OCT 18 2011

Phil Johnson
Sumiden Wire Products Corp.
1412 El Pinal Drive
Stockton, CA 95205

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: N-1110705

Dear Mr. Johnson:

Enclosed for your review and comment is the District’s analysis of Sumiden Wire Products Corp.’s application for an Authority to Construct for permitting an existing 269 bhp diesel-fired emergency IC engine powering an electrical generator, at 1412 El Pinal Drive in Stockton, CA.

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. Rick Dyer of Permit Services at (209) 557-6458.

Sincerely,

David Warner
Director of Permit Services

DW:rd/st
Enclosures
Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Sumiden Wire Products Corp.'s application for an Authority to Construct for permitting an existing 269 bhp diesel-fired emergency IC engine powering an electrical generator, at 1412 El Pinal Drive in Stockton, CA.

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. Rick Dyer of Permit Services at (209) 557-6458.

Sincerely,

David Warner
Director of Permit Services

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 an Authority to Construct to Sumiden Wire Products Corp. for permitting an existing 269 bhp diesel-fired emergency IC engine powering an electrical generator, at 1412 El Pinal Drive in Stockton, CA.

The analysis of the regulatory basis for this proposed action, Project # N-1110705, 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, MODEATO, CA 95356-8718.
I. Proposal

The Sumiden Wire Products Corp. installed a diesel-fired emergency internal combustion (IC) engine powering an electrical generator in 1987 without obtaining an Authority to Construct. They are now applying for a permit for this engine. Since the engine was not exempt from air pollution control permits at the time of installation, this application is subject to New Source Review under District Rule 2201. Note: San Joaquin County required operating permits on IC engines greater than 200 bhp effective September 27, 1983.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
Rule 4101 Visible Emissions (2/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/03)
Rule 4702 Stationary Internal Combustion Engines – Phase 2 (1/18/07)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Title 13 California Code of Regulations (CCR), Section 2423 – Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment
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)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:
CEQA Guidelines

III. Project Location

The project is located at 1412 El Pinal Drive in Stockton, CA. The District has verified
that the equipment is 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 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 30 hours per year for maintenance
and testing purposes.

V. Equipment Listing

N-833-10-0: 269 BHP CATERPILLAR MODEL 3208 TIER 0 DIESEL-FIRED
EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL
GENERATOR.

VI. Emission Control Technology Evaluation

The engine is equipped with:
[X] Turbocharger
[ ] Intercooler/aftercooler
[ ] Injection timing retard (or equivalent per District Policy SSP-1805, dated
8/14/1996)
[X] Positive Crankcase Ventilation (PCV) or 90% efficient control device (installed to
satisfy BACT)
[ ] This engine is required to be, and is UL certified
[ ] Catalytic particulate filter
[X] Very Low (0.0015%) sulfur diesel

The emission control devices/technologies and their effect on diesel engine emissions
detailed below are from Non-catalytic NOX Control of Stationary Diesel Engines, by Don
Koeberlein, CARB.

The turbocharger reduces the NOX emission rate from the engine by approximately 10%
by increasing the efficiency and promoting more complete burning of the fuel.

The PCV system reduces crankcase VOC and PM10 emissions by at least 90% over an
uncontrolled crankcase vent.
The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SO\textsubscript{X} emissions by over 99% from standard diesel fuel.

VII. General Calculations

A. Assumptions

Emergency operating schedule: 24 hours/day  
Non-emergency operating schedule: 30 hours/year (limited by ATCM)  
Density of diesel fuel: 7.1 lb/gal  
EPA F-factor (adjusted to 60 °F): 9,051 dscf/MBtu  
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\textsubscript{10} fraction of diesel exhaust: 0.96 (CARB, 1988)

B. Emission Factors (EF)

The applicant was unable to obtain emissions factor information for this engine. Emissions factors will be taken from District Project N1011938 for a 230 bhp Caterpillar Model 3208 diesel-fired engine installed in 1987. Since the engine on this application is the same model, a similar size, and installed the same year of the referenced engine, the EFs are expected to be comparable.

