Terry Destrampe  
Holmes Western Oil Corporation  
P.O. Box 1405  
Taft, CA 93268  

Re: Notice of Preliminary Decision - Authority to Construct  
Facility Number: S-1626  
Project Number: S-1144431

Dear Mr. Destrampe:

Enclosed for your review and comment is the District's analysis of Holmes Western Oil Corporation's application for an Authority to Construct for a steam generator, in Western Kern County.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice period, the District intends to issue the Authority to Construct. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. David Tori of Permit Services at (661) 392-5620.

Sincerely,

Arnaud Marjollet  
Director of Permit Services

Enclosures  
cc: Mike Tollstrup, CARB (w/ enclosure) via email
I. Proposal

Holmes Western Oil Corporation (Holmes) has requested an Authority to Construct (ATC) permit for the installation of an 85 MMBtu/hr steam generator.

II. Applicable Rules

Rule 2201  New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410  Prevention of Significant Deterioration (6/16/11)
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 4351  Boilers, Steam Generators, And Process Heaters – Phase 1 (8/21/03)
Rule 4801  Sulfur Compounds (12/17/92)
CH&SC 41700  Health Risk Assessment
CH&SC 42301.6  School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines
III. Project Location

The equipment will be located in the Midway Sunset Oil Field, within the SW/4 of Section 16, Township 11N, Range 23W it the Heavy Oil Western stationary source. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

In thermally enhanced oil recovery (TEOR) operations, steam generators produce steam for injection into heavy 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-1626-79-0: 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FAME LEX ULTRA LOW-NOX BURNER (OR EQUIVALENT) WITH FLUE GAS RECIRCULATION

VI. Emission Control Technology Evaluation

Criteria pollutants from natural gas-fired steam generators include NOx, CO, VOC, PM10, and SOx.

NOx is the major pollutant of concern when burning natural gas. NOx formation is either due to thermal fixation of atmospheric nitrogen in the combustion air (thermal NOx) or due to conversion of chemically bound nitrogen in the fuel (fuel NOx). Due to the low fuel nitrogen content of natural gas, nearly all NOx emissions are thermal NOx. Formation of thermal NOx is affected by four furnace zone factors: (1) nitrogen concentration, (2) oxygen concentration, (3) peak temperature, and (4) time of exposure at peak temperature.

Flue gas recirculation (FGR) reduces NOx emissions by recirculating a percentage of the exhaust gas back into the windbox. This reduces the oxygen concentration in the air-fuel mixture and regulates the combustion process, lowering the combustion temperature. The lowered availability of oxygen in conjunction with lowered combustion temperature reduces the formation of NOx.

VII. General Calculations

A. Assumptions

- The maximum operating schedule is 24 hours/day, 365 days/year (per applicant)
- Unit is fired on PUG quality natural gas with ≤ 1.0 grain-S/100 dscf (per applicant)
- Maximum Heat Input: 85 MMBtu/hr (per applicant)
- EPA F-factor for natural gas is 8,578 dscf/MMBtu (corrected to 60 °F, 40 CFR 60, Appendix B)
- Molar Specific Volume of a gas @ 60 °F is 379.5 ft³/lb-mol
- Natural Gas Heating Value: 1,000 Btu/scf (District Practice)
### B. Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factors</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO(_x)</td>
<td>0.0062 lb-NO(_x)/MMBtu</td>
<td>5 ppmvd NO(_x) (@ 3%O(_2)) Proposed</td>
</tr>
<tr>
<td>SO(_x)</td>
<td>0.00285 lb SO2/MMBtu*</td>
<td>1.0 gr S/100 scf Proposed</td>
</tr>
<tr>
<td>PM10</td>
<td>0.003 lb-PM10/MMBtu</td>
<td>Proposed &amp; FYI 328</td>
</tr>
<tr>
<td>CO</td>
<td>0.01483 lb-CO/MMBtu</td>
<td>20 ppmv CO @3% O2 Proposed</td>
</tr>
<tr>
<td>VOC</td>
<td>0.0055 lb-VOC/MMBtu</td>
<td>13 ppmv VOC @3% O2 Proposed &amp; AP-42 (07/98) Table 1.4-2</td>
</tr>
</tbody>
</table>

### C. Calculations

1. **Pre-Project Potential to Emit (PE1)**

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

2. **Post Project Potential to Emit (PE2)**

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

   \[ PE2 = EF2 \text{ (lb/MMBtu)} \times \text{Heat Input (MMBtu/hr)} \times \text{Op. Schedule (hr/day or hr/year)} \]

#### Daily PE2 (Steam Generator)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>EF2 (lb/MMBtu)</th>
<th>Heat Input (MMBtu/hr)</th>
<th>Operating Schedule (hr/day)</th>
<th>Daily PE2 (lb/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO(_x)</td>
<td>0.0062</td>
<td>85</td>
<td>24</td>
<td>12.6</td>
</tr>
<tr>
<td>SO(_x)</td>
<td>0.00285</td>
<td>85</td>
<td>24</td>
<td>5.8</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>0.0030</td>
<td>85</td>
<td>24</td>
<td>6.1</td>
</tr>
<tr>
<td>CO</td>
<td>0.01483</td>
<td>85</td>
<td>24</td>
<td>30.3</td>
</tr>
<tr>
<td>VOC</td>
<td>0.0055</td>
<td>85</td>
<td>24</td>
<td>11.2</td>
</tr>
</tbody>
</table>

