



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

APR 23 2012

Greg Gallion  
Houchin Community Blood Bank  
5901 Truxtun Avenue  
Bakersfield, CA 93309

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Project Number: S-1120345**

Dear Mr. Gallion:

Enclosed for your review and comment is the District's analysis of Houchin Community Blood Bank's application for an Authority to Construct for the installation of a 1200 bhp Cummins, Model QSK23-G7, or District approved equivalent, tier 2 diesel-fired emergency standby internal combustion (IC) engine powering an electrical generator, at 11515 Bolthouse Drive in Bakersfield, 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. Ashley Dahlstrom of Permit Services at (661) 392-5612.

Sincerely,

David Warner  
Director of Permit Services

DW: ABD/cm

Enclosures

**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  
Tel: (559) 230-6000 FAX: (559) 230-6061  
[www.valleyair.org](http://www.valleyair.org)

**Southern Region**

34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: (661) 392-5500 FAX: (661) 392-5585



# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

**APR 23 2012**

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

**Re: Notice of Preliminary Decision - Authority to Construct**  
**Project Number: S-1120345**

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Houchin Community Blood Bank's application for an Authority to Construct for the installation of a 1200 bhp Cummins, Model QSK23-G7, or District approved equivalent, tier 2 diesel-fired emergency standby internal combustion (IC) engine powering an electrical generator, at 11515 Bolthouse Drive in Bakersfield, CA.

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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 Houchin Community Blood Bank for the installation of a 1200 bhp Cummins, Model QSK23-G7, or District approved equivalent, tier 2 diesel-fired emergency standby internal combustion (IC) engine powering an electrical generator, at 11515 Bolthouse Drive in Bakersfield, CA.

The analysis of the regulatory basis for this proposed action, Project #S-1120345, 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 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, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

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

Facility Name: Houchin Community Blood Bank

Date: March 21, 2012

Mailing Address: 5901 Truxtun Avenue  
Bakersfield, Ca 93309

Engineer: Ashley Dahlstrom

Lead Engineer: Dan Klevann

Contact Person: Greg Gallion

DK 3-22-12

Telephone: (661) 323-4222

Application #: S-8125-1-0

Project #: S-1120345

Complete: February 28, 2012

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**I. Proposal**

Houchin Community Blood Bank is proposing to install a 1220 bhp diesel-fired emergency standby internal combustion (IC) engine powering an electrical 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 4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)

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 (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

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 11515 Bolthouse Drive in Bakersfield, CA. The District has verified that the equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

### IV. Process Description

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

### V. Equipment Listing

**S-8125-1-0:** 1220 BHP CUMMINS MODEL QSK23-G7 NR2, OR DISTRICT APPROVED EQUIVALENT, TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

### VI. Emission Control Technology Evaluation

The applicant has proposed to install a Tier 2 certified diesel-fired IC engine that is fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum). The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SO<sub>x</sub> emissions by over 99% from standard diesel fuel.

The proposed engine meets the latest Tier Certification requirements; therefore, the engine meets the latest ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide (see Appendix C for a copy of the emissions data sheet and/or the ARB/EPA executive order).

### VII. General Calculations

#### A. Assumptions

Emergency operating schedule:	24 hours/day
Non-emergency operating schedule:	50 hours/year
Density of diesel fuel:	7.1 lb/gal
EPA F-factor (adjusted to 60 °F):	9,051 dscf/MMBtu
Fuel heating value:	137,000 Btu/gal
BHP to Btu/hr conversion:	2,542.5 Btu/bhp-hr
Thermal efficiency of engine:	commonly ≈ 35%
PM <sub>10</sub> fraction of diesel exhaust:	0.96 (CARB, 1988)

**B. Emission Factors**

Emission Factors			
Pollutant	Emission Factor (g/kW-hr)	Emission Factor (g/bhp-hr)	Source
NO <sub>x</sub>	5.45	4.06	EPA Certification Summary – Appendix C
SO <sub>x</sub>	n/a	0.0051	Mass Balance Equation Below
PM <sub>10</sub>	0.13	0.10	EPA Certification Summary – Appendix C
CO	0.5	0.37	EPA Certification Summary – Appendix C
VOC	0.44	0.33	EPA Certification Summary – Appendix C

