



APR 30 2013

Matt Mendonca  
Valley Business Bank  
701 W. Main St.  
Visalia, CA 93291

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Facility Number: S-8294**  
**Project Number: S-1130664**

Dear Mr. Mendonca:

Enclosed for your review and comment is the District's analysis of Valley Business Bank's application for an Authority to Construct for 112 bhp (intermittent) Cummins Model WSG-1068 natural gas-fired emergency standby IC engine powering an electric generator, at 701 W. Main St. in Visalia, 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 Ms. Vanesa Gonzalez of Permit Services at (559) 230- 5916.

Sincerely,



David Warner  
Director of Permit Services

DW:vg

Enclosures

cc: Mike Tollstrup, CARB (w/ enclosure) via email

**Seyed Sadredin**  
Executive Director/Air Pollution Control Officer

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

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
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**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: 661-392-5500 FAX: 661-392-5585

Newspaper notice for publication in Visalia Times-Delta and for posting on  
valleyair.org

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**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 Valley Business Bank for 112 bhp (intermittent) Cummins Model WSG-1068 natural gas-fired emergency standby IC engine powering an electric generator, at 701 W. Main St. in Visalia, Ca.

The analysis of the regulatory basis for this proposed action, Project #S-1130664, is available for public inspection at [http://www.valleyair.org/notices/public\\_notices\\_idx.htm](http://www.valleyair.org/notices/public_notices_idx.htm) and at any District office. For additional information, please contact the District at . Written comments on this project must be submitted by June 3, 2013 to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 1990 EAST GETTYSBURG AVENUE, FRESNO, CA 93726.**

**San Joaquin Valley Air Pollution Control District  
Authority to Construct  
Application Review  
Natural Gas-Fired Emergency Standby IC Engine**

|                  |                                      |                |                 |
|------------------|--------------------------------------|----------------|-----------------|
| Facility Name:   | Valley Business Bank                 | Date:          | April 4, 2013   |
| Mailing Address: | 701 W. Main St.<br>Visalia, Ca 93291 | Engineer:      | Vanesa Gonzalez |
| Contact Person:  | Matt Mendoca                         | Lead Engineer: | Stanley Tom     |
| Telephone:       | (559) 302-8133                       |                |                 |
| Application #:   | S-8294-1-0                           |                |                 |
| Project #:       | S-1130664                            |                |                 |
| Complete:        | March 13, 2013                       |                |                 |

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**I. Proposal**

Valley Business Bank is proposing to install a 112 bhp (intermittent) natural gas-fired emergency standby internal combustion (IC) engine powering an electric generator.

**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 (8/18/11)  
Rule 4801 Sulfur Compounds (12/17/92)  
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  
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 701 W. Main St. in Visalia, 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 electric generator. Other than emergency operation, the engine may be operated up to 100 hours per year for maintenance and testing purposes.

### V. Equipment Listing

**S-8294-1-0:** 112 BHP (INTERMITTENT) FORD MODEL WSG-1068 RICH-BURN  
NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE  
POWERING AN ELECTRICAL GENERATOR

### VI. Emission Control Technology Evaluation

The engine is equipped with:

- Closed-Loop Breather System
- Non-Selective Catalytic Reduction
- Air/Fuel Ratio or an O<sub>2</sub> Controller
- Lean Burn Technology

The Closed-Loop Breather System is similar to a Positive Crankcase Ventilation (PCV) system in that it circulates crankcase gases back into the manifold to burn off crankcase VOC and PM<sub>10</sub> emissions. The Closed-Loop Breather System is expected to have the same emissions reduction as PCV of at least 90% over an uncontrolled crankcase vent.

