Dear Mr. Pritchett:

Enclosed for your review and comment is the District's analysis of Chevron USA, Inc's application for an Authority to Construct for two emergency IC engine generators at 4241 Wesley Lane, Bakersfield, California.

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. Richard Edgehill of Permit Services at (661) 392-5617.

Sincerely,

[Signature]
Arnaud Marjollet
Director of Permit Services

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email
San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review
Diesel-Fired IC Engine Generators

Facility Name: Chevron USA Inc
Mailing Address: PO Box 1392
Bakersfield, CA 93302

Contact Person: Gregory Pritchett and Kristopher Rickards
Telephone: (661) 654-7796
Application #: S-8557-1-0 and '-2-0
Project #: 1143821
Complete: October 8, 2014

I. Proposal

Chevron USA Inc (CUSA) is requesting Authorities to Construct (ATCs) for the installation of two 2008 hp diesel-fired IC engine electric generators. The IC engine generators will be operated at a new data center building located within the surface property boundaries of the Kern River Oilfield. The facility has been designated as a new stationary source.

The project triggers BACT and Public Notice. Offsets are not required.

Facility S-8557 is not a Major Source and therefore Rules 2520 and 2530 are not applicable.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (Adopted 6/16/11, effective 11/26/12)
Rule 4001 New Source Performance Standards (4/14/99)

Subpart III
Subpart JJJJ – not applicable to Compression Ignition (CI) ICES
Subpart ZZZZ - The District does not have jurisdiction on implementing this subpart for non-Major Sources since EPA has not delegated that part of the subpart to date FYI 309.

Rule 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)- not applicable – source is not a major HAPs source
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4603 - Surface Coating Of Metal Parts and Products (December 20, 2001)
III. Project Location

The IC engine generators will be used at the Datacenter Building, 4241 Wesley Lane, Bakersfield, SE Section 36, Township 28S, Range 27E. This location is not within 1,000 feet of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

A project location map is included in Attachment I.

IV. Process Description

The emergency standby engines power electrical generators. Other than emergency standby operation, the engines may each be operated up to 50 hours per year for maintenance and testing purposes.

V. Equipment Listing

S-8557-1-0: 2,008 BHP (INTERMITTENT) CATERPILLAR MODEL 3512C TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

S-8557-2-0: 2,008 BHP (INTERMITTENT) CATERPILLAR MODEL 3512C TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

CUSA has proposed to install two Tier 2 certified diesel-fired IC engines that are fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum).

The proposed engines meet the latest Tier Certification requirements for emergency engines; therefore, the engines meet the latest ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide (see Attachment II for emissions data).

The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SOx emissions by over 99% from standard diesel fuel.
VII. General Calculations

A. Assumptions

Emergency operating schedule: 24 hours/day
Non-emergency operating schedule: 50 hours/year
Density of diesel fuel: 7.1 lb/gal
EPA F-factor (adjusted to 60 °F): 9,051 dscf/MMBtu
Fuel heating value: 137,000 Btu/gal
BHP to Btu/hr conversion: 2,542.5 Btu/bhp-hr
Thermal efficiency of engine: commonly ≈ 35%
PM10 fraction of diesel exhaust: 0.96 (CARB, 1988)

B. Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor (g/bhp-hr)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOX</td>
<td>3.8</td>
<td>EPA Certification</td>
</tr>
<tr>
<td>SOX</td>
<td>0.0051</td>
<td>Mass Balance Equation Below</td>
</tr>
<tr>
<td>PM10</td>
<td>0.09</td>
<td>EPA Certification</td>
</tr>
<tr>
<td>CO</td>
<td>0.7</td>
<td>EPA Certification</td>
</tr>
<tr>
<td>VOC</td>
<td>0.19</td>
<td>EPA Certification</td>
</tr>
</tbody>
</table>

\[
\frac{0.000015 \text{ lb} - S}{\text{fuel gallon}} \times \frac{7.1 \text{ lb} - \text{ fuel}}{\text{gallon}} \times \frac{2 \text{ lb} - \text{SO}_2}{1 \text{ lb} - S} \times \frac{1 \text{ gal}}{137,000 \text{ Btu}} \times \frac{1 \text{ bhp input}}{0.35 \text{ bhp out}} \times \frac{2,542.5 \text{ Btu}}{\text{bhp - hr}} \times \frac{453.6 \text{ g}}{\text{lb}} = \frac{0.0051 \text{ g} - \text{SO}_x}{\text{bhp - hr}}
\]

Emission factor information is included in Attachment II.