The EFs for NO\textsubscript{X}, PM\textsubscript{10}, CO, and VOC were provided by the engine manufacturer. The EF for SO\textsubscript{X} is calculated below.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor (g/bhp-hr)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{X}</td>
<td>7.6</td>
<td>Engine Manufacturer</td>
</tr>
<tr>
<td>SO\textsubscript{X}</td>
<td>0.0051</td>
<td>Mass Balance Equation Below</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>0.17</td>
<td>Engine Manufacturer</td>
</tr>
<tr>
<td>CO</td>
<td>0.9</td>
<td>Engine Manufacturer</td>
</tr>
<tr>
<td>VOC</td>
<td>0.11</td>
<td>Engine Manufacturer</td>
</tr>
</tbody>
</table>

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

C. Calculations

1. Pre-Project Emissions (PE1)

Since this is a new emissions unit, PE1 = 0.
2. Post Project PE (PE2)

The daily and annual PE are calculated as follows:

<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>Conversion (g/lb)</th>
<th>PE2 Total (lb/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOX</td>
<td>7.6</td>
<td>269</td>
<td>24</td>
<td>453.6</td>
<td>108.2</td>
</tr>
<tr>
<td>SOX</td>
<td>0.0051</td>
<td>269</td>
<td>24</td>
<td>453.6</td>
<td>0.1</td>
</tr>
<tr>
<td>PM10</td>
<td>0.17</td>
<td>269</td>
<td>24</td>
<td>453.6</td>
<td>2.4</td>
</tr>
<tr>
<td>CO</td>
<td>0.9</td>
<td>269</td>
<td>24</td>
<td>453.6</td>
<td>12.8</td>
</tr>
<tr>
<td>VOC</td>
<td>.11</td>
<td>269</td>
<td>24</td>
<td>453.6</td>
<td>1.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emissions Factor (g/bhp-hr)</th>
<th>Rating (bhp)</th>
<th>Annual Hours of Operation (hrs/yr)</th>
<th>Conversion (g/lb)</th>
<th>PE2 Total (lb/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOX</td>
<td>7.6</td>
<td>269</td>
<td>30</td>
<td>453.6</td>
<td>135</td>
</tr>
<tr>
<td>SOX</td>
<td>0.0051</td>
<td>269</td>
<td>30</td>
<td>453.6</td>
<td>0</td>
</tr>
<tr>
<td>PM10</td>
<td>0.17</td>
<td>269</td>
<td>30</td>
<td>453.6</td>
<td>3</td>
</tr>
<tr>
<td>CO</td>
<td>0.9</td>
<td>269</td>
<td>30</td>
<td>453.6</td>
<td>16</td>
</tr>
<tr>
<td>VOC</td>
<td>.11</td>
<td>269</td>
<td>30</td>
<td>453.6</td>
<td>2</td>
</tr>
</tbody>
</table>

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid 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.

The SSPE1 is 1,424 lb-PM10/yr. This value is taken from District Project N1110497, which is being processed concurrently with this project. Prior to this project, the facility has only PM10 emissions.

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.

For this project the change in emissions for the facility is due to the installation of the new emergency standby IC engine, permit unit -10-0. Therefore:

<table>
<thead>
<tr>
<th>Permit Unit</th>
<th>NO\textsubscript{X} (lb/yr)</th>
<th>SO\textsubscript{X} (lb/yr)</th>
<th>PM\textsubscript{10} (lb/yr)</th>
<th>CO (lb/yr)</th>
<th>VOC (lb/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSPE1</td>
<td>0</td>
<td>0</td>
<td>1,424</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-10-0, emergency standby IC-engine</td>
<td>135</td>
<td>0</td>
<td>3</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>SSPE2 Total</td>
<td>135</td>
<td>0</td>
<td>1,427</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>Offset Threshold</td>
<td>20,000</td>
<td>54,750</td>
<td>29,200</td>
<td>200,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Offset Threshold Surpassed?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with 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; therefore, no adjustment to SSPE2 is necessary.