### VII. General Calculations

#### A. Assumptions

|                                   |                                                            |
|-----------------------------------|------------------------------------------------------------|
| Emergency operating schedule:     | 24 hours/day                                               |
| Non-emergency operating schedule: | 100 hours/year                                             |
| EPA F-factor (adjusted to 60 °F): | 8,578 dscf/MMBtu (40 CFR 60 Appendix B)                    |
| Fuel heating value:               | 1,000 Btu/dscf (District Policy APR-1720, dated 12/20/01)  |
| BHP to Btu/hr conversion:         | 2,542.5 Btu/bhp-hr                                         |
| Sulfur concentration:             | 2.85 lb-S/MMscf (District Policy APR-1720, dated 12/20/01) |
| Thermal efficiency of engine:     | commonly ≈ 35%                                             |

**B. Emission Factors**

| Emission Factors    |                            |                             |                             |
|---------------------|----------------------------|-----------------------------|-----------------------------|
| Pollutant           | Emission Factor (lb/MMBtu) | Emission Factor (g/bhp-hr)* | Source                      |
| NO <sub>x</sub>     |                            | 6.2                         | Manufacturer Specifications |
| SO <sub>x</sub>     | 0.00285                    | 0.0094                      | Mass Balance Equation Below |
| PM <sub>10</sub> ** | 0.019                      | 0.063                       | AP-42 (7/00) Table 3.2-3    |
| CO                  |                            | 46.4                        | Manufacturer Specifications |
| VOC                 |                            | 1.2                         | Manufacturer Specifications |

\*g/bhp-hr equivalent of lb/MMBtu values are calculated as follows (ex. for SO<sub>x</sub>):

$$0.00285 \frac{lb}{MMBtu} \times \frac{1 MMBtu}{1,000,000 Btu} \times \frac{2,542.5 Btu}{bhp - hr input} \times \frac{1 bhp input}{0.35 bhp out} \times \frac{453.6 g}{lb} = 0.0094 \frac{g - NO_x}{bhp - hr}$$

\*\*PM<sub>10</sub> value includes both filterable (9.50x10<sup>-3</sup> lb/MMBtu) and condensable (9.91x10<sup>-3</sup> lb/MMBtu) emissions.

**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:

| Daily Post Project Emissions |                             |              |                                    |                   |                    |
|------------------------------|-----------------------------|--------------|------------------------------------|-------------------|--------------------|
| Pollutant                    | Emissions Factor (g/bhp-hr) | Rating (bhp) | Daily Hours of Operation (hrs/day) | Conversion (g/lb) | PE2 Total (lb/day) |
| NO <sub>x</sub>              | 6.2                         | 112          | 24                                 | 453.6             | 36.7               |
| SO <sub>x</sub>              | 0.0094                      | 112          | 24                                 | 453.6             | 0.1                |
| PM <sub>10</sub>             | 0.063                       | 112          | 24                                 | 453.6             | 0.4                |
| CO                           | 46.4                        | 112          | 24                                 | 453.6             | 275.0              |
| VOC                          | 1.2                         | 112          | 24                                 | 453.6             | 7.1                |

| Annual Post Project Emissions |                             |              |                                    |                   |                   |
|-------------------------------|-----------------------------|--------------|------------------------------------|-------------------|-------------------|
| Pollutant                     | Emissions Factor (g/bhp-hr) | Rating (bhp) | Annual Hours of Operation (hrs/yr) | Conversion (g/lb) | PE2 Total (lb/yr) |
| NO <sub>x</sub>               | 6.2                         | 112          | 100                                | 453.6             | 153               |
| SO <sub>x</sub>               | 0.0094                      | 112          | 100                                | 453.6             | 0                 |
| PM <sub>10</sub>              | 0.063                       | 112          | 100                                | 453.6             | 2                 |
| CO                            | 46.4                        | 112          | 100                                | 453.6             | 1146              |
| VOC                           | 1.2                         | 112          | 100                                | 453.6             | 30                |

### 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.

Since this is a new facility, there are no existing permit units or any ERCs banked at this facility. Thus:

**SSPE1 = 0 lb/yr for all criteria pollutants**

### 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.

| SSPE2              |                         |                         |                          |             |             |
|--------------------|-------------------------|-------------------------|--------------------------|-------------|-------------|
| Permit Unit        | NO <sub>x</sub> (lb/yr) | SO <sub>x</sub> (lb/yr) | PM <sub>10</sub> (lb/yr) | CO (lb/yr)  | VOC (lb/yr) |
| S-8294-1-0         | 153                     | 0                       | 2                        | 1146        | 30          |
| <b>SSPE2 Total</b> | <b>153</b>              | <b>0</b>                | <b>2</b>                 | <b>1146</b> | <b>30</b>   |

