Joe Hollstein  
City of Atwater  
750 Bellevue Road  
Atwater, CA 95301

Re: Notice of Preliminary Decision - Authority to Construct  
Project Number: N-1120089

Dear Mr. Hollstein:

Enclosed for your review and comment is the District's analysis of City of Atwater’s application for an Authority to Construct for the permitting of a diesel fired emergency engine powering an electric generator, located at 530 South Bert Crane Road, Atwater.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Fred Cruz of Permit Services at (209) 557-6456.

Sincerely,

David Warner  
Director of Permit Services

Enclosures
FEB 27 2012

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: N-1120089

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of City of Atwater's application for an Authority to Construct for the permitting of a diesel-fired emergency engine powering an electric generator, located at 530 South Bert Crane Road, Atwater.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Fred Cruz of Permit Services at (209) 557-6456.

Sincerely,

David Warner
Director of Permit Services

DW:FJC/st

Enclosure
NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AN AUTHORITY TO CONSTRUCT

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to City of Atwater for the permitting of a diesel fired emergency engine powering an electric generator, at 530 South Bert Crane Road, Atwater.

The analysis of the regulatory basis for this proposed action, Project #N-1120089, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY, MODESTO, CA 95356.
San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Diesel-Fired Emergency Standby IC Engine

Facility Name: City of Atwater Date: February 13, 2012
Mailing Address: 750 Bellevue Road
Atwater, CA 95301
Contact Person: Joe Hollstein (City of Atwater)
Telephone: (209) 357-6231
FAX: (209) 357-6363
Email: jhollstein@atwater.org
Application No: N-8047-2-0
Project No: N-1120089
Complete: January 25, 2012

I. PROPOSAL:
The City of Atwater submitted an Authority to Construct (ATC) application to permit a 3,058 bhp Detroit Diesel emergency standby internal combustion (IC) engine powering an electrical generator. Per the applicant, the emergency engine covered by ATC permit N-8047-1-0 will not be installed. When the City of Atwater went out to final bid for this emergency generator set, the contractor supplied a Detroit Diesel engine for this generator set and had to resubmit a new ATC application. ATC N-8047-1-0 will be cancelled when ATC N-8047-2-0 is implemented into a Permit to Operate.

II. APPLICABLE RULES:
Rule 2201 New and Modified Stationary Source Review Rule (4/21/2011)
Rule 2520 Federally Mandated Operating Permits (6/21/2001)
Rule 4001 New Source Performance Standards (4/14/1999)
Rule 4101 Visible Emissions (2/17/2005)
Rule 4102 Nuisance (12/17/1992)
Rule 4201 Particulate Matter Concentration (12/17/1992)
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/2003)
Rule 4702 Stationary Internal Combustion Engines – Phase 2 (8/18/2011)
Rule 4801 Sulfur Compounds (12/17/1992)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines
California Environmental Quality Act (CEQA)
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
III. **PROJECT LOCATION:**

The facility is located at 530 South Bert Crane Road, Atwater, CA.

The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. **PROCESS DESCRIPTION:**

The emergency standby engine powers an electrical generator. Other than emergency standby operation, the engine may be operated up to 50 hours per year for maintenance and testing purposes.

V. **EQUIPMENT LISTING:**

**N-8047-2-0:** 3,058 BHP DETROIT DIESEL MODEL MTU 16V4000 DIESEL-FIRED EMERGENCY ENGINE (TIER 2 CERTIFIED) POWERING AN ELECTRIC GENERATOR.

VI. **EMISSION CONTROL TECHNOLOGY EVALUATION:**

The applicant has proposed to install a Model Year 2010 Tier 2 certified diesel-fired IC engine that is fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum).

The proposed engine meets the applicable Tier Certification requirements. Therefore, the engine meets the applicable ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide (see Appendix B for a copy of the emissions data sheet).

The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces \( \text{SO}_x \) 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%
PM$_{10}$ fraction of diesel exhaust: 0.96 (CARB, 1988)

The applicant supplied the emissions factor for NO$_X$ and VOC emissions as a combined emission factor. Therefore, the District will use data from the EPA document “Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression Ignition”, dated November 2002, as presented in the following table to estimate NO$_X$ and VOC emissions (District assumption).