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

\*g/bhp-hr = g/kW-hr + 1.341

**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:

Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Annual Hours of Operation (hrs/yr)	Daily PE2 (lb/day)	Annual PE2 (lb/yr)
NO <sub>x</sub>	4.06	1220	24	50	262.1	546
SO <sub>x</sub>	0.0051	1220	24	50	0.3	1
PM <sub>10</sub>	0.10	1220	24	50	6.5	13
CO	0.37	1220	24	50	23.9	50
VOC	0.33	1220	24	50	21.3	44

**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, **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.

For this project the change in emissions for the facility is due to the installation of the new emergency standby IC engine, permit unit -1-0. Thus:

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)
SSPE1	0	0	0	0	0
S-8125-1-0	546	1	13	50	44
<b>SSPE2 Total</b>	<b>546</b>	<b>1</b>	<b>13</b>	<b>50</b>	<b>44</b>
<b>Offset Threshold</b>	<b>20,000</b>	<b>54,750</b>	<b>29,200</b>	<b>200,000</b>	<b>20,000</b>
<b>Offset Threshold Surpassed?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</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	546	20,000	No	No
SO <sub>x</sub>	0	1	140,000	No	No
PM <sub>10</sub>	0	13	140,000	No	No
CO	0	50	200,000	No	No
VOC	0	44	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 an 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<sub>2.5</sub> (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 E.

## **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 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 for unit -1-0 (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO <sub>x</sub>	262.1	> 2.0	n/a	Yes
SO <sub>x</sub>	0.3	> 2.0	n/a	No
PM <sub>10</sub>	6.5	> 2.0	n/a	Yes
CO	23.9	> 2.0 and SSPE2 ≥ 200,000 lb/yr	23.9	No
VOC	21.3	> 2.0	n/a	Yes

As shown above, BACT will be triggered for NO<sub>x</sub>, PM<sub>10</sub>, and VOC emissions from the engine for this project.

## 2. BACT Guideline

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

## 3. Top Down BACT Analysis

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule for source categories or classes covered in the BACT Clearinghouse, relevant information under each of the following steps may be simply cited from the Clearinghouse without further analysis."

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

- NO<sub>x</sub>: Latest EPA Tier Certification level for applicable horsepower range
- VOC: Latest EPA Tier Certification level for applicable horsepower range
- PM<sub>10</sub>: 0.10 g/hp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)

The following condition will be listed on the ATC to ensure compliance with the PM<sub>10</sub> BACT emissions limit:

- Emissions from this IC engine shall not exceed 0.10 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, 40 CFR Part 60 Subpart IIII]

## **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<sub>x</sub> 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 for this equipment.

## **D. Daily Emissions Limits**

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

- Emissions from this IC engine shall not exceed any of the following limits: 4.06 g-NO<sub>x</sub>/bhp-hr, 0.37 g-CO/bhp-hr, or 0.33 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
- Emissions from this IC engine shall not exceed 0.10 g-PM<sub>10</sub>/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]

## **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 NO<sub>x</sub>, CO, PM10, or SO<sub>x</sub>.

### **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

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 will be installed after July 11, 2005 and will be manufactured after April 1, 2006, this subpart applies.

All of the applicable standards of this subpart are less restrictive than current District requirements. This engine will comply with all current District standards so no further discussion is required.

### **Rule 4101 Visible Emissions**

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

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

**Rule 4102 Nuisance**

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

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

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

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources (dated 3/2/01) specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite. Therefore, a risk management review (RMR) was performed for this project. The RMR results are summarized in the following table, and can be seen in detail in Appendix D.