#### Annual PE2 (Steam Generator)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>EF2 (lb/MMBtu)</th>
<th>Heat Input (MMBtu/hr)</th>
<th>Operating Schedule (hr/year)</th>
<th>Annual PE2 (lb/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO(_x)</td>
<td>0.0062</td>
<td>85</td>
<td>8,760</td>
<td>4,617</td>
</tr>
<tr>
<td>SO(_x)</td>
<td>0.00285</td>
<td>85</td>
<td>8,760</td>
<td>2,122</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>0.0030</td>
<td>85</td>
<td>8,760</td>
<td>2,234</td>
</tr>
<tr>
<td>CO</td>
<td>0.01483</td>
<td>85</td>
<td>8,760</td>
<td>11,042</td>
</tr>
<tr>
<td>VOC</td>
<td>0.0055</td>
<td>85</td>
<td>8,760</td>
<td>4,095</td>
</tr>
</tbody>
</table>
3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to 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.

The SSPE1 can be calculated by adding the PE1 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site (TotalERC).

\[ \text{SSPE1}_{\text{Total}} = \text{SSPE1}_{\text{Permit Unit}} + \text{TotalERC} \]

<table>
<thead>
<tr>
<th>Permit Unit/ERC</th>
<th>NOx</th>
<th>SOx</th>
<th>PM_{10}</th>
<th>CO</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSPE1</td>
<td>13,949</td>
<td>6,118</td>
<td>7,627</td>
<td>79,746</td>
<td>19,069</td>
</tr>
</tbody>
</table>

*see SSPE1 calculations in Appendix A

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

The SSPE2 can be calculated by adding the PE2 from all units with valid ATCs or PTOs and the sum of the ERCs that have been banked at the source and which have not been used on-site (TotalERC).

\[ \text{SSPE2}_{\text{Total}} = \text{SSPE2}_{\text{Permit Unit}} + \text{TotalERC} \]

<table>
<thead>
<tr>
<th>Permit Unit/ERC</th>
<th>NOx</th>
<th>SOx</th>
<th>PM_{10}</th>
<th>CO</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSPE2</td>
<td>18,566</td>
<td>8,240</td>
<td>9,861</td>
<td>90,788</td>
<td>23,164</td>
</tr>
</tbody>
</table>

5. 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
As seen in the table above, the facility is not an existing Major Source and is not becoming a Major Source as a result of this project.

**Rule 2410 Major Source Determination:**

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

As shown above, the facility is not an existing PSD major source for at least one pollutant.

6. **Baseline Emissions (BE)**

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project 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.

As shown in Section VII.C.5 above, the facility is not a Major Source for any pollutant.

Therefore BE=PE1.

7. SB 288 Major Modification

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB 288 major modification.

8. Federal Major Modification

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.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM$_{10}$ (140,000 lb/year), it is not a major source for PM$_{2.5}$ (200,000 lb/year).

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

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

| PSD Major Source Determination: Potential to Emit (tons/year) |
|------------------|-----|-----|-----|-----|-----|-----|
|                  | NO2 | VOC | SO2 | CO  | PM  | PM10|
| Total PE from New and Modified Units | 2.3 | 2.0 | 1.1 | 5.5 | 1.1 | 1.1 |
| PSD Major Source threshold            | 250 | 250 | 250 | 250 | 250 | 250 |
| New PSD Major Source?                 | n   | n   | n   | n   | n   | n   |
As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

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*:

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, and VOC only since the PEs are greater than 2 lbs/day. However BACT is not triggered for CO since the SSPE2 for CO is not greater than 200,000 lbs/year, as demonstrated in Section VII.C.5 above.

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 not constitute an SB 288 and/or Federal Major Modification for NO\textsubscript{x} emissions. Therefore BACT is not triggered for any pollutant.

2. BACT Guideline

BACT Guideline 1.2.1, applies to oilfield steam generators ≥ 20 MMBtu/hr. [Oilfield Steam Generator (> or = 20 MMBtu/hr)] (See 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 Attachment C), BACT has been satisfied with the following:

\begin{itemize}
  \item NO\textsubscript{x}: 5 ppmvd @ 3% O2 (0.006 lb/\text{MMBtu})
  \item SO\textsubscript{x}: Fuel with a sulfur content not to exceed 1 gr-S/100 scf
  \item PM\textsubscript{10}: Fuel with a sulfur content not to exceed 1 gr-S/100 scf
  \item VOC: Gaseous fuel
\end{itemize}

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.

The SSPE2 is compared to the offset thresholds in the following table.

<table>
<thead>
<tr>
<th>Offset Determination (lb/year)</th>
<th>NO\textsubscript{x}</th>
<th>SO\textsubscript{x}</th>
<th>PM\textsubscript{10}</th>
<th>CO</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSPE2</td>
<td>18,566</td>
<td>8,240</td>
<td>9,861</td>
<td>90,788</td>
<td>23,164</td>
</tr>
<tr>
<td>Offset Thresholds</td>
<td>20,000</td>
<td>54,750</td>
<td>29,200</td>
<td>200,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Offsets triggered?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2. Quantity of Offsets Required

As seen above, the SSPE2 is not greater than the offset thresholds for all the pollutants; therefore offset calculations are not necessary and offsets will not be required for this project.