<table>
<thead>
<tr>
<th>Horsepower Range (bhp)</th>
<th>Combined Standard, NO$_X$ + VOC (g/bhp-hr)</th>
<th>Estimated NO$_X$ Emissions (g/bhp-hr)</th>
<th>Estimated VOC Emissions (g/bhp-hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 2</td>
<td>Tier 3</td>
<td>Tier 2</td>
<td>Tier 3</td>
</tr>
<tr>
<td>≥ 750</td>
<td>4.8</td>
<td>4.5</td>
<td>0.3</td>
</tr>
</tbody>
</table>

This 3,058 bhp engine is a Tier 2 certified IC engine and the applicant supplied the combined NO$_X$ + VOC emissions factor as 4.4 g/bhp-hr. Therefore, the NO$_X$ and VOC emissions factors for this engine are calculated as follows:

\[
\text{NO}_X \text{ (g/bhp-hr)} = \text{NO}_X + \text{VOC (g/bhp-hr)} \times (4.5 \text{ g/bhp-hr} + 4.8 \text{ g/bhp-hr})
\]
\[
\text{NO}_X \text{ g/bhp-hr} = 4.4 \text{ g/bhp-hr} \times (4.5 \text{ g/bhp-hr} + 4.8 \text{ g/bhp-hr})
\]
\[
\text{NO}_X = 4.13 \text{ g/bhp-hr}
\]

\[
\text{VOC (g/bhp-hr)} = \text{NO}_X + \text{VOC (g/bhp-hr)} \times (0.3 \text{ g/bhp-hr} + 4.8 \text{ g/bhp-hr})
\]
\[
\text{VOC g/bhp-hr} = 4.4 \text{ g/bhp-hr} \times (0.3 \text{ g/bhp-hr} + 4.8 \text{ g/bhp-hr})
\]
\[
\text{VOC} = 0.28 \text{ g/bhp-hr}
\]

**B. Emission Factors**

Emission factors for this engine are as follows:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor (g/bhp-hr)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO$_X$</td>
<td>4.13</td>
<td>Engine manufacturer's data</td>
</tr>
<tr>
<td>SO$_X$</td>
<td>0.005</td>
<td>Mass Balance Equation Below</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>0.15</td>
<td>Engine manufacturer's data</td>
</tr>
<tr>
<td>CO</td>
<td>1.42</td>
<td>Engine manufacturer's data</td>
</tr>
<tr>
<td>VOC</td>
<td>0.28</td>
<td>Engine manufacturer's data</td>
</tr>
</tbody>
</table>

\[
\frac{0.000015 \text{ lb} - \text{S}}{\text{gal}} \times \frac{7.1 \text{ lb} - \text{fuel}}{\text{gallon}} \times \frac{2 \text{ lb} - \text{SO}_2}{1 \text{ lb} - \text{S}} \times \frac{1 \text{ gal}}{137,000 \text{ Btu} \times 0.35 \text{ bhp \ out} \times 2,542.5 \text{ Btu}} \times \frac{453.6 \text{ g}}{1 \text{ bhp - hr}} \times \frac{\text{g - SO}_2}{\text{bhp - hr}} = 0.005
\]
C. Calculations

1. Pre-Project Emissions (PE1)

This is a new emissions unit and PE1 will equal zero for all pollutants.

2. Post-Project PE (PE2)

The potential to emit for this emergency IC engine is based on the maximum operating capacity of the engine for 24 hours per day. The following calculation for NO\textsubscript{x} emissions is representative of emission calculations for all pollutants. Annual emissions are based on 50 hours per year for non-emergency operation.

\[
\text{NO}_x: \quad 4.13 \text{ g/hp-hr} \times 3,058 \text{ hp} \times \frac{1 \text{ lb}}{453.6 \text{ g}}
\]

\[
\text{NO}_x: \quad 27.8 \text{ lb/hr}, 668.2 \text{ lb/day}, 1,392 \text{ lb/yr}
\]

\[
\text{CO:} \quad 9.57 \text{ lb/hr}, 229.8 \text{ lb/day}, 479 \text{ lb/yr}
\]

\[
\text{VOC:} \quad 1.89 \text{ lb/hr}, 45.3 \text{ lb/day}, 94 \text{ lb/yr}
\]

\[
\text{PM}_{10}: \quad 1.01 \text{ lb/hr}, 24.3 \text{ lb/day}, 51 \text{ lb/yr}
\]

\[
\text{SO}_x: \quad 0.03 \text{ lb/hr}, 0.8 \text{ lb/day}, 2 \text{ lb/yr}
\]

\[
\frac{\text{NO}_x}{\text{CO} \cdot \text{VOC}} \quad \frac{668.2}{229.8} \cdot \frac{45.3}{24.3} \cdot \frac{94}{51} \cdot \frac{2}{1}
\]

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid ATCs or PTOs at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site. ATC N-8047-1-0 was finalized on March 18, 2010.