## 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.

| Major Source Determination |               |               |                                |                        |                          |
|----------------------------|---------------|---------------|--------------------------------|------------------------|--------------------------|
| Pollutant                  | SSPE1 (lb/yr) | SSPE2 (lb/yr) | Major Source Threshold (lb/yr) | Existing Major Source? | Becoming a Major Source? |
| NO <sub>x</sub>            | 0             | 153           | 20,000                         | No                     | No                       |
| SO <sub>x</sub>            | 0             | 0             | 140,000                        | No                     | No                       |
| PM <sub>10</sub>           | 0             | 2             | 140,000                        | No                     | No                       |
| CO                         | 0             | 1,146         | 200,000                        | No                     | No                       |
| VOC                        | 0             | 30            | 20,000                         | No                     | No                       |

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 3.23

Since this is a new emissions unit, BE = PE1 = 0 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."

As discussed in Section VII.C.5 above, this facility is not a major source for any of the pollutants addressed in this project; therefore, the project does not constitute a SB 288 Major Modification.

## **8. Federal Major Modification**

District Rule 2201, Section 3.18 states that Federal Major Modifications are the same as "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM<sub>10</sub> (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. Detailed QNEC calculations are included in Appendix D.

# **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 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.

As discussed in Section I, the facility is proposing to install a new 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:

| New Emissions Unit BACT Applicability |                          |                                    |               |                 |
|---------------------------------------|--------------------------|------------------------------------|---------------|-----------------|
| Pollutant                             | Daily Emissions (lb/day) | BACT Threshold (lb/day)            | SSPE2 (lb/yr) | BACT Triggered? |
| NO <sub>x</sub>                       | 36.7                     | > 2.0                              | n/a           | Yes             |
| SO <sub>x</sub>                       | 0.1                      | > 2.0                              | n/a           | No              |
| PM <sub>10</sub>                      | 0.4                      | > 2.0                              | n/a           | No              |
| CO                                    | 275.0                    | > 2.0 and<br>SSPE2 ≥ 200,000 lb/yr | 1,146         | No              |
| VOC                                   | 7.1                      | > 2.0                              | n/a           | Yes             |

As shown above, BACT will be triggered for NO<sub>x</sub> and VOC emissions from the engine for this project.

## 2. BACT Guideline

BACT Guideline 3.1.5, 2<sup>nd</sup> quarter 2013, which appears in Appendix A of this report, covers rich burn gas-fired emergency IC engines of less than 132 brake horsepower.

## 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 A of this report, BACT is satisfied with:

NO<sub>x</sub>: No control technology (No technologically feasible option was determined to be cost effective)

VOC: Closed-Loop Breather System equivalent to crankcase ventilation system

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

- {modified 3501} Emissions from this IC engine shall not exceed any of the following limits: 6.2 g-NOx/bhp-hr, 0.063 g-PM10/bhp-hr, 46.4 g-CO/bhp-hr, or 1.2 g-VOC/bhp-hr. [District Rule 2201]
- {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
- {modified 1897} This engine shall be equipped with either a positive crankcase ventilation (PCV) system which recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency such as Closed-Loop Breather System. [District Rule 2201]

## **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 CO are greater than 100 lb/day.

- 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. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC(s) for this equipment.

## **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. DELs are also required to enforce the applicability of BACT. For this emergency standby IC engine, the DELs are stated in the form of emission factors, and the maximum engine horsepower rating. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- {modified 3501} Emissions from this IC engine shall not exceed any of the following limits: 6.2 g-NOx/bhp-hr, 0.063 g-PM10/bhp-hr, 46.4 g-CO/bhp-hr, or 1.2 g-VOC/bhp-hr [District Rule 2201 and 40 CFR Subpart JJJJ]
- {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]

## **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 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*, this IC 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

No reporting is required to ensure compliance with Rule 2201.

## F. Ambient Air Quality Analysis

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. The District's Technical Services Division conducted the required analysis. Refer to Appendix B of this document for the AAQA summary sheet.