As seen above, the SSPE2 is greater than the offset thresholds for VOC only. Therefore offset calculations will be required for this project.
The quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 less than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = \[ (\text{SSPE2} - \text{ROT} + \text{ICCE}) \times \text{DOR} \]

Where,
- SSPE2 = Post Project Stationary Source Potential to Emit
- ROT = Respective Offset Threshold, for the respective pollutant
- ICCE = Increase in Cargo Carrier Emissions
- DOR = Distance Offset Ratio, determined pursuant to Section 4.8

SSPE2 (VOC) = 23,164 lb/year
Offset threshold (VOC) = 20,000 lb/year
ICCE = 0 lb/year

The ERC proposed to offset this project's emission increase originated greater than 15 miles from proposed emission increase; therefore, a distance offset ratio of 1.5:1 is applied. The amount of VOC ERCs that need to be withdrawn is:

Offsets Required (lb/year) = \[ (23,164 - 20,000 + 0) \times 1.5 \]
= 3,164 lb/year

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

Quarterly offsets required (lb/qtr) = \( \frac{4,746 \text{ lb VOC/year}}{4 \text{ quarters/year}} \)
= 1,186.5 lb/qtr

As shown in the calculation above, the quarterly amount of offsets required for this project, when evenly distributed to each quarter, results in fractional pounds of offsets being required each quarter. Since offsets are required to be withdrawn as whole pounds, the quarterly amounts of offsets need to be adjusted to ensure the quarterly values sum to the total annual amount of offsets required.

To adjust the quarterly amount of offsets required, the fractional amount of offsets required in each quarter will be summed and redistributed to each quarter based on the number of days in each quarter. The redistribution is based on the Quarter 1 having the fewest days and the Quarters 3 and 4 having the most days. The redistribution method is summarized in the following table:
Redistribution of Required Quarterly Offsets
(where X is the annual amount of offsets, and X + 4 = Y.z)

<table>
<thead>
<tr>
<th>Value of z</th>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>.0</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>.25</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y+1</td>
</tr>
<tr>
<td>.5</td>
<td>Y</td>
<td>Y</td>
<td>Y+1</td>
<td>Y+1</td>
</tr>
<tr>
<td>.75</td>
<td>Y</td>
<td>Y+1</td>
<td>Y+1</td>
<td>Y+1</td>
</tr>
</tbody>
</table>

Therefore the appropriate quarterly emissions to be offset are as follows:

<table>
<thead>
<tr>
<th>Quarter</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Annual</td>
<td>1,186</td>
<td>1,186</td>
<td>1,187</td>
<td>1,187</td>
</tr>
</tbody>
</table>

The applicant has stated that the facility plans to use ERC certificate N-1259-1 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 #N-1259-1</th>
<th>1st Quarter</th>
<th>2nd Quarter</th>
<th>3rd Quarter</th>
<th>4th Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,209</td>
<td>1,208</td>
<td>1,208</td>
<td>1,208</td>
</tr>
</tbody>
</table>

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

Proposed Rule 2201 (offset) Conditions:

- {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 – 1,186 lb, 2nd quarter – 1,186 lb, 3rd quarter – 1,187 lb, and fourth quarter –1,187 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]

- {GC# 1983} ERC Certificate Number N-1259-1 (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
Holmes Western Oil Corporation
1144431, S-1626

d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.
e. Any project which results in a Title V significant permit modification

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 does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not 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.

The PE2 for this new unit is compared to the daily PE Public Notice thresholds in the following table:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PE2 (lb/day)</th>
<th>Public Notice Threshold</th>
<th>Public Notice Triggered?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOX</td>
<td>12.6</td>
<td>100 lb/day</td>
<td>N</td>
</tr>
<tr>
<td>SOX</td>
<td>5.8</td>
<td>100 lb/day</td>
<td>N</td>
</tr>
<tr>
<td>PM10</td>
<td>6.1</td>
<td>100 lb/day</td>
<td>N</td>
</tr>
<tr>
<td>CO</td>
<td>30.3</td>
<td>100 lb/day</td>
<td>N</td>
</tr>
<tr>
<td>VOC</td>
<td>11.2</td>
<td>100 lb/day</td>
<td>N</td>
</tr>
</tbody>
</table>

Therefore, public noticing for PE > 100 lb/day purposes isn't required.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.
As detailed above, offset thresholds were surpassed for VOC 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 = SSPE2 − SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following 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.

e. Title V Significant Permit Modification

Since this facility does not have a Title V operating permit, this change is not a Title V significant Modification, and therefore public noticing is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for the VOC SSPE surpassing its 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:

- Emissions shall not exceed any of the following limits: 5 ppmvd NOx @ 3% O2 or 0.0062 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 20 ppmvd CO @ 3% O2 or 0.01483 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320] N

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

The unit is subject to District Rule 4305, Boilers, Steam Generators and Process Heaters, Phase II, District Rule 4306, Phase III, and pending new 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 Rules 4305, 4306, 4320 of this evaluation.