C. Calculations

1. Pre-Project Emissions (PE1)

As these are new permit units, PE1 = 0.
2. Post Project PE (PE2)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emissions Factor (g/bhp-hr)</th>
<th>Rating (bhp)</th>
<th>Daily Hours of Operation (hrs/day)</th>
<th>Annual Hours of Operation (hrs/yr)</th>
<th>Daily PE2 (lb/day)</th>
<th>Annual PE2 (lb/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{X}</td>
<td>3.8</td>
<td>2008</td>
<td>24</td>
<td>50</td>
<td>403.7</td>
<td>841</td>
</tr>
<tr>
<td>SO\textsubscript{X}</td>
<td>0.0051</td>
<td>2008</td>
<td>24</td>
<td>50</td>
<td>0.5</td>
<td>1</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>0.09</td>
<td>2008</td>
<td>24</td>
<td>50</td>
<td>9.8</td>
<td>20</td>
</tr>
<tr>
<td>CO</td>
<td>0.7</td>
<td>2008</td>
<td>24</td>
<td>50</td>
<td>74.4</td>
<td>155</td>
</tr>
<tr>
<td>VOC</td>
<td>0.19</td>
<td>2008</td>
<td>24</td>
<td>50</td>
<td>20.2</td>
<td>42</td>
</tr>
</tbody>
</table>

The emissions profiles are included in Attachment III.

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.

Since this is a new facility, there are no valid ATCs, PTOs, or ERCs at the Stationary Source; therefore, the SSPE1 is equal to zero.

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

<table>
<thead>
<tr>
<th>Permit Unit</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>S-8557-1</td>
<td>841</td>
<td>1</td>
<td>20</td>
<td>155</td>
<td>42</td>
</tr>
<tr>
<td>S-8557-2</td>
<td>841</td>
<td>1</td>
<td>20</td>
<td>155</td>
<td>42</td>
</tr>
<tr>
<td>Pre-Project SSPE (SSPE1)</td>
<td>1,682</td>
<td>2</td>
<td>40</td>
<td>310</td>
<td>84</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
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 major source for PSD for at least one pollutant. Therefore the facility is not an existing major source for PSD.

6. Baseline Emissions (BE)

BE = Pre-project Potential to Emit for:
- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.
otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.23
S-8557-1 and '2

Since these are new emissions units, BE = PE1 = 0 for all pollutants.

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)

- NO$_2$ (as a primary pollutant)
- SO$_2$ (as a primary pollutant)
- CO
- PM
- PM$_{10}$
- Sulfuric acid mist

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)

<table>
<thead>
<tr>
<th></th>
<th>NO2</th>
<th>VOC</th>
<th>SO2</th>
<th>CO</th>
<th>PM</th>
<th>PM10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PE from New and Modified Units</td>
<td>0.84</td>
<td>0.042</td>
<td>0.001</td>
<td>0.16</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>PSD Major Source threshold</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>New PSD Major Source?</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

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.

### 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. As the permit units are new QNEC = PE/4 for each air contaminant.

### VIII. Compliance

**Rule 2201 New and Modified Stationary Source Review Rule**

**S-8557 as Separate Stationary Source**

Chevron has provided the following justification for designating facility S-8557 as a separate stationary source:

The new datacenter will be operated by CUSA's real estate business group for CUSA's Information Technology Department in an effort to relocate some services currently being performed long distance to CUSA's San Ramon location. With the exception of initial assistance with air permitting, there will be no management/operation of the facility by personnel from either CUSA's Exploration and Production operations or San Joaquin Valley business unit.

**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 of this evaluation, the applicant is proposing to install a new diesel-fired IC engines each with a PE greater than 2 lb/day for NOx, PM10, CO, and VOC. However, BACT is not triggered for CO as the SSPE is less than 200,000 lb/yr.

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 for modification purposes.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does not constitute a SB 288/Federal Major Modification; therefore BACT is not triggered.

2. BACT Guideline

BACT Guideline 3.1.1, covers diesel-fired emergency IC engines (See Attachment IV).

3. Top Down BACT Analysis

Per District Policy APR 1305, Section IX, "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 for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis."

Pursuant to the attached Top-Down BACT Analysis, which appears in Attachment V of this report, BACT is satisfied with:

- **NOx:** Latest EPA Tier Certification level for applicable horsepower range
- **VOC:** Latest EPA Tier Certification level for applicable horsepower range
PM$_{10}$: 0.15 g/hp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)

B. Offsets

Since emergency IC engines are exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this engine, and no offset calculations are required.

C. Public Notification

1. Applicability

Public noticing is required for:

a. New Major Sources, SB288 Major Modifications, Federal Major Modifications

New Major Sources are new facilities, which are also Major Sources. As shown in Section VII.C.5 above, the SSPE2 is not greater than the Major Source threshold for any pollutant. Therefore, public noticing is not required for this project for new Major Source purposes.