<table>
<thead>
<tr>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>VOC</th>
<th>PM\textsubscript{10}</th>
<th>SO\textsubscript{x}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily PE</td>
<td>668.2</td>
<td>229.8</td>
<td>45.3</td>
<td>24.3</td>
</tr>
<tr>
<td>Annual PE</td>
<td>1,392</td>
<td>479</td>
<td>94</td>
<td>51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permit No.</th>
<th>NO\textsubscript{x}</th>
<th>CO</th>
<th>VOC</th>
<th>PM\textsubscript{10}</th>
<th>SO\textsubscript{x}</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-8047-1-0*</td>
<td>1,271</td>
<td>159</td>
<td>81</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>1,271</td>
<td>159</td>
<td>81</td>
<td>26</td>
<td>2</td>
</tr>
</tbody>
</table>

*Based on emission calculations performed for project N-1092646.
4. **Post-Project Stationary Source Potential to Emit (SSPE2)**

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid ATCs or PTOs, except for emissions units proposed to be shut down as part of the Stationary Project, at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

<table>
<thead>
<tr>
<th>Permit No.</th>
<th>NOx</th>
<th>CO</th>
<th>VOC</th>
<th>PM(_{10})</th>
<th>SOx</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-8047-1-0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>N-8047-2-0</td>
<td>1,392</td>
<td>479</td>
<td>94</td>
<td>51</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>1,392</td>
<td>479</td>
<td>94</td>
<td>51</td>
<td>2</td>
</tr>
</tbody>
</table>

*This ATC will be cancelled when ATC N-8047-1-0 will be cancelled when ATC N-8047-2-0 is implemented into a Permit to Operate.*

5. **Major Source Determination**

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, “for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.” This facility does not contain ERCs which have been banked at the source and SSPE2 does not have to be adjusted.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>SSPE1 (lb/yr)</th>
<th>SSPE2 (lb/yr)</th>
<th>Major Source Threshold (lb/yr)</th>
<th>Existing Major Source?</th>
<th>Becoming a Major Source?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO(_x)</td>
<td>0</td>
<td>1,392</td>
<td>20,000</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SO(_x)</td>
<td>0</td>
<td>2</td>
<td>140,000</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>0</td>
<td>51</td>
<td>140,000</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>CO</td>
<td>0</td>
<td>479</td>
<td>200,000</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>0</td>
<td>94</td>
<td>20,000</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
As demonstrated above, the facility is not an existing Major Source and does not become a Major Source as a result of this project.

6. **Baseline Emissions (BE)**

Since this is a new emissions unit, BE will equal zero for all criteria pollutants.

7. **SB 288 Major Modification:**

The purpose of Major Modification calculations is to determine the following:

A. If Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification (District Rule 2201, Section 4.1.3); and

B. If a public notification is triggered (District Rule 2201, Section 5.4.1).

Based on the pre and post-project stationary source potential to emit calculations (less onsite Emission Reduction Credit's) in this document, the facility is not a Major Source for any pollutant. Therefore, the proposed project cannot trigger an SB288 Major Modification and no further calculations are required.

8. **Federal Major Modification:**

This facility is not a Major Source for any pollutant. Therefore, this project can not constitute a Federal Major Modification and no further discussion is required.

9. **Quarterly Net Emissions Change (QNEC)**

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

VIII. **COMPLIANCE**

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

A. **Best Available Control Technology (BACT)**

1. **BACT Applicability**

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:
a) Any new emissions unit with a potential to emit exceeding two pounds per day,
b) The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c) Modifications to an existing emissions unit with a potential to emit exceeding two pounds per day, and/or
d) Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.
*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. **New emissions units – PE > 2.0 lb/day**

Since this engine is a new emissions unit, the daily emissions are compared to the BACT thresholds in the following table. The daily emissions for this emergency engine are as follows:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Daily Emissions for unit -2-0 (lb/day)</th>
<th>BACT Threshold (lb/day)</th>
<th>SSPE2 (lb/yr)</th>
<th>BACT Triggered?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>668.2</td>
<td>&gt; 2.0</td>
<td>N/A</td>
<td>Yes</td>
</tr>
<tr>
<td>SOx</td>
<td>0.8</td>
<td>&gt; 2.0</td>
<td>N/A</td>
<td>No</td>
</tr>
<tr>
<td>PM10</td>
<td>24.3</td>
<td>&gt; 2.0</td>
<td>N/A</td>
<td>Yes</td>
</tr>
<tr>
<td>CO</td>
<td>229.8</td>
<td>&gt; 2.0 and SSPE2 ≥ 200,000 lb/yr</td>
<td>479</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>45.3</td>
<td>&gt; 2.0</td>
<td>N/A</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Thus, BACT will be triggered for NOx, VOC and PM10 emissions for this engine.