2. Monitoring

As required by District Rule 4305, Boilers, Steam Generators and Process Heaters, Phase II, District Rule 4306, Boilers, Steam Generators and Process Heaters, Phase III, and pending new Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr, the units are subject to monitoring requirements. Monitoring requirements, in accordance with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rules 4305, 4306, and 4320 of this evaluation.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permit to operate:

As required by District Rule 4305, Boilers, Steam Generators and Process Heaters, Phase II, District Rule 4306, Boilers, Steam Generators and Process Heaters, Phase III, and pending new Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr, these units are subject to recordkeeping requirements. Recordkeeping requirements, in accordance
with District Rules 4305, 4306, and 4320 will be discussed in Section VIII, District Rules 4305, 4306, and 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. Refer to Appendix C of this document for the AAQA summary sheet.

The proposed location is in an attainment area for NO\textsubscript{x}, CO, and SO\textsubscript{x}. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO\textsubscript{x}, CO, or SO\textsubscript{x}.

The proposed location is in a non-attainment area for the state's PM\textsubscript{10} as well as federal and state PM\textsubscript{2.5} thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM\textsubscript{10} and PM\textsubscript{2.5}.

<table>
<thead>
<tr>
<th>Steam Generator</th>
<th>1 Hour</th>
<th>3 Hours</th>
<th>8 Hours</th>
<th>24 Hours</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>Pass</td>
<td>X</td>
<td>Pass</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NO\textsubscript{x}</td>
<td>Pass</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>SO\textsubscript{x}</td>
<td>Pass</td>
<td>Pass</td>
<td>X</td>
<td>Pass</td>
<td>Pass</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass\textsuperscript{3}</td>
<td>Pass\textsuperscript{3}</td>
</tr>
<tr>
<td>PM\textsubscript{2.5}</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass\textsuperscript{3}</td>
<td>Pass\textsuperscript{3}</td>
</tr>
</tbody>
</table>

\textsuperscript{3}Results were taken from the attached PSD spreadsheet.

\textsuperscript{1}The project was compared to the 1-hour NO\textsubscript{2} National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures. The criteria pollutant 1-hour value passed using TIER I NO\textsubscript{2} NAAQS modeling.

\textsuperscript{2}The project was compared to the 1-hour SO\textsubscript{2} National Ambient Air Quality Standard that became effective on August 23, 2010 using the District's approved procedures.

\textsuperscript{3}The maximum predicted concentration for emissions of these criteria pollutants from the proposed unit are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII. C. 9. above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential emissions do not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

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 85 MMBtu/hr and is fired on natural/TEOR gas. 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**

Rule 4101 states that 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 unit is fired solely on natural gas, visible emissions are not expected to exceed Ringelmann 1 or 20% opacity. Also, based on past inspections of the facility continued compliance is expected.

**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.

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

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

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

The cancer risk for this project is shown below:

<table>
<thead>
<tr>
<th>Categories</th>
<th>Unit 79-0 NG Steam Generator</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.0</td>
<td>0.0</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk (10^-4)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.3</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-
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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  
PM$_{10}$ Emission Factor: 0.0035 lb-PM$_{10}$/MMBtu  
Percentage of PM as PM$_{10}$ in Exhaust: 100%  
Exhaust Oxygen (O$_2$) Concentration: 3%

Excess Air Correction to F Factor = \( \frac{20.9}{(20.9 - 3)} = 1.17 \)

\[
GL = \left( \frac{0.003 \text{ lb} - \text{PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb} - \text{PM}} \right) / \left( \frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)
\]

\[GL = 0.002 \text{ grain/dscf} < 0.1 \text{ grain/dscf}\]

Therefore, continued compliance with the requirements of 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 (SO$_2$)
- 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO$_2$)
- Ten pounds per hour of combustion contaminants as defined in Rule 1020 and derived from the fuel.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>NO$_2$</th>
<th>Total PM</th>
<th>SO$_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1626-79-0 (lb/hr)</td>
<td>0.5</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Rule Limit (lb/hr)</td>
<td>140</td>
<td>10</td>
<td>200</td>
</tr>
</tbody>
</table>
The particulate emissions from the steam generator 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.

Rule 4305 Boilers, Steam Generators, And Process Heaters - Phase 2

The steam generator is subject to District Rule 4305, Boilers, Steam Generators and Process Heaters – Phase 2. In addition, the steam generator is also subject to 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.

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.

Rule 4306 Boilers, Steam Generators, And Process Heaters – Phase 3

The steam generator is subject to District Rule 4306, Boilers, Steam Generators and Process Heaters – Phase 3. In addition, the steam generator is also subject to District Rule 4320, Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr.

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 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

The steam generator is subject to District Rule 4320 requirements pursuant to Section 2.0 of District Rule 4320.

Section 5.2, NOx and CO Emissions Limits

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

The steam generator is rated greater than 20 MMBtu/hr; thus, the applicable emission limit category is Section 5.2, Table 1, Category C, from District Rule 4320.
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### Rule 4320 Emissions Limits

<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>NO\textsubscript{X} Limit</td>
<td>CO Limit</td>
</tr>
<tr>
<td>1. Units with a total rated heat input &gt;20.0 MMBtu/hr</td>
<td>Standard Schedule</td>
<td>7 ppmv or 0.008 lb/MMBtu; or</td>
</tr>
<tr>
<td></td>
<td>Staged Enhanced Schedule</td>
<td>Initial limit: 9 ppmv @ 3% O\textsubscript{2}, 0.011 lb/MMBtu</td>
</tr>
<tr>
<td></td>
<td>Final limit: 5 ppmv @ 3% O\textsubscript{2}, 0.0062 lb/MMBtu</td>
<td></td>
</tr>
</tbody>
</table>

The steam generator will be limited to 5 ppmvd NO\textsubscript{x} and 50 ppmvd CO, all corrected to 3% O\textsubscript{2}. Thus, compliance with the District Rule 4320 NO\textsubscript{x} and CO emission limits is expected.