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

The proposed location is in a non-attainment area for PM<sub>10</sub>. The increase in the ambient PM<sub>10</sub> concentration due to the proposed equipment is shown on the table titled Calculated Contribution. The levels of significance, from 40 CFR Part 51.165 (b)(2), are shown on the table titled Significance Levels.

| Significance Levels |                                                                      |            |           |           |           |
|---------------------|----------------------------------------------------------------------|------------|-----------|-----------|-----------|
| Pollutant           | Significance Levels (µg/m <sup>3</sup> ) - 40 CFR Part 51.165 (b)(2) |            |           |           |           |
|                     | Annual Avg.                                                          | 24 hr Avg. | 8 hr Avg. | 3 hr Avg. | 1 hr Avg. |
| PM <sub>10</sub>    | 1.0                                                                  | 5          | N/A       | N/A       | N/A       |

| Calculated Contribution |                                               |                  |           |           |           |
|-------------------------|-----------------------------------------------|------------------|-----------|-----------|-----------|
| Pollutant               | Calculated Contributions (µg/m <sup>3</sup> ) |                  |           |           |           |
|                         | Annual Avg.                                   | 24 hr Avg.       | 8 hr Avg. | 3 hr Avg. | 1 hr Avg. |
| PM <sub>10</sub>        | 0.001                                         | N/A <sup>1</sup> | N/A       | N/A       | N/A       |

<sup>1</sup>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.

As shown, the calculated contribution of PM<sub>10</sub> will not exceed the EPA significance level. This project is not expected to cause or make worse a violation of an air quality standard.

## **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)**

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. The following subpart of 40 CFR Part 60 applies to reciprocating natural gas-fired IC engines.

### **40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines**

§60.4230(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraph (a)(4)(iv)—Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured on or after January 1, 2009, for emergency engines with a maximum engine power greater than 25 hp.

§60.4233(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE.

The emissions requirements for this unit from Table 1 are 10 g-NO<sub>x</sub>/hp-hr and 387 g-CO/hp/hr. As show in Section VII this unit meets the emissions requirements. The following condtion will ensure compliance.

- {edited 3501} Emissions from this IC engine shall not exceed any of the following limits: 6.2 g-NO<sub>x</sub>/bhp-hr, 0.063 g-PM<sub>10</sub>/bhp-hr, 46.4 g-CO/bhp-hr, or 1.2 g-VOC/bhp-hr [District Rule 2201 and 40 CFR Subpart JJJJ]

§60.4243(a)(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance.

§60.4243(b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in §60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

§60.4243(b)(1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph §60.4243(a).

The proposed engine has been issued an EPA Certificate of Conformity (Certificate Number PSI-LSI-10-08) stating that the engine conforms to the applicable requirements of this subpart.

§60.4243(d) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing. Maintenance checks and readiness testing is limited to 100 hours per year. The following condition complies with this requirement.

- {3806} 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 100 hours per calendar year. [District Rule 4702 and 40 CFR Subpart JJJJ]

§60.4245(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4).

- (1) All notifications submitted to comply with this subpart and all documentation supporting any notification.
- (2) Maintenance conducted on the engine.
- (3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.
- (4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.

The following condition complies with this requirement.

- {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 40 CFR Subpart JJJJ]

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

The District has not been delegated the authority to implement NESHAP regulations for Area Source requirements for non-Major Sources; therefore, no requirements shall be included on the permit.

**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 pursuant to the policy, a risk management review has been performed for this project to analyze the impact of toxic emissions. For projects where the increase in cancer risk is greater than one per million, Toxic Best Available Control Technology (T-BACT) is required.

The HRA results for this project are shown below (see the HRA Summary in Appendix B):

| HRA Results |                    |                      |                   |                  |
|-------------|--------------------|----------------------|-------------------|------------------|
| Unit        | Acute Hazard Index | Chronic Hazard Index | Cancer Risk       | T-BACT Required? |
| S-8294-1-0  | 0.04               | 0.0                  | 0.24 in a million | No               |

As demonstrated previously, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix B of this report, the emissions increases for this project was determined to be less than significant.