<b>RMR Results</b>				
Unit	Acute Hazard Index	Chronic Hazard Index	Cancer Risk	T-BACT Required?
S-8125-1-0	N/A	N/A	2.0E-07	Yes

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 0.1 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, 40 CFR Part 60 Subpart IIII]
- This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

**Rule 4201 Particulate Matter Concentration**

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

$$0.1 \frac{\text{grain-PM}}{\text{dscf}} \times \frac{\text{g}}{15.43 \text{ grain}} \times \frac{1 \text{ Btu}_{in}}{0.35 \text{ Btu}_{out}} \times \frac{9,051 \text{ dscf}}{10^6 \text{ Btu}} \times \frac{2,542.5 \text{ Btu}}{1 \text{ bhp-hr}} \times \frac{0.96 \text{ g-PM}_{10}}{1 \text{ g-PM}} = 0.4 \frac{\text{g-PM}_{10}}{\text{bhp-hr}}$$

The new engine has a PM<sub>10</sub> emission factor less than 0.4 g/bhp-hr. Therefore, compliance is expected and the following condition will be listed on the ATC:

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

### Rule 4701 Internal Combustion Engines – Phase 1

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

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

### Rule 4702 Internal Combustion Engines

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

District Rule 4702 Requirements Emergency Standby IC Engines	Proposed Method of Compliance with District Rule 4702 Requirements
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.	The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits this engine maintenance and testing to 50 hours/year. Thus, compliance is expected.
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: <ul style="list-style-type: none"> <li>• {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]</li> <li>• {3808} This engine shall not be used to</li> </ul>

	<p>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]</p>
<p>The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.</p>	<p>A permit condition enforcing this requirement was shown earlier in the evaluation.</p>
<p>The owner/operator must monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> <li>• {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]</li> </ul>
<p>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.</p>	<p>The following conditions will be included on the permit:</p> <ul style="list-style-type: none"> <li>• {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]</li> <li>• The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]</li> <li>• {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]</li> </ul>



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

$$\frac{0.000015 \text{ lb} - \text{S}}{\text{lb} - \text{fuel}} \times \frac{7.1 \text{ lb}}{\text{gal}} \times \frac{64 \text{ lb} - \text{SO}_2}{32 \text{ lb} - \text{S}} \times \frac{1 \text{ MMBtu}}{9,051 \text{ scf}} \times \frac{1 \text{ gal}}{0.137 \text{ MMBtu}} \times \frac{\text{lb} - \text{mol}}{64 \text{ lb} - \text{SO}_2} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} - \text{mol} \cdot \text{°R}} \times \frac{520 \text{°R}}{14.7 \text{ psi}} \times 1,000,000 = 1.0 \text{ ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, this engine is expected to comply with Rule 4801. Therefore, the following condition will be listed on the ATC to ensure compliance:

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

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

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

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

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

<b>Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Electrical Generators</b>	<b>Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements</b>
Emergency engine(s) must be fired on CARB diesel fuel, or an approved alternative diesel fuel.	The applicant has proposed the use of CARB certified diesel fuel. The proposed permit condition, requiring the use of CARB certified diesel fuel, was included earlier in this evaluation.
The engine(s) must emit diesel PM at a rate less than or equal to 0.15 g/bhp-hr or must meet the diesel PM standard, as specified in the Off-road compression	The applicant has proposed the use of engine(s) that are certified to the latest EPA Tier Certification level for the applicable horsepower range, guaranteeing compliance with the emission standards of Subpart IIII.

<p>ignition standards for off-road engines with the same maximum rated power (Title 13 CCR, Section 2423).</p>	<p>Additionally, the proposed diesel PM emissions rate is less than or equal to 0.15 g/bhp-hr.</p>
<p>The engine may not be operated more than 50 hours per year for maintenance and testing purposes.</p>	<p>The following condition will be included on the permit:</p> <ul style="list-style-type: none"> <li>• This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702, 17 CCR 93115 and 40 CFR Part 60 Subpart IIII]</li> </ul>
<p>New stationary emergency standby diesel-fueled CI engines (&gt; 50 bhp) must meet the standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression Ignition Engine Standards (title 13, CCR, section 2423).</p>	<p>The applicant has proposed the use of engine(s) that are certified to the latest EPA Tier Certification level for the applicable horsepower range.</p>
<p>Engines, with a PM10 emissions rate greater than 0.01 g/bhp-hr and located at schools, may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may not be operated for maintenance and testing between 7:30 AM and 3:30 PM</p>	<p>The District has verified that this engine is not located within 500' of a school.</p>
<p>An owner or operator shall maintain monthly records of the following: emergency use hours of operation; maintenance and testing hours of operation; hours of operation for emission testing; initial start-up testing hours; hours of operation for all other uses; and the type of fuel used. All records shall be retained for a minimum of 36 months.</p>	<p>Permit conditions enforcing these requirements were shown earlier in the evaluation.</p>

**California Environmental Quality Act (CEQA)**

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

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

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

#### **IX. Recommendation**

Pending a successful NSR Public Noticing period, issue Authority to Construct S-8125-1-0 subject to the permit conditions on the attached draft Authority to Construct in Appendix A.