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. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant

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>NO$_x$</td>
<td>403.7</td>
<td>100 lb/day</td>
<td>Yes</td>
</tr>
<tr>
<td>SO$_x$</td>
<td>0.5</td>
<td>100 lb/day</td>
<td>No</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>9.6</td>
<td>100 lb/day</td>
<td>No</td>
</tr>
<tr>
<td>CO</td>
<td>74.4</td>
<td>100 lb/day</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>20.2</td>
<td>100 lb/day</td>
<td>No</td>
</tr>
</tbody>
</table>

Therefore, public noticing for PE > 100 lb/day purposes is required.

c. Any project which results in the offset thresholds being surpassed

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.
As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not 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, 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 NO\textsubscript{X} emissions in excess of 100 lb/day. 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 Emissions Limits**

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.16 to restrict a unit’s maximum daily emissions, to a level at or below the
emissions associated with the maximum design capacity. Per Sections 3.16.1 and 3.16.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. Therefore, the following conditions will be listed on the ATC to ensure compliance:

- Emissions from this IC engine shall not exceed any of the following limits: 3.8 g-NOx/bhp-hr, 0.7 g-CO/bhp-hr, or 0.19 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart III]
- Emissions from this IC engine shall not exceed 0.09 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart III]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart III]

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required for emergency standby IC engines to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, District Rule 4702, of this evaluation.

4. Reporting

No reporting is required to ensure 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 Attachment VI of this document for the AAQA summary sheet.

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.

The proposed location is in a non-attainment area for the state's PM10 as well as federal and state PM2.5 thresholds. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for PM10 and PM2.5.
Rule 4101 Visible Emissions

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

Based on experience with similar operations, compliance with visible emission limits is expected under normal operating conditions.

Rule 4102 Nuisance

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. 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 or a change in mode or time of operation associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite. RMR results are summarized in the table below.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Emergency Diesel ICE (Units 1-0 &amp; 2-0)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>N/A1</td>
<td>N/A1</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>N/A2</td>
<td>N/A2</td>
<td>N/A</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>N/A2</td>
<td>N/A2</td>
<td>N/A</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk</td>
<td>4.0E-07 3</td>
<td>8.0E-07</td>
<td>8.0E-07</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>

1 Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.
2 Acute and Chronic Hazard Indices were not calculated since there is no risk factor, or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.
3 Cancer risk is for each individual unit.

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 (see Attachment VI), 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.

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:
Units 1-0 & 2-0

1. The PM10 emissions rate shall not exceed 0.09 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201]
2. 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]
3. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

Rule 4001 New Source Performance Standards (NSPS)

40 CFR 60 Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The following table demonstrates how the proposed engine(s) will comply with the requirements of 40 CFR Part 60 Subpart III:

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine(s) must meet the appropriate Subpart III emission standards for new engines, based on the model year, size, and number of liters per cylinder.</td>
<td>The applicant has proposed the use of engine(s) that are certified to the latest EPA Tier Certification level for the applicable horsepower range, guaranteeing compliance with the emission standards of Subpart III.</td>
</tr>
<tr>
<td>Engine(s) must be fired on 500 ppm sulfur content fuel or less, and fuel with a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume. Starting in October 1, 2010, the maximum allowable sulfur fuel content will be lowered to 15 ppm.</td>
<td>The applicant has proposed the use of CARB certified diesel fuel, which meets all of the fuel requirements listed in Subpart III. A permit condition enforcing this requirement was included earlier in this evaluation.</td>
</tr>
</tbody>
</table>
| The operator/owner must install a non-resettable hour meter prior to startup of the engine(s). | The applicant has proposed to install a non-resettable hour meter. The following condition will be included on the permit:
- This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702, 17 CCR 93115, and 40 CFR 60 Subpart III] |
| Emergency engine(s) may be operated for the purpose of maintenance and testing up to 100 hours per year. There is no limit on emergency use. | The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits this engine maintenance and testing to 50 hours/year. Thus, compliance is expected. |
The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.

The following condition will be included on the permit:

- This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702 and 40 CFR 60 Subpart III]

**Rule 4101 Visible Emissions**

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. Therefore, the following condition will be listed on the ATC to ensure compliance:

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

**Rule 4102 Nuisance**

Rule 4102 states that no air contaminant shall be released into the atmosphere which causes a public nuisance. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, the following condition will be listed on the ATC to ensure compliance:

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

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

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources (dated 3/2/01) 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. Therefore, a risk management review (RMR) is required.

**Rule 4201 Particulate Matter Concentration**

Rule 4201 limits particulate matter emissions from any single source operation to 0.1 g/dscf, which, as calculated below, is equivalent to a PM$_{10}$ emission factor of 0.4 g-PM$_{10}$/bhp-hr.

\[ 0.1 \frac{\text{grain-PM}}{\text{dscf}} \times \frac{g}{15.43 \text{grain}} \times \frac{1 \text{Btu}_{in}}{0.35 \text{Btu}_{out}} \times \frac{9.05 \text{dscf}}{10^6 \text{Btu}} \times \frac{2,542.5 \text{Btu}}{1 \text{bhp-hr}} \times \frac{0.96 g - PM_{10}}{1 g - PM} = 0.4 \frac{g - PM_{10}}{bhp-hr} \]

The new engine has a PM$_{10}$ emission factor less than 0.1 g/bhp-hr. Therefore, compliance is expected and the following condition will be listed on the ATC:
Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Rule 4701 Internal Combustion Engines – Phase 1

The purpose of this rule is to limit the emissions of nitrogen oxides (NOx), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines. Except as provided in Section 4.0, the provisions of this rule apply to any internal combustion engine, rated greater than 50 bhp, that requires a PTO.