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

- {1898} 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]
- {modified 3806} 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 100 hours per calendar year. [District Rule 4702 and 40 CFR Subpart JJJJ]

### 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:

$$0.063 \frac{g - PM_{10}}{bhp - hr} \times \frac{1g - PM_{10}}{0.96g - PM_{10}} \times \frac{1bhp - hr}{2,542.5 Btu} \times \frac{10^6 Btu}{8,578 dscf} \times \frac{0.35 Btu_{out}}{1 Btu_{in}} \times \frac{15.43 grain}{g} = 0.016 \frac{grain - PM}{dscf}$$

Since 0.016 grain-PM/dscf is  $\leq$  to 0.1 grain per dscf, compliance with Rule 4201 is expected.

- {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 7.6.3.3 of District Rule 4702, as of June 1, 2006 District Rule 4701 is no longer applicable to natural gas-fired emergency standby or emergency IC engines. Therefore, this natural gas-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 (NO<sub>x</sub>), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines.

This rule applies to any internal combustion engine with a rated brake horsepower greater than 50 horsepower.

Pursuant to Section 4.2, except for the requirements of Sections 5.7 and 6.2.3, the requirements of this rule shall not apply to an internal combustion engine that meets the following condition:

- 1) An emergency standby engine as defined in Section 3.0 of this rule, and provided that it is operated with a nonresettable elapsed operating time meter. In lieu of a nonresettable time meter, the owner of an emergency engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

Section 3.15 defines an "Emergency Standby Engine" as an internal combustion engine which operates as a temporary replacement for primary mechanical or electrical power during an unscheduled outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the operator. An engine shall be considered to be an emergency standby engine if it is used only for the following purposes: (1) periodic maintenance, periodic readiness testing, or readiness testing during and after repair work; (2) unscheduled outages, or to supply power while maintenance is performed or repairs are made to the primary power supply; and (3) if it is limited to operate 100 hours or less per calendar year for non-emergency purposes. An engine shall not be considered to be an emergency standby engine if it is used: (1) to reduce the demand for electrical power when normal electrical power line service has not failed, or (2) to produce power for the utility electrical distribution system, or (3) in conjunction with a voluntary utility demand reduction program or interruptible power contract.

Therefore, the emergency standby IC engine involved with this project will only have to meet the requirements of Sections 5.7 and 6.2.3 of this Rule.

Section 5.7 of this Rule requires that the owner of an emergency standby engine shall comply with the requirements specified in Section 5.7.2 through Section 5.7.5 below:

- 1) Properly operate and maintain each engine as recommended by the engine manufacturer or emission control system supplier.

- 2) Monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.
- 3) Install and operate a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner of an engine may use an alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO and is allowed by Permit-to-Operate or Stationary Equipment Registration condition. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

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

- {3405} 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]
- {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]
- {3404} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
- {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]
- {3806} 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 100 hours per calendar year. [District Rule 4702 and 40 CFR Subpart JJJJ]

Section 6.2.3 requires that an owner claiming an exemption under Section 4.2 or Section 4.3 shall maintain annual operating records. This information shall be retained for at least five years, shall be readily available, and submitted to the APCO upon request and at the

end of each calendar year in a manner and form approved by the APCO. Therefore, the following condition (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- {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 40 CFR Subpart JJJJ]
- {3497} 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]

### Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO<sub>2</sub>) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = (n \times R \times T) \div P$$

n = moles SO<sub>2</sub>

T (standard temperature) = 60 °F or 520 °R

$$R \text{ (universal gas constant)} = \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot \text{°R}}$$

$$2.85 \frac{\text{lb-S}}{\text{MMscf-gas}} \times \frac{1 \text{ scf-gas}}{1,000 \text{ Btu}} \times \frac{1 \text{ MMBtu}}{8,578 \text{ scf}} \times \frac{1 \text{ lb-mol}}{64 \text{ lb-S}} \times \frac{10.73 \text{ psi-ft}^3}{\text{lb-mol-°R}} \times \frac{520 \text{ °R}}{14.7 \text{ psi}} \times 1,000,000 = 1.97 \text{ ppmv}$$

Since 1.97 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:

- {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]

### 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**

This regulation applies to any new or in-use stationary diesel-fueled compression ignition (CI) emergency standby engine. The engine involved with this project is fired on natural gas and is not compression ignited. Therefore, this regulation is not applicable to the engine involved with this project.