#### **X. Billing Information**

<b>Billing Schedule</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Fee Amount</b>
S-8125-1-0	3020-10-F	1220 bhp IC engine	\$749.00

#### **Appendixes**

- A. Draft ATC
- B. BACT Guideline and BACT Analysis
- C. Emissions Data Sheet
- D. HRA Summary and AAQA
- E. QNEC Calculations

Appendix A  
Draft ATC

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** S-8125-1-0

**LEGAL OWNER OR OPERATOR:** HOUCHIN COMMUNITY BLOOD BANK  
**MAILING ADDRESS:** 5901 TRUXTUN AVENUE  
BAKERSFIELD, CA 93309

**LOCATION:** 11515 BOLTHOUSE ROAD  
BAKERSFIELD, CA

**EQUIPMENT DESCRIPTION:**

1220 BHP CUMMINS MODEL QSK23-G7 NR2, OR DISTRICT APPROVED EQUIVALENT, TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

**CONDITIONS**

1. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]
2. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2201]
3. Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]
4. No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]
5. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. {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]
7. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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-8125-1-0 : Apr 9 2012 1:00PM - DAHLSTRA : Joint Inspection NOT Required

8. {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]
9. {4257} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702, 17 CCR 93115, and 40 CFR 60 Subpart IIII]
10. {4258} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 17 CCR 93115, 40 CFR Part 60 Subpart IIII]
11. Emissions from this IC engine shall not exceed any of the following limits: 4.06 g-NOx/bhp-hr, 0.37 g-CO/bhp-hr, or 0.33 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
12. Emissions from this IC engine shall not exceed 0.10 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
13. {4261} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702 and 40 CFR 60 Subpart IIII]
14. {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]
15. {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]
16. {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]
17. {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
18. {4262} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702, 17 CCR 93115 and 40 CFR Part 60 Subpart IIII]
19. {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
20. {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]

DRAFT

**Appendix B**  
**BACT Guideline and BACT Analysis**

# San Joaquin Valley Unified Air Pollution Control District

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

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Latest EPA Tier Certification level for applicable horsepower range		
NOX	Latest EPA Tier Certification level for applicable horsepower range		
PM10	0.15 g/hp-hr or the Latest EPA Tier Certification level for applicable horsepower range, whichever is more stringent. (ATCM)		
SOX	Very low sulfur diesel fuel (15 ppmw sulfur or less)		
VOC	Latest EPA Tier Certification level for applicable horsepower range		

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



## Top Down BACT Analysis for the Emergency IC Engine(s)

BACT Guideline 3.1.1 (July 10, 2009) applies to emergency diesel IC engines. In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

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

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

BACT Guideline 3.1.1 identifies only the following option:

- *Latest EPA Tier Certification level for applicable horsepower range*

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

- 40 CFR Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR Part 89 – Control of Emissions from New and In-Use Nonroad Compression – Ignition Engines
- 40 CFR Part 1039 – Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines
- Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines

40 CFR Parts 89 and 1039, which apply only to nonroad engines, do not directly apply because the proposed emergency engine(s) do not meet the definition of a nonroad engine. Therefore, only Title 17 CCR, Section 93115 and 40 CFR Part 60 Subpart IIII apply directly to the proposed emergency engine(s).

Title 17 CCR, Section 93115.6(a)(3)(A) (CARB stationary diesel engine ATCM) applies to emergency standby diesel-fired engines and requires that such engines be certified to the emission levels in Table 1 (below). Please note that these levels are at least as stringent or more stringent than the emission levels in 40 CFR Subpart IIII.