The proposed engine(s) are also subject to District Rule 4702, Internal Combustion Engines. Since emissions limits of District Rule 4702 and all other requirements are equivalent or more stringent than District Rule 4701 requirements, compliance with District Rule 4702 requirements will satisfy requirements of District Rule 4701.

Rule 4702 Internal Combustion Engines

The following table demonstrates how the proposed engine(s) will comply with the requirements of District Rule 4702.

<table>
<thead>
<tr>
<th>District Rule 4702 Requirements</th>
<th>Proposed Method of Compliance with District Rule 4702 Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation of emergency standby engines is limited to 100 hours or less per calendar year for non-emergency purposes, verified through the use of a non-resettable elapsed operating time meter.</td>
<td>The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits this engine maintenance and testing to 50 hours/year. Thus, compliance is expected.</td>
</tr>
</tbody>
</table>
| Emergency standby engines cannot be used to reduce the demand for electrical power when normal electrical power line service has not failed, or to produce power for the electrical distribution system, or in conjunction with a voluntary utility demand reduction program or interruptible power contract. | The following conditions will be included on the permit:
• {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]
• {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702] |
| The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions. | A permit condition enforcing this requirement was shown earlier in the evaluation. |
| The owner/operator must monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier. | The following condition will be included on the permit:
• {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the |
operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]

### Records of the total hours of operation of the emergency standby engine
Records of the total hours of operation of the emergency standby engine, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and support documentation must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.

The following conditions will be included on the permit:

- 3496 The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
- The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
- 3475 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 Rule 4702 and 17 CCR 93115]

### Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

\[
\text{Volume SO}_2 = (n \times R \times T) + P
\]

Where:
- \(n\) = moles SO₂
- \(T\) (standard temperature) = 60 °F or 520 °R
- \(R\) (universal gas constant) = \(\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \circ\text{R}}\)
Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC to ensure compliance:

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart III]

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.

**Title 17 California Code of Regulations (CCR), Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines**

The following table demonstrates how the proposed engine(s) will comply with the requirements of Title 17 CCR Section 93115.

<table>
<thead>
<tr>
<th>Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Electrical Generators</th>
<th>Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency engine(s) must be fired on CARB diesel fuel, or an approved alternative diesel fuel.</td>
<td>The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition, requiring the use of CARB certified diesel fuel, was included earlier in this evaluation.</td>
</tr>
<tr>
<td>The engine(s) must emit diesel PM at a rate less than or equal to 0.15 g/bhp-hr or must meet the diesel PM standard, as specified in the Off-road compression ignition standards for off-road engines with the same maximum rated power (Title 13 CCR, Section 2423).</td>
<td>The applicant has proposed the use of engine(s) that are certified to the latest EPA Tier Certification level for the applicable horsepower range, guaranteeing compliance with the emission standards of Subpart III. Additionally, the proposed diesel PM emissions rate is less than or equal to 0.15 g/bhp-hr.</td>
</tr>
<tr>
<td>The engine may not be operated more than 50 hours per year for maintenance and testing purposes.</td>
<td>The following condition will be included on the permit:</td>
</tr>
<tr>
<td></td>
<td>• This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702, 17 CCR 93115 and 40 CFR Part 60 Subpart III]</td>
</tr>
</tbody>
</table>
New stationary emergency standby diesel-fueled CI engines (> 50 bhp) must meet the standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression Ignition Engine Standards (title 13, CCR, section 2423).

CUSA has proposed the use of engine(s) that are certified to the latest EPA Tier Certification level for the applicable horsepower range.

Engines, with a PM10 emissions rate greater than 0.01 g/bhp-hr and located at schools, may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may not be operated for maintenance and testing between 7:30 AM and 3:30 PM.

This engine is not located within 500' of a school.

An owner or operator shall maintain monthly records of the following: emergency use hours of operation; maintenance and testing hours of operation; hours of operation for emission testing; initial start-up testing hours; hours of operation for all other uses; and the type of fuel used. All records shall be retained for a minimum of 36 months.

Permit conditions enforcing these requirements were shown earlier in the evaluation.

California Environmental Quality Act (CEQA)

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

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

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the project qualifies for ministerial approval under the District's Guideline for Expedited Application Review (GEAR). Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.
IX. Recommendation

Pending a successful NSR Public Noticing period, issue Authorities to Construct S-8557-1-0 and -2-0.