### **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 S-8294-1-0 subject to the permit conditions on the attached draft Authority to Construct in Appendix E.

**X. Billing Information**

| <b>Billing Schedule</b> |                     |                        |                   |
|-------------------------|---------------------|------------------------|-------------------|
| <b>Permit Number</b>    | <b>Fee Schedule</b> | <b>Fee Description</b> | <b>Fee Amount</b> |
| S-8294-1-0              | 3020-10-B           | 112 bhp IC engine      | \$117.00          |

**List of Appendixes**

- A. BACT Guideline and BACT Analysis
- B. HRA Summary
- D. QNEC Calculations
- E. Draft ATC

Appendix A  
BACT Guideline and BACT Analysis

San Joaquin Valley  
Unified Air Pollution Control District

**Best Available Control Technology (BACT) Guideline 3.1.5\***

Last Update 11/27/1996

**Emergency Gas Fired I.C. Engine - < 132 hp, Rich Burn**

| <b>Pollutant</b> | <b>Achieved in Practice or contained in the SIP</b> | <b>Technologically Feasible</b>                            | <b>Alternate Basic Equipment</b> |
|------------------|-----------------------------------------------------|------------------------------------------------------------|----------------------------------|
| CO               |                                                     | CO Catalyst (3 way)                                        |                                  |
| NOx              |                                                     | NOx Catalyst (3 way)                                       |                                  |
| PM10             | Positive crankcase ventilation (PCV)                | Positive crankcase ventilation (PCV)                       |                                  |
| VOC              | Positive crankcase ventilation (PCV)                | VOC catalyst (3 way), positive crankcase ventilation (PCV) |                                  |

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.

**\*This is a Summary Page for this Class of Source**

## **Top Down BACT Analysis for the Emergency IC Engine**

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

### **1. BACT Analysis for NO<sub>x</sub> Emissions:**

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

The SJVUAPCD BACT Clearinghouse guideline 3.1.5, 2<sup>nd</sup> quarter 2013, identifies technologically feasible BACT for NO<sub>x</sub> emissions from rich-burn emergency natural gas IC engines < 132 bhp as follows:

- 1) NO<sub>x</sub> catalyst (three-way catalyst)

No achieved in practice alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

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

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

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

- 1) NO<sub>x</sub> catalyst (three-way catalyst)

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

This facility is classified as a small emitter, per the District's BACT Policy (dated 11/9/99) Section III.D, as facility-wide emissions are less than two tons per year of each affected pollutant. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.E.1, technologically feasible BACT and a cost effective analysis is not required.

#### **e. Step 5 - Select BACT**

There is no control technology that is cost effective for BACT for NO<sub>x</sub> emissions from this rich-burn emergency standby natural gas IC engine < 132 bhp. The applicant has proposed to install a 112 bhp rich-burn emergency standby natural gas IC engine without a NO<sub>x</sub> catalyst (three-way catalyst); therefore BACT for NO<sub>x</sub> emissions is satisfied.



## **BACT Analysis for VOC Emissions:**

### **5. BACT Analysis for VOC Emissions:**

Volatile organic compounds (VOC) emissions are generated from the incomplete combustion of the fuel. Some VOCs are emitted from the crankcase of the engine as a result of piston ring blow-by.

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

The SJVUAPCD BACT Clearinghouse guideline 3.1.5, 2<sup>nd</sup> quarter 2013, identifies achieved in practice BACT for VOC emissions from rich-burn emergency natural gas IC engines < 132 bhp as follows:

- 1) Positive crankcase ventilation (Achieved In Practice)
- 2) VOC catalyst (three-way catalyst) and positive crankcase ventilation (Technologically Feasible)

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

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

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

- 1) VOC catalyst (three-way catalyst) and positive crankcase ventilation
- 2) Positive crankcase ventilation

#### **d. Step 4 - Cost effectiveness analysis**

A cost effective analysis must be performed for all control options in the list from Step 3 in the order of their ranking to determine the cost effective option with the lowest emissions

This facility is classified as a small emitter, per the District's BACT Policy (dated 11/9/99) Section III.D, as facility-wide emissions are less than two tons per year of each affected pollutant. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.E.1, technologically feasible BACT and a cost effective analysis is not required.