### Section 5.3, Annual Fee Calculation

Annual Fees are required if an emissions unit will not be meeting the emission limits in Section 5.2 of this rule. Since the proposed steam generator will each meet the emissions limits of Section 5.2, the annual fee requirements are not applicable.

### Section 5.4, Particulate Matter Control Requirements

Section 5.4.1 of this rule requires the operator to comply with one of the following requirements:

1. Fire the steam generator exclusively on 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 grains of total sulfur per one hundred (100) standard cubic feet;
3. Install and properly operate an emission control system that reduces SO\textsubscript{2} emissions by at least 95% by weight; or limit exhaust SO\textsubscript{2} to less than or equal to 9 ppmv corrected to 3.0% O\textsubscript{2};

The steam generator will be fired exclusively on natural/waste/TEOR/produced gas. The steam generator fuel will have a fuel sulfur content limit of no more than 1.0 gr-S/100 scf. Therefore, compliance with Section 5.4 of District Rule 4320 is expected.

### Section 5.5, Low Use

The steam generator’s annual heat input will exceed the 1.8 billion Btu heat input per calendar year criteria limit addressed by this section. Thus, the requirements of Section 5.5 are not applicable.

### Section 5.6, Startup and Shutdown Provisions

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

The applicant has not proposed startup and shutdown provisions; therefore, this section of the rule is not applicable to this project.

Section 5.7, Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 emissions limits shall either install and maintain Continuous Emission Monitoring (CEM) equipment for NOx, CO and O2, or install and maintain APCO-approved alternate monitoring.

For the steam generator in this project, the facility will 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 permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- 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 five days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]
- If the NOx or CO concentrations, as measured by the portable analyzer, exceed the permitted levels, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than one hour of operation after detection. If the portable analyzer continues to show emission limit violations after 1 hour of operation following detection, the permittee shall notify the District within the following one 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]
- All NOx, CO, and O2 emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The NOx, CO and O2 analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute 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]
- 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 at or below the acceptable levels. [District Rules 4305, 4306, and 4320]

Section 5.7.6 outlines requirements for monitoring SO\textsubscript{x} emissions. For units that are complying with Section 5.4.1.1 or 5.4.1.2 of this Rule, the facility must provide an annual fuel analysis to the District unless a more frequent sampling and reporting period is included in the Permit to Operate. The steam generator in this project is complying using Sections 5.4.1.1 or 5.4.1.2.

This unit is fired on natural/waste/TEOR/produced gas. Therefore, the following requirement will be included on the permit to comply with the SO\textsubscript{x} emissions monitoring requirement:

- If the unit is fired on PUC-regulated natural gas, then maintain on file copies of all natural gas bills. [District Rules 2201 and 4320]
- If the unit is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rules 2201 and 4320]
- When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320]

Section 5.8 Compliance Determination

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

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

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

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

Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NOx analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following previously listed condition will be on the permit to ensure compliance:

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

Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the permit to ensure compliance:

- 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 upon request. Failure to maintain records or information contained in the records that demonstrate non-compliance with the applicable requirements of this rule shall constitute a violation of this rule. The following condition will be listed on the permit to ensure compliance:

- All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, 4320, and 40 CFR 60.48c (i)]

Section 6.1.2 requires that the operator of a unit subject to Section 5.5 shall record the amount of fuel use at least on a monthly basis. Since the steam generator in this project is not subject to the requirements listed in Section 5.5, Section 6.1.2 requirements are not applicable.

Section 6.1.3 requires that the operator of a unit subject to Section 5.5.1 or 6.3.1 shall maintain records to verify that the required tune-up and the required monitoring of the operational
characteristics have been performed. The steam generator in this project is not subject to Sections 5.5.1 or 6.3.1. Therefore, the requirements of this section do not apply.

Section 6.1.4 requires that the operator of a unit with startup or shutdown provisions keep records of the duration of the startup or shutdowns. The applicant has not proposed any startup or shutdown provisions for the steam generator in this project. Therefore, the requirements of this section do not apply.

Section 6.1.5 requires that the operator of a unit fired on liquid fuel during PUC-quality natural gas curtailment periods record the sulfur content of the fuel, amount of fuel used, and duration of the natural gas curtailment period. The steam generator in this project is not fired on liquid fuels. Therefore, the requirements of this section do not apply.