<b>Maximum Engine Power</b>	<b>Tier</b>	<b>Model Year(s)</b>	<b>PM</b>	<b>NMHC+NOx</b>	<b>CO</b>
50 ≤ HP < 75 (37 ≤ kW < 56)	2	2007	0.15 (0.20)	5.6 (7.5) 3.5 (4.7)	3.7 (5.0)
	4i	2008+			
75 ≤ HP < 100 (56 ≤ kW < 75)	2	2007	0.15 (0.20)	5.6 (7.5) 3.5 (4.7)	3.7 (5.0)
	3	2008+			
100 ≤ HP < 175 (75 ≤ kW < 130)	3	2007	0.15 (0.20)	3.0 (4.0)	3.7 (5.0)
		2008+			
175 ≤ HP < 300 (130 ≤ kW < 225)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
300 ≤ HP < 600 (225 ≤ kW < 450)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
600 ≤ HP ≤ 750 (450 ≤ kW ≤ 560)	3	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
		2008+			
HP > 750 (kW > 560)	2	2007	0.15 (0.20)	4.8 (6.4)	2.6 (3.5)
		2008+			

Additionally, 40 CFR Subpart IIII establishes emission standards for emergency diesel IC engines. These emission standards are the same as those specified in the CARB ATCM, except for engines rated greater than or equal to 50 and less than 75 hp. For such IC engines, the CARB ATCM is more stringent.

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

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

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

The proposed engine is rated at 1220 hp. Therefore, the applicable control technology option is EPA Tier 2 certification.

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

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

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

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

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

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

**e. Step 5 - Select BACT**

BACT for NO<sub>x</sub> and VOC will be the use of an EPA Tier 2 certified engine. The applicant is proposing such a unit. Therefore, BACT will be satisfied.

## **2. BACT Analysis for PM<sub>10</sub> Emissions:**

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

BACT Guideline 3.1.1 identifies only the following option:

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

The latest EPA Tier Certification level for an engine of the proposed model year and horsepower rating is Tier 2. Refer to the Top-Down BACT analysis for NO<sub>x</sub> for a discussion regarding the determination of the EPA Tier level to be considered.

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

Therefore, a PM/PM<sub>10</sub> emission standard of 0.15 g/hp-hr is required as BACT.

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

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

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

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

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

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

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

BACT for PM<sub>10</sub> is emissions of 0.15 g/hp-hr or less. The applicant is proposing an engine with a PM<sub>10</sub> emission rate of 0.10 g/hp-hr. The proposed emission rate is more stringent than the 0.15 g/hp-hr requirement. Therefore, BACT will be satisfied.

Appendix C  
Emissions Data Sheet

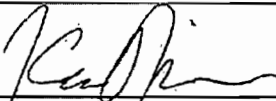


**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
2012 MODEL YEAR  
CERTIFICATE OF CONFORMITY  
WITH THE CLEAN AIR ACT OF 1990**

**OFFICE OF TRANSPORTATION  
AND AIR QUALITY  
ANN ARBOR, MICHIGAN 48105**

**Certificate Issued To: Cummins Inc.**  
(U.S. Manufacturer or Importer)  
**Certificate Number: CCEXL023.AAB-023**

**Effective Date:**  
09/06/2011  
**Expiration Date:**  
12/31/2012

  
Karl J. Simon, Director  
Compliance and Innovative Strategies Division

**Issue Date:**  
09/06/2011  
**Revision Date:**  
N/A

**Model Year:** 2012  
**Manufacturer Type:** Original Engine Manufacturer  
**Engine Family:** CCEXL023.AAB

**Mobile/Stationary Indicator:** Stationary  
**Emissions Power Category:** 560<kW<=2237  
**Fuel Type:** Diesel  
**After Treatment Devices:** No After Treatment Devices Installed  
**Non-after Treatment Devices:** Engine Design Modification, Electronic Control

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

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

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 60.