X. Billing Information

<table>
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<tr>
<th>Permit Number</th>
<th>Fee Schedule</th>
<th>Fee Description</th>
<th>Fee Amount</th>
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<td>3020-10-F</td>
<td>2,008 bhp IC engine</td>
<td>$749.00</td>
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<tr>
<td>S-8557-2-0</td>
<td>3020-10-F</td>
<td>2,008 bhp IC engine</td>
<td>$749.00</td>
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</tbody>
</table>

Attachments

I. Location Map
II. Emissions Factor Information
III. Emissions Profiles
IV. BACT Guideline
V. BACT Analysis
VI. HRA/AAQA
VII. Draft ATC
Attachment I
Location Map
Attachment II
Emissions Factor Information
May 2, 2014

RE: 1500 kW Caterpillar Emergency Standby Engine Emissions

Certification emissions are typically carried over from year to year when the emissions standards remain the same. However, the certification emissions may be updated by manufacturers when engine designs are modified. Therefore, there may be some inconsistency between current certification emissions values and those that were last reported in 2010 on California Air Resources Board (CARB) Executive Orders (EO). For 2011 engine model year and forward emergency engines are only certified by EPA, and these emergency engines are certified to meet EPA New Source Performance Standards (NSPS). The NSPS standards require Tier 3 emissions for engines 175 HP to 750 HP, and Tier 2 standards for the power range of greater than 750 HP. The 1500 kW emergency engine falls within the Tier 2 range.

Originally, the Caterpillar 1500 kW emergency standby engine was certified through both EPA and CARB under engine family name ACPXL58.6T2E. This is the same engine that has been carried forward in design and emissions to current 1500 kW genset engines. However, some modifications have occurred with the published certified emissions for the equivalent family of engines covering the 1500 kW genset engine. Emissions for the 2010 engine showing on the CARB EO are:

- NOx + NMHC = 6.3 g/kW-hr = 4.7 g/bhp-hr
- CO = 1.6 g/kW-hr = 1.2 g/bhp-hr
- PM = 0.16 g/kW-hr = 0.12 g/bhp-hr

In review of the EPA emissions website, the following are the engine family name progressions using carryover emissions:

<table>
<thead>
<tr>
<th>EPA Certification Year</th>
<th>EPA Engine Family Name</th>
<th>EPA Carryover Engine Family Name</th>
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<tr>
<td>2011</td>
<td>BCPXL78.1NZS</td>
<td>ACPXL58.6T2E</td>
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<td>2012</td>
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<td>2014</td>
<td>ECPXL78.1NZS</td>
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</table>

The EPA website is found at:

http://www.epa.gov/OMS/certdata.htm#nci

The emissions showing on the EPA website for the 2014 engine are:

- NOx + NMHC = 5.3 g/kW-hr = 4.0 g/bhp-hr
- NOx = 5.07 g/kW-hr = 3.8 g/bhp-hr
- NMHC = 0.26 g/kW-hr = 0.19 g/bhp-hr
- CO = 0.9 g/kW-hr = 0.7 g/bhp-hr
- PM = 0.12 g/kW-hr = 0.09 g/bhp-hr

The engine also meets CARB's ATCM for stationary engines (conforms to EPA NSPS requirements).
The Tier 2 engine in the 1500 kW genset uses a turbocharger and aftercooler. It does not have any other control devices. The emissions rates above represent the guaranteed emissions rates as certified by Caterpillar.

Emissions rates on the Caterpillar technical data sheet can be misleading as they are listed only for 100% load. The EPA certified emissions rates use a 5-step steady state weighted average (as indicated in the notes for the technical data sheet). The emissions represented on the EPA website and shown above are the weighted emissions reported for the EPA Certificate of Conformity.

This engine may only be used for stationary emergency standby.

If there are any questions regarding the information above, please call me at 562-463-6013.

Regards,

Bob Shepherd
Manager – Emissions Solutions
<table>
<thead>
<tr>
<th>ENGINE_COMBUSTION_CYCLE</th>
<th>NON_ATD_TYPE</th>
<th>ATD_TYP</th>
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</tr>
<tr>
<td>A = 4 Stroke Compression Ignition</td>
<td>X = Engine Design I</td>
<td>0.15</td>
<td>3.86</td>
<td>4.0</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>A = 4 Stroke Compression Ignition</td>
<td>Y = Electronic Contr</td>
<td>0.14</td>
<td>5.65</td>
<td>5.8</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>A = 4 Stroke Compression Ignition</td>
<td>X = Engine Design I</td>
<td>0.17</td>
<td>3.72</td>
<td>3.9</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>A = 4 Stroke Compression Ignition</td>
<td>X = Engine Design I</td>
<td>0.21</td>
<td>3.58</td>
<td>3.8</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>A = 4 Stroke Compression Ignition</td>
<td>C = Cooled EGR - ED = Diesel</td>
<td>0.04</td>
<td>2.70</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A = 4 Stroke Compression Ignition</td>
<td>C = Cooled EGR - ES = Select</td>
<td>0.01</td>
<td>0.19</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A = 4 Stroke Compression Ignition</td>
<td>C = Cooled EGR - ED = Diesel</td>
<td>0.03</td>
<td>0.13</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