2. **BACT Guideline**

BACT Guideline 3.1.1, which appears in Appendix D of this report, covers diesel-fired emergency IC engines.

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 Appendix D 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$_{10}$:** Use of tier certified engine with 0.15 g-PM$_{10}$/hp-hr, or less, emission factor. (ATCM)

The following condition will be listed on the ATC to ensure compliance with the PM$_{10}$ BACT requirements:

- Emissions from this IC engine shall not exceed 0.15 g-PM$_{10}$/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]

**B. Offsets**

Per Section 4.6.2 of Rule 2201, emergency IC engines are exempt from offset requirements. Therefore, offset calculations are not required.

**C. Public Notification**

1. **Applicability**

   Public noticing is required for:
   
a. Any new Major Source, which is a new facility that is also a Major Source

   This facility does not become a Major Source as a result of this project.

b. Major Modifications

   As previously demonstrated, this project is not a Major Modification.

c. Any new emissions unit with a Potential to Emit greater than 100 lb/day for any one pollutant

   As previously calculated, daily emissions for NOx and CO emissions exceed 100 lb/day and Public Notice is required.

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

   As previously calculated, there are no offset thresholds that are surpassed.
e. Any project with a Stationary Source project Increase in Potential (SSIPE) Emissions greater than 20,000 lb/year for any pollutant.

For this project, the proposed engine is the only emissions unit that results in an increase in Potential to Emit emissions. Since the proposed emissions from this emergency engine are below 20,000 lb/year for all pollutants (See Section VII.C.2), the SSIPE for this project is below the public notice threshold.

2. **Public Notice Action**

As discussed above, public noticing is required for this project since NOx and CO emissions are greater than 100 lb/day.

D. **Daily Emissions Limits**

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. 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: 4.13 g-NOx/bhp-hr, 1.42 g-CO/bhp-hr, or 0.28 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]

- Emissions from this IC engine shall not exceed 0.15 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]

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

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**

Monitoring is not required to demonstrate compliance with Rule 2201.
3. **Recordkeeping**

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. As required by District Rule 4702, *Stationary Internal Combustion Engines - Phase 2*, each C engine is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, *District Rule 4702*, of this evaluation.

4. **Reporting**

Reporting is not required to ensure compliance with Rule 2201.

F. **Ambient Air Quality Analysis (AAQA)**

Section 4.14.1 of this rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The Technical Services Division of the SJVAPCD conducted the required analysis.

As shown by the AAQA summary sheet in Appendix E, the proposed equipment will not cause or make worse a violation of an air quality standard for NO\textsubscript{x}, CO, PM10, or SO\textsubscript{x}.

**Rule 2520 Federally Mandated Operating Permits**

Since this facility's potential to emit does 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 60 Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Pursuant to § 60.4200 of Subpart III, this engine is subject to this federal regulation. However, the District has not been delegated authorization to enforce the requirements of this regulation. The applicant will be so notified in a permit condition.

**Rule 4002 National Emission Standards for Hazardous Air Pollutants**


Pursuant to §63.6585 of Subpart ZZZZ, this engine is subject to this federal regulation. However, the District has not been delegated authorization to enforce
the requirements of 40 CFR 63 Subpart ZZZZ for non-Part 70 sources (Major Sources). The applicant will be so notified in a permit condition.