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

**Certification Summary Information Report**

<b>Engine Family</b>	CCEXL023.AAB	<b>Model Year</b>	2012
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**Manufacturer Test Information**

**Test Dataset #1**

<b>Test Data Type</b>	Test data for an engine model in a Pre-Verify Carryover Engine Family		
<b>Verify Test Dataset Number</b>	CCEXLM0000574	<b>Manufacturer Test Dataset Number</b>	SEH2007T0085
<b>Engine Model</b>	QSK23-G9 NR2	<b>Engine Code</b>	CPL3083FR50063
<b>Engine Id</b>	313746	<b>Engine Displacement (in liters)</b>	23.15
<b>Number of hours Engine was run prior to test</b>	100	<b>Crankcase Emission Discharge Path</b>	CCEs Routed into the Exhaust Downstream of After Treatment
<b>Test Date</b>	02/24/2007		
<b>Test Fuel</b>	300-500 ppm Low Sulfur Diesel		
<b>Special Test Procedure Used</b>	No		
<b>Test Lab Name</b>	CTC	<b>Test Lab Code</b>	1
<b>Engine Operation</b>	Constant Speed	<b>Steady-State Cycle Type</b>	Steady-State 5-Mode Cycle
<b>Steady-State Modal Testing Type</b>	Discrete-Modal Testing	<b>Transient Test Required</b>	No
<b>Devices Regenerated during Steady State Test (Ramped Model)</b>	None		
<b>Devices Regenerated during Cold Start of a Transient Test</b>	None		
<b>Devices Regenerated during Hot Start of a Transient Test</b>	None		
<b>Test Comments</b>			

**Steady-State Discrete Modal Test Results**

**Steady-State Discrete Modal Test Result #1**

<b>Mode Identifier</b>	1	<b>Mode Power</b>	792.2
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Carbon Dioxide	496584.786	
	Particulate Matter	23.977	
	Carbon Monoxide	234.675	
	Non-Methane Hydrocarbons	103.44	
	Nitrogen Oxides	5734.737	

**Steady-State Discrete Modal Test Result #2**

<b>Mode Identifier</b>	2	<b>Mode Power</b>	593.9
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Carbon Monoxide	130.622	
	Carbon Dioxide	373615.397	
	Particulate Matter	22.62	
	Nitrogen Oxides	3727.371	
	Non-Methane Hydrocarbons	109.79	

**Steady-State Discrete Modal Test Result #3**

<b>Mode Identifier</b>	3	<b>Mode Power</b>	396.5
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Particulate Matter	26.735	
	Carbon Monoxide	149.869	

## Certification Summary Information Report

Engine Family	CCEXL023.AAB	Model Year	2012	
Non-Methane Hydrocarbons			114.67	
Carbon Dioxide			260237.311	
Nitrogen Oxides			1968.1	
<b>Steady-State Discrete Modal Test Result #4</b>				
Mode Identifier	4	Mode Power	197.5	
Devices Regenerated during this Mode				
	<b>Pollutant Name</b>		<b>Pollutant Mode Test Result (Initial)</b>	
	Nitrogen Oxides		619.146	
	Particulate Matter		57.236	
	Carbon Dioxide		147595.555	
	Non-Methane Hydrocarbons		150.25	
	Carbon Monoxide		235.747	
<b>Steady-State Discrete Modal Test Result #5</b>				
Mode Identifier	5	Mode Power	79.3	
Devices Regenerated during this Mode				
	<b>Pollutant Name</b>		<b>Pollutant Mode Test Result (Initial)</b>	
	Non-Methane Hydrocarbons		158.78	
	Carbon Monoxide		173.037	
	Carbon Dioxide		72189.406	
	Nitrogen Oxides		288.166	
	Particulate Matter		36.237	
<b>Steady-State Discrete Modal Certification Levels</b>				
Pollutant Name	Certification Steady-State Emission Result Value (g/kW-hr)	EPA Standard Limit Value (g/kW-hr)	Family Emission Limit Value (g/kW-hr)	Pass/Fail Indicator
Nitrogen Oxides plus Non-Methane Hydrocarbons	5.8	6.4	--	Pass
Nitrogen Oxides	5.41	--	--	--
Carbon Dioxide	662.19	--	--	--
Particulate Matter	0.11	0.20	--	Pass
Non-Methane Hydrocarbons	0.40	--	--	--
Carbon Monoxide	0.5	3.5	--	Pass
<b>Test Dataset #2</b>				
Test Data Type	Test data for an engine model in a Pre-Verify Carryover Engine Family			
Verify Test Dataset Number	CCEXLM0000572	Manufacturer Test Dataset Number	SEH2006T0521-1	
Engine Model	QSK23-G7 NR2	Engine Code	CPL2621FR50047	
Engine Id	313746	Engine Displacement (in liters)	23.15	
Number of hours Engine was run prior to test	100	Crankcase Emission Discharge Path	CCEs Routed into the Exhaust Downstream of After Treatment	
Test Date	10/24/2006			
Test Fuel	300-500 ppm Low Sulfur Diesel			
Special Test Procedure Used	No			
Test Lab Name	CTC	Test Lab Code	1	
Engine Operation	Constant Speed	Steady-State Cycle Type	Steady-State 5-Mode Cycle	
Steady-State Modal Testing Type	Discrete-Modal Testing	Transient Test Required	No	
Devices Regenerated during Steady State Test (Ramped Model)	None			
Devices Regenerated during Cold Start of a Transient Test	None			