**Section 6.2, Test Methods**

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

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Units</th>
<th>Test Method Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>ppmv</td>
<td>EPA Method 7E or ARB Method 100</td>
</tr>
<tr>
<td>NOx</td>
<td>lb/MMBtu</td>
<td>EPA Method 19</td>
</tr>
<tr>
<td>CO</td>
<td>ppmv</td>
<td>EPA Method 10 or ARB Method 100</td>
</tr>
<tr>
<td>Stack Gas O₂</td>
<td>%</td>
<td>EPA Method 3 or 3A, or ARB Method 100</td>
</tr>
<tr>
<td>Stack Gas Velocities</td>
<td>ft/min</td>
<td>EPA Method 2 or 19</td>
</tr>
<tr>
<td>Stack Gas Moisture Content</td>
<td>%</td>
<td>EPA Method 4</td>
</tr>
</tbody>
</table>

The following condition will be listed on the permit to ensure compliance:

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

District Rules 1081, 4305, 4306, 4320, and 4351

**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. Upon demonstrating compliance on two consecutive compliance source tests, the source test may be deferred for up to thirty-six months. The following condition will be included on the permit:

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

Conclusion

Compliance with District Rule 4320 requirements is expected.

Rule 4351  Boilers, Steam Generators, And Process Heaters - Phase 1

This rule applies to boilers, steam generators, and process heaters at NOx Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. The facility is not a major NOx source and is located west of Interstate 5 in Kern County; therefore, this rule does not apply.

Rule 4801  Sulfur Compounds

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

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

Volume SO2 = \( \frac{nRT}{P} \)

With:

\( N = \text{moles SO2} \)
\( T \) (Standard Temperature) = 60°F = 520°R
\( P \) (Standard Pressure) = 14.7 psi
\( R \) (Universal Gas Constant) = \( \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{°R}} \)

\[ \frac{0.00285 \text{ lb} - \text{SOx}}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1\text{ lb} \cdot \text{mol}}{64\text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{°R}} \times \frac{520\text{°R}}{14.7\text{ psi}} \times \frac{1,000,000\text{ parts}}{\text{million}} = 1.97 \text{ parts/million} \]

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

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 prepared or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

On December 17, 2009, the District's Governing Board adopted a policy, APR 2005, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*, for addressing GHG emission impacts when the District is Lead Agency under CEQA and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change. Consistent with District Policy 2005, projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emission.

The California Air Resources Board (ARB) adopted a Cap-and-Trade regulation as part one of the strategies identified for AB 32. This Cap-and-Trade regulation is a statewide plan, supported by a CEQA compliant environmental review document, aimed at reducing or mitigating GHG emissions from targeted industries. Facilities subject to the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. 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. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions.

Under District policy APR 2025, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation*, the District finds that the Cap-and-Trade is a regulation plan approved by ARB, consistent with AB32 emission reduction targets, and supported by a CEQA compliant environmental review document. As such, consistent with District Policy 2005, projects complying project complying with Cap-and-Trade requirements are determined to have a less than significant individual and cumulative impact for GHG emissions.
Industries covered by Cap-and-Trade are identified in the regulation under section 95811, Covered Entities:

1. **Group 1: Large industrial facilities**

   These types of facilities are subject to Cap and Trade, and the specific companies covered are listed at http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm, Section 95811 (a), under the "Publically Available Market Information" section (list maintained by the California Air Resources Board).

2. **Group 2: Electricity generation facilities located in California, or electricity importers**

   These types of facilities are subject to Cap and Trade (section 95811, b).


   These entities are subject to Cap and Trade compliance obligations which must cover all fuels (except jet fuels) identified in section 95811 (c) through (f) of the Cap-and-Trade regulation delivered to end users in California, less the fuel delivered to covered entities (group 1 above).

This facility is subject to the Cap-and-Trade regulation. Therefore, as discussed above, consistent with District Policies APR 2005 and APR 2025, the District concludes that the GHG emissions increases associated with this project would have a less than significant individual and cumulative 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 § 15301 (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 S-1626-79-0 subject to the permit conditions on the attached draft ATC in Appendix D.

**X. Billing Information**
Holmes Western Oil Corporation
1144431, S-1626

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### Appendixes

A: SSPE1 Calculations  
B: Major Source Calculations  
C: BACT Guideline and BACT Analysis  
D: HRA and AAQA Summary  
E: Draft ATC
APPENDIX A
SSPE1 Calculations
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**SSPE (lbs)**

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Major Source Calculations

*Since this source is not included in the 28 specific source categories specified in 40 CFR 51.165, fugitive emissions are not included in the Major Source calculations.*

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**SSPE (lbs)**: 13,949 6118 7627 79748 13,504

*fugitive emissions*
APPENDIX C
BACT Guideline and BACT Analysis
Top Down BACT Analysis for Steam Generator

For the steam generator, BACT is required for NOx, SOx, PM10, CO, and VOC.