<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\textsubscript{X}</td>
<td>0</td>
<td>135</td>
<td>20,000</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SO\textsubscript{X}</td>
<td>0</td>
<td>0</td>
<td>140,000</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>1,424</td>
<td>1,427</td>
<td>140,000</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>CO</td>
<td>0</td>
<td>16</td>
<td>200,000</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>0</td>
<td>2</td>
<td>20,000</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
As seen in the table above, the facility is not an existing Major Source and also is not becoming a Major Source as a result of this project.

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 3.22

Since this is a unit at a non-Major Source, BE = PE1 for all criteria pollutants.

7. SB 288 Major Modification

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

Since this facility is not a major source for any of the pollutants addressed in this project, this project does not constitute an SB288 major modification.

8. Federal Major Modification

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. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen.

QNEC = (PE2 – BE) / 4, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/yr.
PE2 = Post Project Potential to Emit for each emissions unit, lb/yr.
BE = Baseline Emissions (per Rule 2201) for each emissions unit, lb/yr.
For this application:

\[
\begin{align*}
QNEC_{\text{NO}_x} &= \frac{(135 \text{ lb-NO}_x/\text{yr} - 0 \text{ lb-NO}_x/\text{yr})}{4} = 33.75 \text{ lb/qtr} \\
QNEC_{\text{SO}_x} &= \frac{(0 \text{ lb-SO}_x/\text{yr} - 0 \text{ lb-SO}_x/\text{yr})}{4} = 0 \text{ lb/qtr} \\
QNEC_{\text{PM}_{10}} &= \frac{(3 \text{ lb-PM}_{10}/\text{yr} - 0 \text{ lb-PM}_{10}/\text{yr})}{4} = 0.75 \text{ lb/qtr} \\
QNEC_{\text{CO}} &= \frac{(16 \text{ lb-CO}/\text{yr} - 0 \text{ lb-CO}/\text{yr})}{4} = 4 \text{ lb/qtr} \\
QNEC_{\text{VOC}} &= \frac{(2 \text{ lb-VOC}/\text{yr} - 0 \text{ lb-VOC}/\text{yr})}{4} = 0.5 \text{ lb/qtr}
\end{align*}
\]

<table>
<thead>
<tr>
<th>QNEC (lb/qtr)</th>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\text{x}</td>
<td>33</td>
<td>34</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>SO\text{x}</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PM\text{10}</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>CO</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>VOC</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

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 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 SB288 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.

As discussed in Section I, the facility is proposing to install an emergency standby IC engine. Additionally, as determined in Sections VII.C.7 and VII.C.8, this project does not result in an SB288 Major Modification or a Federal Major Modification, respectively. Therefore, BACT can only be triggered if the daily emissions exceed 2.0 lb/day for any pollutant.
The daily emissions from the new engine are compared to the BACT threshold levels in the following table:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Daily Emissions for unit -10-0 (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>108.2</td>
<td>&gt; 2.0</td>
<td>n/a</td>
<td>Yes</td>
</tr>
<tr>
<td>SOx</td>
<td>0.1</td>
<td>&gt; 2.0</td>
<td>n/a</td>
<td>No</td>
</tr>
<tr>
<td>PM_{10}</td>
<td>2.4</td>
<td>&gt; 2.0</td>
<td>n/a</td>
<td>Yes</td>
</tr>
<tr>
<td>CO</td>
<td>12.8</td>
<td>&gt; 2.0 and SSPE2 ≥ 200,000 lb/yr</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>VOC</td>
<td>1.6</td>
<td>&gt; 2.0</td>
<td>n/a</td>
<td>No</td>
</tr>
</tbody>
</table>

As shown above, BACT will be triggered for NOx and PM_{10} emissions from the engine for this project.

2. BACT Guideline

There was no BACT Guideline in effect in San Joaquin County when this engine was installed in 1987. Pursuant to District Policy FYI-98, The District's BACT analysis is limited to the types of controls which can be applied to the specific engine installed.