Engine Family	CCEXL023.AAB	Model Year	2012
<b>Devices Regenerated during Hot Start of a Transient Test</b>			
	None		
<b>Test Comments</b>			
<b>Steady-State Discrete Modal Test Results</b>			
<b>Steady-State Discrete Modal Test Result #1</b>			
<b>Mode Identifier</b>	1	<b>Mode Power</b>	905.7
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Non-Methane Hydrocarbons	110.98	
	Carbon Monoxide	426.05	
	Carbon Dioxide	558564.53	
	Nitrogen Oxides	8148	
	Particulate Matter	66.21	
<b>Steady-State Discrete Modal Test Result #2</b>			
<b>Mode Identifier</b>	2	<b>Mode Power</b>	680.9
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Non-Methane Hydrocarbons	147.25	
	Carbon Monoxide	148.73	
	Carbon Dioxide	435383.89	
	Nitrogen Oxides	4042.86	
	Particulate Matter	33.32	
<b>Steady-State Discrete Modal Test Result #3</b>			
<b>Mode Identifier</b>	3	<b>Mode Power</b>	453.4
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Non-Methane Hydrocarbons	163.84	
	Nitrogen Oxides	2071.08	
	Particulate Matter	36.74	
	Carbon Monoxide	161.48	
	Carbon Dioxide	303566.36	
<b>Steady-State Discrete Modal Test Result #4</b>			
<b>Mode Identifier</b>	4	<b>Mode Power</b>	226.6
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Nitrogen Oxides	866.1	
	Non-Methane Hydrocarbons	176.57	
	Carbon Dioxide	165252.87	
	Carbon Monoxide	240.07	
	Particulate Matter	72.06	
<b>Steady-State Discrete Modal Test Result #5</b>			
<b>Mode Identifier</b>	5	<b>Mode Power</b>	90.8
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Particulate Matter	55.03	
	Nitrogen Oxides	382.88	
	Carbon Monoxide	214.51	
	Non-Methane Hydrocarbons	201.01	

**Certification Summary Information Report**

<b>Engine Family</b>	CCEXL023.AAB	<b>Model Year</b>	2012
	Carbon Dioxide		87783.25

**Steady-State Discrete Modal Certification Levels**

Pollutant Name	Certification Steady-State Emission Result Value (g/kW-hr)	EPA Standard Limit Value (g/kW-hr)	Family Emission Limit Value (g/kW-hr)	Pass/Fail Indicator
Carbon Dioxide	667.77	--	--	--
Particulate Matter	0.13	0.20	--	Pass
Non-Methane Hydrocarbons	0.44	--	--	--
Carbon Monoxide	0.5	3.5	--	Pass
Nitrogen Oxides	5.45	--	--	--
Nitrogen Oxides plus Non-Methane Hydrocarbons	5.9	6.4	--	Pass