<table>
<thead>
<tr>
<th>MODEL YEAR</th>
<th>ENGINE FAMILY</th>
<th>DISPLACEMENT (liters)</th>
<th>FUEL TYPE</th>
<th>USEFUL LIFE (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>ACPXL58.6T2E</td>
<td>51.8 and 58.6</td>
<td>Diesel</td>
<td>8000</td>
</tr>
</tbody>
</table>

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS

Direct Diesel Injection, Turbocharger, Charge Air Cooler, Smoke Puff Limiter and Engine Control Module

TYPICAL EQUIPMENT APPLICATION

Pump, Compressor, Generator and Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

<table>
<thead>
<tr>
<th>RATED POWER CLASS</th>
<th>EMISSION STANDARD CATEGORY</th>
<th>EXHAUST (g/kw-hr)</th>
<th>OPACITY (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW &gt; 500</td>
<td>Tier 2</td>
<td>STD</td>
<td>HC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N/A</td>
<td>6.4</td>
</tr>
<tr>
<td></td>
<td>CERT</td>
<td>N/A</td>
<td>6.3</td>
</tr>
</tbody>
</table>

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 22nd day of December 2009.

Annette Hebert, Chief
Mobile Source Operations Division
Attachment III
Emissions Profiles
<table>
<thead>
<tr>
<th>Equipment Pre-Baselined: NO</th>
<th>NOX</th>
<th>SOX</th>
<th>PM10</th>
<th>CO</th>
<th>VOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential to Emit (lb/Yr)</td>
<td>841.0</td>
<td>1.0</td>
<td>20.0</td>
<td>155.0</td>
<td>42.0</td>
</tr>
<tr>
<td>Daily Emissions Limit (lb/Day)</td>
<td>403.7</td>
<td>0.5</td>
<td>9.6</td>
<td>74.4</td>
<td>20.2</td>
</tr>
<tr>
<td>Quarterly Net Emissions Change (lb/Qtr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1:</td>
<td>210.0</td>
<td>1.0</td>
<td>5.0</td>
<td>38.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Q2:</td>
<td>210.0</td>
<td>0.0</td>
<td>5.0</td>
<td>39.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Q3:</td>
<td>210.0</td>
<td>0.0</td>
<td>5.0</td>
<td>39.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Q4:</td>
<td>211.0</td>
<td>0.0</td>
<td>5.0</td>
<td>39.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Check if offsets are triggered but exemption applies</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Offset Ratio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quarterly Offset Amounts (lb/Qtr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Pre-Baselined: NO</td>
<td>NOX</td>
<td>SOX</td>
<td>PM10</td>
<td>CO</td>
<td>VOC</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Potential to Emit (lb/Yr):</td>
<td>841.0</td>
<td>1.0</td>
<td>20.0</td>
<td>155.0</td>
<td>42.0</td>
</tr>
<tr>
<td>Daily Emis. Limit (lb/Day)</td>
<td>403.7</td>
<td>0.5</td>
<td>9.6</td>
<td>74.4</td>
<td>20.2</td>
</tr>
<tr>
<td>Quarterly Net Emissions Change (lb/Qtr)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1:</td>
<td>210.0</td>
<td>1.0</td>
<td>5.0</td>
<td>38.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Q2:</td>
<td>210.0</td>
<td>0.0</td>
<td>5.0</td>
<td>39.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Q3:</td>
<td>210.0</td>
<td>0.0</td>
<td>5.0</td>
<td>39.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Q4:</td>
<td>211.0</td>
<td>0.0</td>
<td>5.0</td>
<td>39.0</td>
<td>11.0</td>
</tr>
</tbody>
</table>

Check if offsets are triggered but exemption applies

N N N N N

Offset Ratio

Quarterly Offset Amounts (lb/Qtr)

Q1:
Q2:
Q3:
Q4:
Attachment IV
BACT Guideline

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Achieved in Practice or in the SIP</th>
<th>Technologically Feasible</th>
<th>Alternate Basic Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>Latest EPA Tier Certification level for applicable horsepower range*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOX</td>
<td>Latest EPA Tier Certification level for applicable horsepower range*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM10</td>
<td>0.15 g/bhp-hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOX</td>
<td>Very low sulfur diesel fuel (15 ppmw sulfur or less)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOC</td>
<td>Latest EPA Tier Certification level for applicable horsepower range*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: The certification requirements are as follows: for emergency engines 50 ≤ bhp < 75 - Tier 4 Interim; for emergency engines 75 ≤ bhp < 750 - Tier 3; for emergency engines ≥ 750 bhp - Tier 2.

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.
Top Down BACT Analysis for the Emergency IC Engine(s)

BACT Guideline 3.1.1 (September 10, 2013) applies to emergency diesel IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

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

   a. Step 1 - Identify all control technologies

   BACT Guideline 3.1.1 identifies only the following option:

   • Latest EPA Tier Certification level for applicable horsepower range

   To determine the latest applicable Tier level, the following EPA and state regulations were consulted:

   • 40 CFR Part 89 — Control of Emissions from New and In-Use Nonroad Compression – Ignition Engines

   • 40 CFR Part 1039 — Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines

   • Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (Cl) Engines

   40 CFR Parts 89 and 1039, which apply only to nonroad engines, do not directly apply because the proposed emergency engine(s) do not meet the definition of a nonroad engine. Therefore, only Title 17 CCR, Section 93115 applies directly to the proposed emergency engine(s).