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 B of this report, there are no add-on controls identified for this class and category of equipment. Therefore, the installed equipment satisfies BACT, as installed, with:

- NOx: Estimated NOx emissions of 7.6 g/hp-hr
- PM_{10}: Estimated PM_{10} emissions of 0.17 g/hp-hr

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

As shown in Sections VII.C.5, VII.C.7, and VII.C.8, this facility is not a new Major Source, not an SB 288 Major Modification, and not a Federal Major Modification, respectively.

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

As calculated in Section VII.C.2, daily emissions for NO\textsubscript{x} exceed 100 lb/day. Therefore, public noticing will be required for potential emissions exceeding 100 pounds per day for NO\textsubscript{x}.

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

As shown in Section VII.C.4, an offset threshold will not be surpassed.

d. Any project with a Stationary Source Project Increase in Permitted Emissions (SSIPE) greater than 20,000 lb/year for any pollutant.

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

2. Public Notice Action

As demonstrated above, this project will require public noticing.

D. Daily Emissions Limits

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Sections 3.16 and 5.7.2 of Rule 2201 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: 7.6 g-NOx/bhp-hr, 0.9 g-CO/bhp-hr, or 0.11 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]

• Emissions from this IC engine shall not exceed 0.17 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

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)

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 D, the proposed equipment will not cause or make worse a violation of an air quality standard for NOx, CO, PM10, or SOx.

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

§60.4200 - Applicability

Applicability

This subpart is applicable to owners and operators of stationary compression ignited internal combustion engines that commence construction after July 11, 2005, where the engines are:

1) Manufactured after April 1, 2006, if not a fire pump engine.
2) Manufactured as a National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

Since the proposed engine was installed in 1987, this subpart does not apply.

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.

The emissions from this operation are not expected to impose any comfort, repose, health, or safety problems to the public provided the equipment is properly maintained and operated. 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 D.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Acute Hazard Index</th>
<th>Chronic Hazard Index</th>
<th>Cancer Risk</th>
<th>T-BACT Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-833-10-0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.77 in a million</td>
<td>No</td>
</tr>
</tbody>
</table>

The following conditions will be listed on the ATC to ensure compliance with the RMR:

- **{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]

- Emissions from this IC engine shall not exceed 0.17 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]

- 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 30 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

**Rule 4201 Particulate Matter Concentration**

Particulate matter emissions from the engine will be less than or equal to the rule limit of 0.1 grain per cubic foot of gas at dry standard conditions as shown by the following:

$$\frac{0.25 (g - PM_{10})}{bhp - hr} \times \frac{1g - PM_{10}}{0.96g - PM_{10}} \times \frac{1bhp - hr}{2,542.5 Btu} \times \frac{10^6 Btu}{9,051 dscf} \times \frac{0.35 Btu_{out}}{1 Btu_{in}} \times \frac{15.43 \text{ grain}}{g} = 0.061 \frac{\text{grain-PM}}{dscf}$$

Since 0.061 grain-PM/dscf is ≤ to 0.1 grain per dscf, compliance with Rule 4201 is expected.

Therefore, the following condition will be listed on the ATC to ensure compliance:

- **{14}** Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
Rule 4701 Internal Combustion Engines – Phase 1

Pursuant to Section 7.5.2.3 of District Rule 4702, as of June 1, 2006, District Rule 4701 is no longer applicable to diesel-fired emergency standby or emergency IC engines. Therefore, this diesel-fired emergency IC engine will comply with the requirements of District Rule 4702 and no further discussion is required.

Rule 4702 Internal Combustion Engines – Phase 2

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.

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</th>
<th>Proposed Method of Compliance with District Rule 4702 Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emergency Standby IC Engines</strong></td>
<td></td>
</tr>
<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 30 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 |
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:

- {3479} 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 SO\textsubscript{2}) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

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

\(n = \text{mole of } \text{SO}_2\)

\(T \text{ (standard temperature)} = 60 ^\circ \text{F or } 520 ^\circ \text{R}\)

\(R \text{ (universal gas constant)} = \frac{10.73 \text{psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ \text{R}}\)
Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition (previously proposed in this engineering evaluation) 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, 4102, and 4801 and 17 CCR 93115 and 40 CFR 60.4207]

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

California Health & Safety Code 42301.6 requires that the District prepare a school notice prior to approving an application for a permit to construct or modify a source that emits toxic air emissions which is located within 1,000 feet from the outer boundary of a K-12 school site.