**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) was performed for this project. The RMR results are summarized in the following table, and can be seen in detail in Appendix E.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Diesel-Fired IC Engine (Unit 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;1.0</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>N/A²</td>
<td>N/A²</td>
<td>N/A²</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>N/A²</td>
<td>N/A²</td>
<td>N/A²</td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk (10⁻⁶)</td>
<td>0.79</td>
<td>0.79</td>
<td>0.79</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.
The following conditions will be listed on the ATC to ensure compliance with the RMR:

**Unit # 2-0**

1. The PM10 emissions rate shall not exceed 0.15 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

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

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

**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 PM10 emission factor of 0.4 g-PM10/bhp-hr.

\[
PM_{10} = \frac{\text{grain-PM}}{\text{dscf}} \times \frac{\text{g}}{\text{15.43 grain}} \times \frac{\text{1 Btu/in}}{0.35 \text{ Btu/ft}} \times \frac{9.051 \text{ dscf}}{10^6 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{1 \text{ bhp-hr}} \times \frac{0.96 g}{1 \text{ g-PM}} = 0.4 \frac{g-PM_{10}}{bhp-hr}
\]

The new engine has a PM10 emission factor less than 0.4 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 requirements of District Rule 4702 are as stringent, or more stringent, to the requirements of District Rule 4701. Therefore, the proposed emergency internal combustion engine will comply with the requirements of District Rule 4702 and should also meet the requirements of District Rule 4701.

**Rule 4702 Internal Combustion Engines – Phase 2**

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

<table>
<thead>
<tr>
<th>District Rule 4702 Requirements Emergency Standby IC Engines</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</td>
<td>The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM)</td>
</tr>
<tr>
<td>Calendar year for non-emergency purposes, verified through the use of a non-resettable elapsed operating time meter.</td>
<td>Limits this engine maintenance and testing to 50 hours/year. Thus, compliance is expected.</td>
</tr>
<tr>
<td>---</td>
<td>---</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 engines 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, 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 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:

\[
\text{Volume SO}_2 = \frac{n \times R \times T}{P} \div \frac{P}{10.73 \text{psi} \cdot \text{ft}^3} \\
\text{n} = \text{moles SO}_2 \\
\text{T} (\text{standard temperature}) = 60 ^\circ \text{F} \text{ or } 520 ^\circ \text{R} \\
\text{R (universal gas constant)} = \frac{10.73 \text{psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ \text{R}} \\
\]

\[
\frac{0.000015 \text{lb-S}}{\text{gal}} \times \frac{7.1 \text{ lb}}{64 \text{ lb-SO}_2} \times \frac{1 \text{ MMBtu}}{9,051 \text{ scf}} \times \frac{1 \text{ gal}}{0.137 \text{ MMBtu}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb-mol} \cdot ^\circ \text{R}} \times \frac{520 ^\circ \text{R}}{14.7 \text{ psi}} \times \frac{1,000,000}{1} = 1.0 \text{ ppmv} \\
\]

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 IIII]

**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 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 engines 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>Engine emission limits are limited by 93115.6(a)(3). (Title 13 CCR, Section 93115).</td>
<td>The engine proposed will meet the emission limits of this section.</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 Rules 4701 and 4702, and 17 CCR 93115]</td>
</tr>
<tr>
<td>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</td>
<td>The District has verified that this engine is not located within 500' of a school.</td>
</tr>
<tr>
<td>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.</td>
<td>Permit conditions enforcing these requirements were shown earlier in the evaluation.</td>
</tr>
</tbody>
</table>
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.

Consistent with California Environmental Quality Act (CEQA) and CEQA Guidelines requirements, the San Joaquin Valley Air Pollution Control District (District) has adopted procedures and guidelines for implementing CEQA. The District's Environmental Review Guidelines (ERG) establishes procedures for avoiding unnecessary delay during the District's permitting process while ensuring that significant environmental impacts are thoroughly and consistently addressed. The ERG includes policies and procedures to be followed when processing permits for projects that are exempt under CEQA.

The State Legislature granted a number of exemptions from CEQA, including projects that require only ministerial approval. Based upon analysis of its own laws and consideration of CEQA provisions, the District has identified a limited number of District permitting activities considered to be ministerial approvals. As set forth in §4.2.1 of the ERG, projects permitted consistent with the District's Guidelines for Expedited Application Review (GEAR) are standard application reviews in which little or no discretion is used in issuing Authority to Construct (ATC) documents.

For the proposed project, the District performed an Engineering Evaluation (this document) and determined that the project qualifies for processing under the procedures set forth in the District's Permit Services Procedures Manual in the Guidelines for Expedited Application Review (GEAR). Thus, as discussed above, this issuance of such ATC(s) is a ministerial approval for the District and is not subject to CEQA provisions.
IX. RECOMMENDATION:

Pending a successful NSR Public Noticing period, issue Authority to Construct N-8047-2-0 subject to the permit conditions on the attached Authority to Construct in Appendix A.