Top-Down BACT Analysis for NOx Emissions

a. Step 1 - Identify All Possible Control Technologies

From the SJVUAPCD BACT Clearinghouse, Guideline 1.2.1, Oilfield Steam Generator (≥ 20 MMBtu/hr), 4th quarter 2014, identifies BACT for NOx emissions as follows:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Achieved in Practice or contained in SIP</th>
<th>Technologically Feasible</th>
<th>Alternate Basic Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>• Units rated 85 MMBtu/hr and fired solely on PUC quality natural gas: 6 ppmvd @ 3% O2; or&lt;br&gt;• Units firing on &gt; 50% PUC quality natural gas, commercial propane, and/or LPG: 7 ppmvd @ 3% O2, except units rated 85 MMBtu/hr and fired solely on PUC quality natural gas; or&lt;br&gt;• Units firing on &lt; 50% PUC quality natural gas, commercial propane, and/or LPG: 9 ppmvd @ 3% O2</td>
<td>5 ppmvd @ 3% O2</td>
<td></td>
</tr>
</tbody>
</table>

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. 5 ppmvd @ 3% O2 (Technologically Feasible)<br>2. 6 ppmvd @ 3% O2 (Achieved in Practice)

Step 4 - Cost Effectiveness Analysis

The applicant has proposed to limit the NOx emissions of the steam generator in this project to 5 ppmv @ 3% O2; therefore a cost effective analysis is not required.
Step 5 - Select BACT

BACT for NOx emissions from the oilfield steam generator is 5 ppmvd @ 3% O2. The applicant has proposed to install a steam generator with a NOx limit of 5 ppmvd @ 3% O2; therefore, BACT for NOx emissions is satisfied.
Top Down BACT Analysis for SO\textsubscript{x} and PM\textsubscript{10} Emissions

Step 1 - Identify all control technologies

From the SJVUAPCD BACT Clearinghouse, Guideline 1.2.1, Oilfield Steam Generator (\(\geq 20\) MMBtu/hr), 4\textsuperscript{th} quarter 2014, identifies BACT for SO\textsubscript{x} and PM\textsubscript{10} emissions as follows:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Achieved in Practice or contained in SIP</th>
<th>Technologically Feasible</th>
<th>Alternate Basic Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO\textsubscript{x} and PM\textsubscript{10}</td>
<td>Fired on PUC quality natural gas, commercial propane, and/or commercial LPG; or gaseous fuel treated to remove 95% by weight of sulfur compounds; or treated such that the sulfur content of all fuel streams combined does not exceed 1 gr of sulfur compounds (as S) per 100 dscf; or use of a continuously operating SO\textsubscript{2} scrubber and either achieve 95% by weight control of sulfur compounds or achieve an emissions rate of 9 ppmvd SO\textsubscript{2} @ 3% O\textsubscript{2}</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1) Fired on PUC quality natural gas, commercial propane, and/or commercial LPG; or gaseous fuel treated to remove 95% by weight of sulfur compounds; or treated such that the sulfur content of all fuel streams combined does not exceed 1 gr of sulfur compounds (as S) per 100 dscf; or use of a continuously operating SO\textsubscript{2} scrubber and either achieve 95% by weight control of sulfur compounds or achieve an emissions rate of 9 ppmvd SO\textsubscript{2} @ 3% O\textsubscript{2} (Achieved in Practice)
Step 4 - Cost Effectiveness Analysis

The applicant has proposed to use natural/waste/TEOR/produced gas fuel with a sulfur content no more than 1 grains/100 scf for the steam generator, which meets the most stringent emission requirements of BACT. Therefore, BACT is satisfied and a cost effective analysis does not need to be performed.

Step 5 - Select BACT

The applicant has proposed the use of natural/waste/TEOR/produced gas with a sulfur content not to exceed 1 gr-S/100 scf. This proposal is selected as BACT for SO\textsubscript{X} and PM\textsubscript{10} emissions; therefore, BACT for SO\textsubscript{X} and PM\textsubscript{10} emissions is satisfied.
Top Down BACT Analysis for VOC Emissions

Step 1 - Identify All Possible VOC Control Technologies

From the SJVUAPCD BACT Clearinghouse, Guideline 1.2.1, Oilfield Steam Generator (≥ 20 MMBtu/hr), 4th quarter 2014, identifies BACT for VOC emissions as follows:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Achieved in Practice or contained in SIP</th>
<th>Technologically Feasible</th>
<th>Alternate Basic Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC</td>
<td>Gaseous fuel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1) Gaseous fuel (Achieved-In-Practice)

Step 4 - Cost Effectiveness Analysis

The applicant has proposed the use of natural/waste/TEOR/produced gas fuel for the steam generator in this project. Since the applicant has chosen the most effective control technology in step 3, a cost effectiveness analysis is not required.

Step 5 - Select BACT

BACT for VOC emissions from the oilfield steam generator is gaseous fuel. The applicant has proposed natural/waste/TEOR/produced gas fuel; therefore BACT for VOC emissions is satisfied.
San Joaquin Valley Air Pollution Control District
Risk Management Review
REVISED

To: Steve Roeder, AQE – Permit Services
From: Trevor Joy, AQS
Date: January 28, 2015
Facility Name: Holmes Western Oil
Location: Midway Sunset HOW
Application #(s): S-1626-79-0
Project #: 1144431

A. RMR SUMMARY

<table>
<thead>
<tr>
<th>Categories</th>
<th>Unit 79-0 NG Steam Generator</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>0.0</td>
<td>0.0</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>0.00</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk</td>
<td>0.1</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>(10^-4)</td>
<td></td>
<td></td>
<td></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 # 79-0

{1898} 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] N
B. RMR REPORT

I. Project Description

Technical Services received a request on January 6, 2015 to perform a Risk Management Review for the proposed 85 MMBtu/hr NG steam generator. On January 26, 2015 the project was modified to include AAQA analysis.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Emissions were calculated using "NG 10-100 MMBTU/Hr External Combustion" emission factors. In accordance with the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, March 2, 2001), risks from the proposed unit's toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for the facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined analysis was required and performed. AERMOD was used, with the parameters outlined below and concatenated meteorological data for Bakersfield 2009 to 2013 to determine the maximum dispersion factor at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project. AERMOD was also used for the AAQA analysis, with the parameters outlined below and meteorological data for Bakersfield 2009 – 2013 to determine the maximum dispersion factors.