The District has verified that this site is located within 1,000 feet of the following two schools:

- **School Name:** Port City Academy
  - **Address:** 2040 West Ln, Stockton, CA 95205

- **School Name:** Langston Hughes Academy
  - **Address:** 2050 West Ln, Stockton, CA 95205

Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is required. Prior to the issuance of the ATC for this equipment, notices will be provided to the parents/guardians of all students of the affected schools, and will be sent to all residents within 1,000 feet of the site.

The District has verified that there are no additional schools within ¼ mile of the emission source.

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

Title 17 CCR, Section 93115, (e)(2)(A)(3)(b) stipulates that new stationary emergency standby diesel-fueled CI engines (> 50 bhp) must meet the VOC, NOx, and CO 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) or the Tier 1 standards for an off-road engine if no standards have been established for an off-road engine of the same model year and maximum rated power.
However, Title 17 CCR, Section 93115.4 (a)(50)(A) defines a new stationary CI engine that is installed at a facility after January 1, 2005. This engine was installed in 1988. Therefore, this engine is not considered a new stationary CI engine, and the emissions requirement of Title 17 CCR, Section 93115 does not apply.

Emergency Operating Requirements:

This regulation stipulates that no owner or operator shall operate any new or in-use stationary diesel-fueled compression ignition (CI) emergency standby engine, in response to the notification of an impending rotating outage, unless specific criteria are met.

This section applies to emergency standby IC engines that are permitted to operate during non-emergency conditions for the purpose of providing electrical power. However, District Rule 4702 states that emergency standby IC engines may only be operated during non-emergency conditions for the purposes of maintenance and testing. Therefore, this section does not apply and no further discussion is required.

Fuel and Fuel Additive Requirements:

This regulation also stipulates that as of January 1, 2006 an owner or operator of a new or in-use stationary diesel-fueled CI emergency standby engine shall fuel the engine with CARB Diesel Fuel.

Since the engine involved with this project is a new or in-use stationary diesel-fueled CI emergency standby engine, these fuel requirements are applicable. Therefore, the following condition (previously proposed in this engineering evaluation) 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, 4102, and 4801 and 17 CCR 93115]

At-School and Near-School Provisions:

This regulation stipulates that no owner or operator shall operate a new or in-use stationary emergency standby diesel-fueled CI engine, with a PM_{10} emissions factor > than 0.01 g/bhp-hr, for non-emergency use, including maintenance and testing, during the following periods:

1. Whenever there is a school sponsored activity, if the engine is located on school grounds, and
2. Between 7:30 a.m. and 3:30 p.m. on days when school is in session, if the engine is located within 500 feet of school grounds.

The District has verified that the engine is located within 500 feet of a K-12 school. Therefore, the following condition will be included on the permit:
• {3416} If this engine is located on the grounds of a K-12 school, or if this engine is located within 500 feet of the property boundary of a K-12 school, the engine shall not be operated for non-emergency purposes, including maintenance and testing, between 7:30 a.m. and 3:30 p.m. on days when school is in session. [17 CCR 93115]

Recordkeeping Requirements:

This regulation stipulates that as of January 1, 2005, each owner or operator of an emergency standby diesel-fueled CI engine shall keep a monthly log of usage that shall list and document the nature of use for each of the following:

a. Emergency use hours of operation;
b. Maintenance and testing hours of operation;
c. Hours of operation for emission testing;
d. Initial start-up hours; and
e. If applicable, hours of operation to comply with the testing requirements of National Fire Protection Association (NFPA) 25 — “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,” 1998 edition;
f. Hours of operation for all uses other than those specified in sections ‘a’ through ‘d’ above; and
g. For in-use emergency standby diesel-fueled engines, the fuel used. The owner or operator shall document fuel use through the retention of fuel purchase records that account for all fuel used in the engine and all fuel purchased for use in the engine, and, at a minimum, contain the following information for each individual fuel purchase transaction:

   I. Identification of the fuel purchased as either CARB Diesel, or an alternative diesel fuel that meets the requirements of the Verification Procedure, or an alternative fuel, or CARB Diesel fuel used with additives that meet the requirements of the Verification Procedure, or any combination of the above;
   II. Amount of fuel purchased;
   III. Date when the fuel was purchased;
   IV. Signature of owner or operator or representative of owner or operator who received the fuel; and
   V. Signature of fuel provider indicating fuel was delivered.