X. BILLING INFORMATION:

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Fee Schedule</th>
<th>Fee Description</th>
<th>Fee Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-8047-2-0</td>
<td>3020-10-F</td>
<td>3,058 bhp IC engine</td>
<td>$749</td>
</tr>
</tbody>
</table>

Appendices:

A. Authority to Construct permit N-8047-2-0
B. Emissions Data
C. QNEC Calculations
D. BACT Guideline and BACT Analysis
E. HRA Summary and AAQA
Appendix A

Authority to Construct permit N-8047-2-0
San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-8047-2-0

LEGAL OWNER OR OPERATOR: BERT CRANE WASTEWATER TREATMENT PLANT
Mailing Address: CITY OF ATWATER
750 BELLEVUE ROAD
ATWATER, CA 95301

LOCATION: BERT CRANE ROAD
ATWATER, CA

EQUIPMENT DESCRIPTION:
3,058 BHP DETROIT DIESEL MODEL MTU 16V4000 DIESEL-FIRED EMERGENCY ENGINE (TIER 2 CERTIFIED)
POWERING AN ELECTRIC GENERATOR.

CONDITIONS

1. (98) No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. (14) Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. (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]
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. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93115]
6. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rules 4701 and 4702 and 17 CCR 93115]
7. Emissions from this IC engine shall not exceed any of the following limits: 4.13 g-NOx/bhp-hr, 1.42 g-CO/bhp-hr, or 0.28 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed 0.15 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 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 RESPECTFUL FOR COMPLYING WITH ALL LAWS, ORDINANCES AND REGULATIONS OF ALL OTHER GOVERNMENTAL AGENCIES WHICH MAY PERTAIN TO THE ABOVE EQUIPMENT.

Seyed Sadrelin, Executive Director APCO

DAVID WARNER, Director of Permit Services
Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475
9. 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. 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. 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 4701 and 4702 and 17 CCR 93115]

12. 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 Rules 4701 and 4702]

13. 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 Rules 4701 and 4702]

14. 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 Rules 4701 and 4702 and 17 CCR 93115]

15. The permittee shall maintain monthly records of the type of fuel purchased. [District Rules 4701 and 4702 and 17 CCR 93115]

16. 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 4701 and 4702 and 17 CCR 93115]

17. U.S. EPA administers the requirements of 40 CFR Part 60 Subpart III and 40 CFR Part 63 Subpart ZZZZ. The owner or operator shall comply with the emission and operating limitations, testing requirements, initial and continuous compliance requirements as specified in these subparts. The owner or operator shall submit all applicable notifications, reports, and records to the administrator by the required compliance dates. [District Rules 4001 and 4002]

18. When this Authority to Construct permit is implemented into a Permit to Operate, Authority to Construct N-8047-1-0 shall be canceled. [District Rule 2201]
Appendix B

Emissions Data Sheet
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 engines and emission control systems 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>AMDD95.4XTR</td>
<td>57.2, 76.3, 95.4</td>
<td>Diesel</td>
<td>8,000</td>
</tr>
</tbody>
</table>

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS

Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module

TYPICAL EQUIPMENT APPLICATION

Loader, Tractor, Pump, Compressor, Generator Set

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; 580</td>
<td>Tier 2</td>
<td>STD</td>
<td>ACCEL 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N/A</td>
<td>LUG 15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N/A</td>
<td>PEAK 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOx 6.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NMHC+NOx 3.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CO 0.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM 0.20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACCEL 5.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LUG 1.9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEAK 0.20</td>
<td></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 11 day of February 2010.

Annette Hebert, Chief
Mobile Source Operations Division
Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60 and Part 89, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following stationary and nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and 89, and produced in the stated model year.

This certificate of conformity covers only those new stationary and nonroad compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and 89 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60 and 89.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 89.129-96 and 89.506-96 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to a revocation or suspension of this certificate for reasons specified in 40 CFR Part 89. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void ab initio for other reasons specified in 40 CFR Part 89.

