corrected to 3% O₂, as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

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

47. 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, 4320, and 40 CFR 60.48c(i)] Federally Enforceable Through Title V Permit
San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1737-195-0

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

LOCATION: LIGHT OIL CENTRAL
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
25 MMBTU/HR NATURAL GAS/TEOR GAS/FIELD GAS/PROPANE FIRED PORTABLE STEAM GENERATOR WITH
NORTH AMERICAN LE, COEN QLN-11, OR EQUIVALENT BURNER AND FLUE GAS RECIRCULATION (VARIOUS
UNSPECIFIED LOCATIONS WITHIN LIGHT OIL CENTRAL STATIONARY SOURCE)

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(c). [District Rule 2201] Federally Enforceable
Through Title V Permit

2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application
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. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction
credits for the following quantity of emissions: 1st quarter - 657 lb, 2nd quarter - 657 lb, 3rd quarter - 657 lb, and
fourth quarter - 657 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as
amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

4. ERC Certificate Number C-1225-2 (or a certificate split from this certificate) shall be used to supply the required
offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to
Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing
requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
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

ARNAUD MARJOLLET, Director of Permit Services
S-1737-195-0 • Apr 10 2014 • E-mail - FONID • Joint Inspection NOT Required
Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585
5. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of emissions: 1st quarter - 1314 lb, 2nd quarter - 1314 lb, 3rd quarter - 1314 lb, and fourth quarter - 1314 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

6. ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantity of PM10 emissions: 1st quarter - 624 lb, 2nd quarter - 624 lb, 3rd quarter - 624 lb, and fourth quarter - 624 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

8. ERC Certificate Number N-1121-5 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

9. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 452 lb, 2nd quarter - 452 lb, 3rd quarter - 452 lb, and fourth quarter - 452 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Federally Enforceable Through Title V Permit

10. ERC Certificate Number S-4047-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

11. ERCS are only required to be surrendered for one of ATCs S-1327-210-0, S-1326-443-0, S-1737-195-0 or S-1738-493-0. [District Rule 2201, 4.6.7] Federally Enforceable Through Title V Permit

12. This unit is permitted as S-1326-443, S-1327-195, S-1737-195 and S-1738-493 and is approved to operate in Vintage Production's and Occidental's, or its subsidiary's, Light and Heavy Oil Western and Central stationary sources. [District Rule 2201] Federally Enforceable Through Title V Permit

13. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

14. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201] Federally Enforceable Through Title V Permit

15. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit

16. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201] Federally Enforceable Through Title V Permit

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

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

CONDITIONS CONTINUE ON NEXT PAGE
19. The unit shall not operate within 100 meters of the facility boundary. [District Rule 4102]

20. Unit shall not be located within 1000 feet of any K-12 school. [CH&SC 42301.6]

21. Permittee shall notify the District Compliance Division to arrange a start-up inspection at the initial location of the unit. [District Rule 1070]

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

23. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

24. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]

25. Unit shall be fired only on LPG or propane, regulated natural gas, or waste/field gas with no more than 1.0 gr-S/100 scf, or waste/field gas treated to remove at least 95% by weight of sulfur compounds. [District Rule 2201]

26. Except for periods of startup and shutdown, emissions shall not exceed any of the following limits: 7 ppmvd NOx @ 3% O2 or 0.008 lb-NOx/MMBtu, 0.016 lb-Sox/MMBtu, 0.0076 lb-PM10/MMBtu, 25 ppmvd CO @ 3% O2 or 0.0185 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

27. Duration of start-up or shutdown shall not exceed two hours each per occurrence. During start-up or shutdown, the emissions control system shall be in operation, and emissions shall be minimized insofar as technologically possible. The operator shall maintain daily records of the duration of start-up and shutdown periods. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

28. Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status by allowing it to cool down from its operating temperature to ambient temperature as the fuel supply to the unit is completely turned off. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

29. Source testing to measure natural gas-combustion NOx and CO emissions from this unit shall be conducted within 60 days of initial startup and at least once every twelve (12) months thereafter. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

30. When the unit changes fuel type (natural gas to LPG/propane or LPG/propane to natural gas) the unit shall undergo source testing to measure NOx and CO emissions within 60 days of the change unless the unit has already undergone source testing in the last twelve (12) months or thirty-six (36) months after demonstrating compliance on the previous two (2) source tests when fired on that fuel type. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

31. Source testing and/or stack monitoring prescribed in this permit shall not be required while this equipment is in storage or is located outside of the jurisdiction of the San Joaquin Valley Air Pollution Control District. Upon reactivation from storage or relocation of this equipment within the jurisdiction of the SJVUAPCD, normal source testing and/or stack monitoring shall recommence. If a source test is postponed due to the equipment being in storage or located outside of SJVAPCD jurisdiction, a source test shall be conducted within 60 days of recommencing operation within the jurisdiction of the SJVUAPCD. [District Rules 201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

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33. 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] Federally Enforceable Through Title V Permit

34. 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

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

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

37. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit

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

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

40. The operator shall determine within 60 days of first use and annually thereafter the fuel sulfur content of each source of unregulated natural gas fuel combusted in this unit using EPA Method 11 or 15, or ASTM Method D1072, D3246 or D6228 or double GC with mercaptans. In lieu of fuel sulfur content testing, the operator may conduct a source test for combustion SOx emissions within 60 days of startup and at least once every 12 months thereafter. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit

41. If the unit is fired on regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contacts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit

42. If the unit is not fired solely on 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] Federally Enforceable Through Title V Permit

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

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

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

47. 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, 4320, and 40 CFR 60.48c(i)] Federally Enforceable Through Title V Permit