The engine associated with this project is an in-use emergency standby engine powering an electrical generator. Therefore, the following conditions (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

• {3479} 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]

- (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]

PM Emissions and Hours of Operation Requirements for In-Use Diesel Engines:

This regulation stipulates no person shall operate any in-use stationary emergency standby diesel-fueled CI engine that has a rated brake horsepower greater than 50, unless it meets all of the following applicable emission standards and operating requirements.

1. Emits diesel PM at a rate greater than 0.15 g/bhp-hr or less than or equal to 0.40 g/bhp-hr; or
2. Meets the current model year diesel PM standard specified in the Off-Road Compression Ignition Engine Standards for off-road engines with the same maximum rated power (Title 13 CCR, Section 2423), whichever is more stringent; and
3. Does not operate more than 30 hours per year for maintenance and testing purposes. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

Therefore, the following conditions (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- Emissions from this IC engine shall not exceed 0.17 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, and 17 CCR 93115]

- 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 30 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

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.

On December 17, 2009, the District's Governing Board adopted the first comprehensive regional policy and guidance on addressing and mitigating GHG emission impacts caused by industrial, commercial, and residential development in the San Joaquin Valley. The adopted District policy – *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* applies to projects for which the District has discretionary approval authority over the project and serves as
the lead agency for CEQA purposes. The policy relies on the use of performance based standards, otherwise known as Best Performance Standards (BPS) to assess significance of project specific greenhouse gas emissions on global climate change during the environmental review process, as required by CEQA.

Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. However, consistent with the District’s objective to achieve the GHG emission reduction targets established pursuant to AB 32, BPS will be incorporated into the District’s GEAR application review process. In the interim, projects meeting the existing GEAR requirements will continue to be processed as ministerial approvals.

IX. Recommendation

Issue In-House Permit to Operate N-833-10-0 subject to the permit conditions on the attached draft In-House Permit to Operate 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-833-10-0</td>
<td>3020-10-C</td>
<td>269 bhp IC engine</td>
<td>$240.00</td>
</tr>
</tbody>
</table>

Appendixes

A. Draft ATC
B. BACT Analysis
C. HRA Summary and AAQA
Appendix A

Draft ATC
Appendix B

BACT Analysis
BACT Analysis

BACT Analysis – NO\textsubscript{x} and PM\textsubscript{10}:

This engine was installed in 1987 without obtaining an Authority to Construct and did not qualify for a permit exemption when it was installed due to its power rating. However, the responsible air pollution permitting agency, San Joaquin County Air Pollution Control, did not have a BACT determination in place at that time for this class and category of equipment. Pursuant to District Policy FYI-98, the unit is considered to be BACT-compliant for at the time of installation. The District’s BACT analysis is therefore limited to the types of add-on controls that can be applied to the specific equipment that was installed.

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 3.1.1 identifies achieved in practice BACT for emissions from emergency diesel IC engines as follows:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Achieved in Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{x}</td>
<td>Latest EPA Tier Certification level for applicable horsepower range</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>0.15 g/hp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)</td>
</tr>
</tbody>
</table>

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

Step 2 - Eliminate technologically infeasible options

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

Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because only one control option for each pollutant is listed in Step 1. No add-on controls were identified.

Step 4 - Cost Effectiveness Analysis

Not applicable.

Step 5 - Select BACT

Since no add-on controls were identified, the existing equipment, as installed, is considered to satisfy BACT for NO\textsubscript{x} and PM\textsubscript{10}.
Appendix C

HRA Summary and AAQA