This certificate does not cover stationary and nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.
Appendix C

QNEC Calculations

Quarterly Net Emissions Change (QNEC)

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

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

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

Using the emission calculations in this evaluation, \( \text{PE}_{\text{quarterly}} \) and \( \text{BE}_{\text{quarterly}} \) can be calculated as follows:

This calculation is required for application emission profile purposes. It is assumed that the unit's annual emissions are evenly distributed throughout the year as follows: \( \Delta \text{PE (lb/qtr)} = \text{PE (lb/yr)} \div 4 \text{ qtr/yr}. \)

\[
\begin{align*}
\Delta \text{PE}_{\text{NOx}} &= 1,392 \text{ lb-NOx/year} - 0 \text{ lb-NOx/year} = 1,392 \text{ lb/year} \\
\Delta \text{PE}_{\text{CO}} &= 479 \text{ lb-CO/year} - 0 \text{ lb-CO/year} = 479 \text{ lb/year} \\
\Delta \text{PE}_{\text{VOC}} &= 94 \text{ lb-VOC/year} - 0 \text{ lb-VOC/year} = 94 \text{ lb/year} \\
\Delta \text{PE}_{\text{PM10}} &= 51 \text{ lb-PM10/year} - 0 \text{ lb-PM10/year} = 51 \text{ lb/year} \\
\Delta \text{PE}_{\text{SOx}} &= 2 \text{ lb-SOx/year} - 0 \text{ lb-SOx/year} = 2 \text{ lb/year}
\end{align*}
\]

<table>
<thead>
<tr>
<th>Emissions</th>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOx</td>
<td>348</td>
<td>348</td>
<td>348</td>
<td>348</td>
</tr>
<tr>
<td>CO</td>
<td>119</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>VOC</td>
<td>23</td>
<td>23</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>SOx</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Appendix D

BACT Guideline and BACT Analysis
San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.1.1
Last Update: 7/10/2009
Emergency Diesel IC Engine

<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></td>
<td>0.15 g/ hp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM10</td>
<td>Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)</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>

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)

The District BACT Clearinghouse includes a guideline that applies to the proposed model year 2010, 954 bhp diesel fired emergency engine (Guideline 3.1.1). Therefore, in accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

Top-Down BACT analysis for NOx:

Step 1 – Identify all Practically Applicable Control Technologies

The applicable BACT guideline includes only the following option:

*Latest EPA Tier Certification Level for the Applicable Horsepower Range*

To determine the latest applicable tier level, the following EPA regulations were consulted:

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

40 CFR Part 89 – Control of Emissions from New and In-Use Non-road Compression – Ignition Engines

40 CFR Part 1039 – Control of Emissions from New and In-Use Non-road Compression-Ignition Engines

Only 40 CFR Part 60 Subpart III applies directly to the stationary emergency engine currently under consideration. 40 CFR Parts 89 and 1039, which apply only to nonroad engines, do not directly apply because the unit does not meet the definition of nonroad engine.

Since it is the only directly applicable EPA regulation that would set emission standards for such a unit, Subpart III was consulted for the purpose of determining the latest applicable tier standard. Per section 60.4205(b), the engine must meet the standard established in section 60.4202 for the same model year and horsepower rating. Section 60.4202(a)(2), requires such units to meet the standards specified in 40 CFR 89.112 and 40 CFR 89.113 for the same model year and power rating. Section 89.112 states that the applicable certification level for 2006 and later model year engines rated at over 751 bhp is Tier 2. Part 89.113 does not set a tier standard so it need not be considered at this time.

Since Subpart III is the only directly applicable EPA regulation and it does not reference Part 1039 (which directly applies only to manufacturers of nonroad engines), Part 1039 will not be considered.

The list of practically applicable control options is therefore:

*EPA Tier 2 Certification*
Step 2 – Eliminate Technologically Infeasible Options

The above control option is not technologically infeasible.

Step 3 – Rank Remaining Control Options by Control Effectiveness

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Option</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EPA Tier 2 Certification</td>
<td>Achieved-in-Practice</td>
</tr>
</tbody>
</table>

Step 4 – Cost Effectiveness Analysis

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

Step 5 – Select BACT

BACT for NOx will be the use of an EPA Tier 2 certified engine. The applicant is proposing such a unit, therefore, BACT will be satisfied.
Top-Down BACT analysis for VOC:

**Step 1 – Identify all Practically Applicable Control Technologies**

*EPA Tier 2 Certification*

Refer to the Top-Down BACT analysis for NOx for a discussion regarding the determination of the EPA tier level to be considered.