The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Analysis Parameter</th>
<th>Unit 79-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closest Receptor - Business (m)</td>
<td>1609</td>
</tr>
<tr>
<td>NG Usage (MMScf/hr)</td>
<td>0.085</td>
</tr>
<tr>
<td>Stack Height (m)</td>
<td>6.1</td>
</tr>
<tr>
<td>Temp (K)</td>
<td>450</td>
</tr>
<tr>
<td>NG Usage (MMScf/yr)</td>
<td>744.6</td>
</tr>
<tr>
<td>Stack diameter (m)</td>
<td>0.9</td>
</tr>
<tr>
<td>Gas Exit Velocity (m/sec)</td>
<td>14.8</td>
</tr>
</tbody>
</table>

Technical Services also performed modeling for criteria pollutants CO, NOx, SOx and PM10; as well as a RMR. The emission rates used for criteria pollutant modeling were:

<table>
<thead>
<tr>
<th>Emission Type</th>
<th>NOx</th>
<th>Sox</th>
<th>CO</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lbs/day</td>
<td>12.6</td>
<td>5.8</td>
<td>30.3</td>
<td>6.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Lbs/yr</td>
<td>4,617</td>
<td>2,122</td>
<td>11,042</td>
<td>2,234</td>
<td>2,234</td>
</tr>
</tbody>
</table>

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

Values are in μg/m³

<table>
<thead>
<tr>
<th>Steam Generator</th>
<th>1 Hour</th>
<th>3 Hours</th>
<th>8 Hours</th>
<th>24 Hours</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>Pass</td>
<td>X</td>
<td>Pass</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>NO₂</td>
<td>Pass</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Pass</td>
</tr>
<tr>
<td>SO₂</td>
<td>Pass</td>
<td>Pass</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.

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. The criteria pollutant 1-hour value passed using TIER 1 NO₂ NAAQS modeling.

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

The maximum predicted concentration for emissions of these criteria pollutants from the proposed unit are below EPA’s level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The acute and chronic hazard indices were below 1.0; and the cancer risk is less than or equal to 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).**

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.

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

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.

Attachments:
A. RMR request from the project engineer
B. Prioritization score with toxic emissions summary
C. HEARTS — Facility Summary
D. AAQA spreadsheet
San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1626-79-0

LEGAL OWNER OR OPERATOR: HOLMES WESTERN OIL CORPORATION
MAILING ADDRESS: PO BOX 1405
TAFT, CA 93268

LOCATION: HEAVY OIL WESTERN
CA

SECTION: SW 16  TOWNSHIP: 11N  RANGE: 23W

EQUIPMENT DESCRIPTION:
85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH A NORTH AMERICAN MAGNA-FLAME LEX ULTRA
LOW-NOX BURNER (OR EQUIVALENT) WITH FLUE GAS RECIRCULATION

CONDITIONS

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,186 lb, 2nd quarter - 1,186 lb, 3rd quarter - 1,187 lb, and fourth quarter - 1,187 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]

2. ERC Certificate Number N-1259-1 (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]

3. 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]

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

5. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO2, nor 10 lb/hr. [District Rules 4201 and 4301]

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-1626-79-0 / Fax 9-2775  S-74716 - S-74713:  Photo impression NOT Required

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585
6. The unit shall only be fired on PUC quality natural gas with a maximum sulfur content of 1.0 gr S/100 scf. [District Rules 2201 and 4320]

7. Emissions shall not exceed any of the following limits: 5 ppmvd NOx @ 3% O2 or 0.0062 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.003 lb-PM10/MMBtu, 20 ppmvd CO @ 3% O2 or 0.01483 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District Rules 2201, 4305, 4306, and 4320]

8. 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 five days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320]

9. If the NOx or CO concentrations, as measured by the portable analyzer, exceed the permitted levels, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than one hour of operation after detection. If the portable analyzer continues to show emission limit violations after 1 hour of operation following detection, the permittee shall notify the District within the following one 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]

10. All NOx, CO, and O2 emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The NOx, CO and O2 analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute 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 Rule 4305, 4306, and 4320]

11. 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 at or below the acceptable levels. [District Rule 4305, 4306, and 4320]

12. If the unit is fired on PUC-regulated natural gas, then maintain on file copies of all natural gas bills. [District Rules 2201 and 4320]

13. If the unit is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be quarterly. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [District Rules 2201 and 4320]

14. Source testing to measure NOx and CO emissions from this unit shall be conducted within 60 days of startup and at least once every twelve months (no more than 30 days before or after the required annual source test date) thereafter. After demonstrating compliance on two consecutive annual source tests, the unit shall be tested not less than once every 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 months. [District Rule 2201, 4305, 4306, and 4320]

15. 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]

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

17. For emissions source testing, the arithmetic average of three 15-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]
18. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

19. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rule 4305, 4306 and 4320]

20. 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]

21. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 1081, 4305, 4306, 4320, and 4351]

22. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320]

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