   Title 17 CCR, Section 93115.6(a)(3)(A) (CARB stationary diesel engine ATCM) applies to emergency standby diesel-fired engines and requires that such engines be certified to the emission levels in Table 1 (below).
Table 1: Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines g/bhp-hr (g/kW-hr)

<table>
<thead>
<tr>
<th>Maximum Engine Power</th>
<th>Tier</th>
<th>Model Year(s)</th>
<th>PM</th>
<th>NMHC+NOx</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 ≤ HP &lt; 75</td>
<td>2</td>
<td>2007</td>
<td>0.15 (0.20)</td>
<td>5.6 (7.5)</td>
<td>3.7 (5.0)</td>
</tr>
<tr>
<td></td>
<td>4i</td>
<td>2008+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>75 ≤ HP &lt; 100</td>
<td>2</td>
<td>2007</td>
<td>0.15 (0.20)</td>
<td>5.6 (7.5)</td>
<td>3.7 (5.0)</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2008+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 ≤ HP &lt; 175</td>
<td>3</td>
<td>2007</td>
<td>0.15 (0.20)</td>
<td>3.0 (4.0)</td>
<td>3.7 (5.0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2008+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>175 ≤ HP &lt; 300</td>
<td>3</td>
<td>2007</td>
<td>0.15 (0.20)</td>
<td>3.0 (4.0)</td>
<td>2.6 (3.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2008+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300 ≤ HP &lt; 600</td>
<td>3</td>
<td>2007</td>
<td>0.15 (0.20)</td>
<td>3.0 (4.0)</td>
<td>2.6 (3.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2008+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>600 ≤ HP &lt; 750</td>
<td>3</td>
<td>2007</td>
<td>0.15 (0.20)</td>
<td>3.0 (4.0)</td>
<td>2.6 (3.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2008+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HP &gt; 750 (kW &gt; 560)</td>
<td>2</td>
<td>2007</td>
<td>0.15 (0.20)</td>
<td>4.8 (6.4)</td>
<td>2.6 (3.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2008+</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Therefore, the most stringent applicable emission standards are those listed in the CARB ATCM (Table 1).

For IC engines rated greater than or equal to 50 hp and less than 75 hp, the highest Tier required is Tier 4i. For IC engines rated greater than or equal to 75 hp and less than 750 hp, the highest Tier required is Tier 3. For engines rated equal to or greater than 750 hp, the highest Tier required is Tier 2.

Also, please note that neither the state ATCM nor the Code of Federal Regulations require the installation of IC engines meeting a higher Tier standard than those listed above for emergency applications, due to concerns regarding the effectiveness of the exhaust emissions controls during periods of short-term operation (such as testing operational readiness of an emergency engine).

The proposed engine(s) is rated at 2008 hp. Therefore, the applicable control technology option is EPA Tier 2 certification.

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.
e. Step 5 - Select BACT

BACT for NOx and VOC will be the use of an EPA Tier II Certified engine. The applicant is proposing such a unit. Therefore, BACT will be satisfied.

2. BACT Analysis for PM$_{10}$ Emissions:

a. Step 1 - Identify all control technologies

BACT Guideline 3.1.1 identifies only the following option:

- $0.15 \text{ g/bhp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)}$

The latest EPA Tier Certification level for an engine of the proposed model year and horsepower rating is Tier II. Refer to the Top-Down BACT analysis for NOx for a discussion regarding the determination of the EPA Tier level to be considered.

Please note Tier 2, 3, or 4i IC engines do not have a PM emission standard that is more stringent than 0.15 g/hp-hr. Additionally, the ATCM requires a PM emission standard of 0.15 g/hp-hr for all new emergency diesel IC engines.

Therefore, a PM/PM10 emission standard of 0.15 g/hp-hr is required as BACT.

b. Step 2 - Eliminate technologically infeasible options

The control option listed in Step 1 is not technologically infeasible.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because there is only one control option listed in Step 1.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option remaining under consideration. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for PM10 is emissions of 0.15 g/hp-hr or less. The applicant is proposing an engine that meets this requirement. Therefore, BACT will be satisfied.
Attachment VI
HRA/AAQA Summary
San Joaquin Valley Air Pollution Control District  
Risk Management Review  

To: Richard Edgehill - Permit Services  
From: Kyle Melching - Permit Services  
Date: November 26, 2014  
Facility Name: Chevron USA Inc.  
Location: Section 36/T28S/R27E  
Application #(s): S-8557-1-0 & 2-0  
Project #: S-1143821  

### A. RMR SUMMARY

<table>
<thead>
<tr>
<th>Categories</th>
<th>Emergency Diesel ICE (Units 1-0 &amp; 2-0)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>N/A¹</td>
<td>N/A¹</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>N/A²</td>
<td>N/A²</td>
<td>N/A</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>N/A²</td>
<td>N/A²</td>
<td>N/A</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk</td>
<td>4.0E-07³</td>
<td>8.0E-07</td>
<td>8.0E-07</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>

---

1. Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.  
2. Acute and Chronic Hazard indices were not calculated since there is no risk factor, or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.  
3. Cancer risk is for each individual unit.  