The only remaining control technology alternative in the ranking list from Step 3 has been achieved in practice. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

#### **e. Step 5 - Select BACT**

BACT for VOC emissions from this rich-burn emergency standby natural gas IC engines < 132 bhp is positive crankcase ventilation. The applicant has proposed to

install a 112 bhp rich-burn emergency standby natural gas IC engine with positive crankcase ventilation; therefore BACT for VOC emissions is satisfied.

Appendix B  
HRA Summary

## San Joaquin Valley Air Pollution Control District Risk Management Review

To: Vanesa Gonzales - Permit Services  
 From: Kyle Melching - Permit Services  
 Date: April 3, 2013  
 Facility Name: Valley Business Bank  
 Location: 701 W. Main St., Visalia  
 Application #(s): S-8294-1-0  
 Project #: S-1130664

---

### A. RMR SUMMARY

| Categories                     | NG-FIRED EMERGENCY<br>STANDBY ICE<br>(Unit 1-0) | Project<br>Totals | Facility<br>Totals |
|--------------------------------|-------------------------------------------------|-------------------|--------------------|
| Prioritization Score           | 1.67                                            | 1.67              | >1                 |
| Acute Hazard Index             | 0.04                                            | 0.04              | 0.04               |
| Chronic Hazard Index           | 0.00                                            | 0.00              | 0.00               |
| Maximum Individual Cancer Risk | 2.40E-07                                        | 2.40E-07          | 2.40E-07           |
| T-BACT Required?               | No                                              |                   |                    |
| Special Permit Conditions?     | Yes                                             |                   |                    |

### Proposed Permit Conditions

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

#### Unit 1-0

1. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
2. This engine shall 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 **100** hours per calendar year. [District Rule 4702 and 17 CCR 93115]

## B. RMR REPORT

### I. Project Description

Technical Services received a request on April 2, 2013, to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for a 112 BHP NG-fired emergency standby IC engine powering an electrical generator.

### II. Analysis

Toxic emissions for this proposed unit were calculated using 2001 Ventura County's Air Pollution Control District emission factors for Natural Gas Fired internal combustion (4 Stroke Rich Burn Engine). In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The project's prioritization score was greater than 1.0, (see RMR Summary Table); therefore, a refined analysis was required and performed. AERMOD was used with point source parameters outlined below and concatenated 5-year meteorological data from Visalia to determine maximum dispersion factors at the nearest residential and business receptors. The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.

The following parameters were used for the reviews:

| Analysis Parameters<br>Units 1-0 |       |                              |          |
|----------------------------------|-------|------------------------------|----------|
| Source Type                      | Point | Max Hours per Year           | 100      |
| Stack Height (m)                 | 7.32  | Type of Closest Receptor     | Business |
| Stack Diameter (m)               | 0.076 | Closest Receptor (m)         | 12       |
| Stack Temp (K)                   | 1440  | NG Emission Rates (mmscf/hr) | 0.00967  |
| Stack Velocity (m/s)             | 55.8  | NG Emission Rates (mmscf/yr) | 0.967    |

Technical Services also performed modeling for criteria pollutants NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>; as well as the RMR. For Unit 1-0, the emission rates used for criteria pollutant modeling were 153 lb/yr NO<sub>x</sub>, 0 lb/yr SO<sub>x</sub>, 2 lb/yr PM<sub>10</sub>, and 2 lb/yr PM<sub>2.5</sub>.