**Step 2 – Eliminate Technologically Infeasible Options**

The above control option is not technologically infeasible

**Step 3 – Rank Remaining Control Options by Control Effectiveness**

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Option</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EPA Tier 2 Certification</td>
<td>Achieved-in-Practice</td>
</tr>
</tbody>
</table>

**Step 4 – Cost Effectiveness Analysis**

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

**Step 5 – Select BACT**

BACT for VOC will be the use of an EPA Tier 2 certified engine. The applicant is proposing such a unit, therefore, BACT will be satisfied.
Top-Down BACT analysis for PM$_{10}$:

**Step 1 – Identify all Practically Applicable Control Technologies**

*EPA Tier 2 Certification or PM$_{10}$ emissions of 0.15 g/bhp-hr, whichever is more stringent*

Refer to the Top-Down BACT analysis for NOx for a discussion regarding the determination of the EPA tier level to be considered.

As shown in 40 CFR Part 89.112, the EPA Tier 2 standard for a unit with the proposed horsepower rating is 0.20 g/kW-hr (equivalent to 0.15 g/bhp-hr). Therefore, the options are equivalent.

The list of practically applicable control options is therefore:

*PM$_{10}$ Emissions of 0.15 g/bhp or less*

**Step 2 – Eliminate Technologically Infeasible Options**

The above control option is not technologically infeasible.

**Step 3 – Rank Remaining Control Options by Control Effectiveness**

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Option</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PM$_{10}$ Emissions of 0.15 g/bhp-hr or less</td>
<td>Achieved-in-Practice</td>
</tr>
</tbody>
</table>

**Step 4 – Cost Effectiveness Analysis**

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

**Step 5 – Select BACT**

BACT for PM$_{10}$ will be the use of an engine that will emit PM$_{10}$ at 0.15 g/bhp or less. The applicant is proposing an EPA certified Tier 2 engine with PM$_{10}$ emissions of 0.15 g/bhp-hr, therefore BACT will be satisfied.
Appendix E

HRA Summary and AAQA
San Joaquin Valley Air Pollution Control District
Risk Management Review

To: Fred Cruz, AQE - Permit Services
From: Yu P Vu, AQS - Permit Services
Date: February 7, 2012
Facility Name: Bert Crane Wastewater Treatment Plant
Location: Bert Crane Road, Atwater, CA
Application No: N-8047-2-0
Project No: N-1120089

A. RMR SUMMARY

<table>
<thead>
<tr>
<th>Categories</th>
<th>Diesel-Fired IC Engine (Unit 2-0)</th>
<th>Project Totals</th>
<th>Facility Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritization Score</td>
<td>N/A</td>
<td>N/A^1</td>
<td>&gt;1.0</td>
</tr>
<tr>
<td>Acute Hazard Index</td>
<td>N/A^2</td>
<td>N/A^2</td>
<td>N/A^2</td>
</tr>
<tr>
<td>Chronic Hazard Index</td>
<td>N/A^2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Individual Cancer Risk (10^-6)</td>
<td>0.79</td>
<td>0.79</td>
<td>0.79</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.

Proposed Permit Conditions

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

Unit # 2-0

1. The PM10 emissions rate shall not exceed 0.15 g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102] N
3. The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance,
testing, and required regulatory purposes shall not exceed 50 hours per year. [District Rules 2201, and 4702 and 17 CCR 93115] N

B. RMR REPORT

I. Project Description

Technical Services received a request on February 7, 2012, to perform a Risk Management Review and Ambient Air Quality Analysis for a proposed installation of a 3058 hp diesel-fired emergency IC engine powering an electrical generator.

II. Analysis

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

The following parameters were used for the review:

<table>
<thead>
<tr>
<th>Analysis Parameters</th>
<th>Unit 2-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Type</td>
<td>Point</td>
</tr>
<tr>
<td>BHP</td>
<td>3.058</td>
</tr>
<tr>
<td>Closest Receptor (m)</td>
<td>365.76</td>
</tr>
<tr>
<td>Max Hours per Year</td>
<td>50</td>
</tr>
<tr>
<td>Location Type</td>
<td>Rural</td>
</tr>
<tr>
<td>PM$_{10}$ g/hp-hr</td>
<td>0.15</td>
</tr>
<tr>
<td>Quad</td>
<td>Quad 2</td>
</tr>
</tbody>
</table>

Technical Services performed modeling for criteria pollutants CO, NOx, SOx and PM$_{10}$; as well as a RMR. The emission rates used for criteria pollutant modeling were 479 lb/yr CO, 1,392 lb/yr NOx, 2 lb/yr SOx, and 51 lb/yr PM$_{10}$.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

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

*Results were taken from the attached PSD spreadsheet.

$^*$ 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 51.165 (b)(2).
III. Conclusion

The cancer risk associated with the operation of the proposed diesel IC engine 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 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.