**Proposed Permit Conditions**

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

**Units 1-0 & 2-0**

1. The PM10 emissions rate shall not exceed 0.09 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201]  
2. 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]  
3. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
B. RMR REPORT

I. Project Description

Technical Services received a request on November 19, 2014, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for two 2,008 bhp emergency diesel IC engines powering electrical generators.

II. Analysis

Technical Services performed screening level health risk assessments using the District developed DICE database.

The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Analysis Parameters</th>
<th>Unit 1-0 &amp; 2-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Type</td>
<td>BHP</td>
</tr>
<tr>
<td></td>
<td>2,008</td>
</tr>
<tr>
<td>Location Type</td>
<td>Type of Closest Receptor</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
</tr>
<tr>
<td>Stack Height (m)</td>
<td>4.42</td>
</tr>
<tr>
<td>Stack Diameter (m)</td>
<td>0.41</td>
</tr>
<tr>
<td>Stack Temp (K)</td>
<td>660</td>
</tr>
<tr>
<td>Stack Velocity (m/s)</td>
<td>37.25</td>
</tr>
<tr>
<td>Max Hours per Year</td>
<td>50</td>
</tr>
</tbody>
</table>

Technical Services also performed modeling for criteria pollutants NOx, SOx, CO and PM10. For Units 1-0 and 2-0, the emission rates used for criteria pollutant modeling were 841 lb/yr NOx, 1 lb/yr SOx, 155 lb/yr CO, and 20 lb/yr PM10.

The results from the Criteria Pollutant Modeling are as follows:

<table>
<thead>
<tr>
<th>Criteria Pollutant Modeling Results*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units 1-0 &amp; 2-0 1 Hour 3 Hours 8 Hours 24 Hours Annual</td>
</tr>
<tr>
<td>CO</td>
</tr>
<tr>
<td>NOx</td>
</tr>
<tr>
<td>SOx</td>
</tr>
<tr>
<td>PM10</td>
</tr>
<tr>
<td>PM2.5</td>
</tr>
</tbody>
</table>

*Results were taken from the attached PSD spreadsheet.

1 The project is an intermittent source as defined in APR-1920. In accordance with APR-1920, compliance with short-term (i.e., 1-hour, 3-hour, 8-hour, and 24-hour) standards is not required.

2 The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.185 (b)(2).

III. Conclusions

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

The cancer risk associated with the operation of each proposed diesel IC engine is 4.0E-07; which 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) for PM10.
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 the 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. Stack Parameter Worksheet
D. DICE Screening Risk Tool
E. Facility Summary
F. AAQA Summary
Attachment VII
DRAFT ATC
AUTHORITY TO CONSTRUCT

PERMIT NO: S-8557-1-0

LEGAL OWNER OR OPERATOR: CHEVRON USA, INC.
MAILING ADDRESS: P.O. BOX 1392
BAKERSFIELD, CA 93302

LOCATION: 4241 WESLEY LANE
BAKERSFIELD, CA

EQUIPMENT DESCRIPTION:
2,008 BHP (INTERMITTENT) CATERPILLAR MODEL 3512C TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

2. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

3. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

4. {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]

5. {4749} This engine shall be equipped with a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District determines that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history. [District Rule 4702 and 17 CCR 93115]

6. Emissions from this IC engine shall not exceed any of the following limits: 3.8 g-NOx/bhp-hr, 0.7 g-CO/bhp-hr, or 0.19 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart III]

7. Emissions from this IC engine shall not exceed 0.09 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart III]

8. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart III]

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
9. (4261) This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]

10. (3478) During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]

11. (3807) An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]

12. (3808) This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]

13. (3496) The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]

14. (4777) This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rules 2201 and 4702, and 17 CCR 93115]

15. (4263) The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]

16. (3475) 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 Rule 4702 and 17 CCR 93115]
San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-8557-2-0

LEGAL OWNER OR OPERATOR: CHEVRON USA, INC.
MAILING ADDRESS: P.O. BOX 1392
BAKERSFIELD, CA 93302

LOCATION: 4241 WESLEY LANE
BAKERSFIELD, CA

EQUIPMENT DESCRIPTION: 2,008 BHP (INTERMITTENT) CATERPILLAR MODEL 3512C TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

CONDITIONS

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Seyad Sadredin, Executive Director APCO

Amourd Marjollez, DIRECTOR OF PERMIT SERVICES
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