The results from the Criteria Pollutant Modeling are as follows:

#### Criteria Pollutant Modeling Results\*

| NG ICE            | 1 Hour          | 3 Hours         | 8 Hours         | 24 Hours        | Annual            |
|-------------------|-----------------|-----------------|-----------------|-----------------|-------------------|
| CO                | NA <sup>1</sup> | X               | NA <sup>1</sup> | X               | X                 |
| NO <sub>x</sub>   | NA <sup>1</sup> | X               | X               | X               | Pass              |
| SO <sub>x</sub>   | NA <sup>1</sup> | NA <sup>1</sup> | X               | NA <sup>1</sup> | Pass              |
| PM <sub>10</sub>  | X               | X               | X               | NA <sup>1</sup> | Pass <sup>2</sup> |
| PM <sub>2.5</sub> | X               | X               | X               | NA <sup>1</sup> | Pass <sup>2</sup> |

\*Results were taken from the attached PSD spreadsheet.

<sup>1</sup>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.

<sup>2</sup>The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

### III. Conclusions

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

The acute and chronic hazard indices were below 1.0; and the cancer risk is **2.40E-07**; which is less than 1 in a million. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for the proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

### IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Stack Parameter Worksheet
- D. Prioritization score w/ toxic emissions summary
- E. HARP Risk Report
- F. Facility Summary

# 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:

QNEC = PE2 - BE, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.

BE = Baseline Emissions (per Rule 2201) for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, PE2<sub>quarterly</sub> and BE<sub>quarterly</sub> can be calculated as follows:

| Quarterly Post Project Emissions |                      |                           |
|----------------------------------|----------------------|---------------------------|
| Pollutant                        | PE2 Total<br>(lb/yr) | Quarterly PE2<br>(lb/qtr) |
| NO <sub>x</sub>                  | 153                  | 38.3                      |
| SO <sub>x</sub>                  | 0                    | 0.0                       |
| PM <sub>10</sub>                 | 2                    | 0.5                       |
| CO                               | 1146                 | 286.5                     |
| VOC                              | 30                   | 7.5                       |

$$\begin{aligned}
 BE_{\text{quarterly}} &= BE_{\text{annual}} \div 4 \text{ quarters/year} \\
 &= 0 \text{ lb/year} \div 4 \text{ qtr/year} \\
 &= 0 \text{ lb/qtr (for all criteria pollutants)}
 \end{aligned}$$

| QNEC             |                           |                          |               |
|------------------|---------------------------|--------------------------|---------------|
| Pollutant        | Quarterly PE2<br>(lb/qtr) | Quarterly BE<br>(lb/qtr) | QNEC (lb/qtr) |
| NO <sub>x</sub>  | 38                        | 0                        | 38.0          |
| SO <sub>x</sub>  | 0                         | 0                        | 0.0           |
| PM <sub>10</sub> | 1                         | 0                        | 1.0           |
| CO               | 287                       | 0                        | 287.0         |
| VOC              | 8                         | 0                        | 8.0           |

Appendix D  
Draft ATC



San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: S-8294-1-0

LEGAL OWNER OR OPERATOR: VALLEY BUSINESS BANK

MAILING ADDRESS: 701 W MAIN ST  
VISALIA, CA 93291

LOCATION: 701 W MAIN ST  
VISALIA, CA 93291

**EQUIPMENT DESCRIPTION:**

112 BHP (INTERMITTENT) FORD MODEL WSG-1068 RICH-BURN NATURAL GAS-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {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. This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency such as Closed-Loop Breather System. [District Rule 2201]
5. {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]
6. {3404} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
7. {3491} This IC engine shall be fired on Public Utility Commission (PUC) regulated natural gas only. [District Rules 2201 and 4801]
8. Emissions from this IC engine shall not exceed any of the following limits: 6.2 g-NOx/bhp-hr, 0.063 g-PM10/bhp-hr, 46.4 g-CO/bhp-hr, or 1.2 g-VOC/bhp-hr. [District Rule 2201 and 40 CFR Subpart JJJJ]

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT.** This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

**DRAFT**

DAVID WARNER, Director of Permit Services  
S-8294-1-0: Apr 23 2013 5:34PM - REFUERZJ : Joint Inspection NOT Required

9. {3405} 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 and 40 CFR Subpart JJJJ]
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 100 hours per calendar year. [District Rule 4702 and 40 CFR Subpart JJJJ]
12. {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]
13. {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]
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 Rule 4702, and 40 CFR Subpart JJJJ]
15. {3497} 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]

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