↑ For model QSK23-G7 NR2

**Test Dataset #3**

<b>Test Data Type</b>	Test data for an engine model in a Pre-Verify Carryover Engine Family		
<b>Verify Test Dataset Number</b>	CCEXLM0000573	<b>Manufacturer Test Dataset Number</b>	SEH2006T0521-2
<b>Engine Model</b>	QSK23-G9 NR2	<b>Engine Code</b>	CPL3083FR50063
<b>Engine Id</b>	313746	<b>Engine Displacement (in liters)</b>	23.15
<b>Number of hours Engine was run prior to test</b>	100	<b>Crankcase Emission Discharge Path</b>	CCEs Routed into the Exhaust Downstream of After Treatment
<b>Test Date</b>	10/24/2006		
<b>Test Fuel</b>	300-500 ppm Low Sulfur Diesel		
<b>Special Test Procedure Used</b>	No		
<b>Test Lab Name</b>	CTC	<b>Test Lab Code</b>	1
<b>Engine Operation</b>	Constant Speed	<b>Steady-State Cycle Type</b>	Steady-State 5-Mode Cycle
<b>Steady-State Modal Testing Type</b>	Discrete-Modal Testing	<b>Transient Test Required</b>	No
<b>Devices Regenerated during Steady State Test (Ramped Model)</b>	None		
<b>Devices Regenerated during Cold Start of a Transient Test</b>	None		
<b>Devices Regenerated during Hot Start of a Transient Test</b>	None		
<b>Test Comments</b>			

**Steady-State Discrete Modal Test Results**

**Steady-State Discrete Modal Test Result #1**

<b>Mode Identifier</b>	1	<b>Mode Power</b>	783.1
<b>Devices Regenerated during this Mode</b>			
<b>Pollutant Name</b>		<b>Pollutant Mode Test Result (Initial)</b>	
Non-Methane Hydrocarbons			59.88
Carbon Monoxide			796.69
Nitrogen Oxides			7086.23
Carbon Dioxide			484796.42
Particulate Matter			76.7

**Steady-State Discrete Modal Test Result #2**

<b>Mode Identifier</b>	2	<b>Mode Power</b>	588.8
<b>Devices Regenerated during this Mode</b>			
<b>Pollutant Name</b>		<b>Pollutant Mode Test Result (Initial)</b>	
Carbon Monoxide			253.18
Particulate Matter			25.95

## Certification Summary Information Report

Engine Family	CCEXL023.AAB	Model Year	2012	
Carbon Dioxide			382410.53	
Non-Methane Hydrocarbons			76.95	
Nitrogen Oxides			3725.02	
<b>Steady-State Discrete Modal Test Result #3</b>				
Mode Identifier	3	Mode Power	392	
<b>Devices Regenerated during this Mode</b>				
<b>Pollutant Name</b>		<b>Pollutant Mode Test Result (Initial)</b>		
Carbon Dioxide			262383.04	
Particulate Matter			32.91	
Carbon Monoxide			232.63	
Non-Methane Hydrocarbons			90.89	
Nitrogen Oxides			1947.77	
<b>Steady-State Discrete Modal Test Result #4</b>				
Mode Identifier	4	Mode Power	195.9	
<b>Devices Regenerated during this Mode</b>				
<b>Pollutant Name</b>		<b>Pollutant Mode Test Result (Initial)</b>		
Carbon Dioxide			149005.78	
Particulate Matter			81.72	
Nitrogen Oxides			614.23	
Carbon Monoxide			343.41	
Non-Methane Hydrocarbons			126.47	
<b>Steady-State Discrete Modal Test Result #5</b>				
Mode Identifier	5	Mode Power	78.8	
<b>Devices Regenerated during this Mode</b>				
<b>Pollutant Name</b>		<b>Pollutant Mode Test Result (Initial)</b>		
Particulate Matter			39.48	
Carbon Dioxide			71693.8	
Carbon Monoxide			182.29	
Nitrogen Oxides			279.28	
Non-Methane Hydrocarbons			149.7	
<b>Steady-State Discrete Modal Certification Levels</b>				
Pollutant Name	Certification Steady-State Emission Result Value (g/kW-hr)	EPA Standard Limit Value (g/kW-hr)	Family Emission Limit Value (g/kW-hr)	Pass/Fail Indicator
Nitrogen Oxides	5.62	--	--	--
Non-Methane Hydrocarbons	0.33	--	--	--
Carbon Dioxide	675.73	--	--	--
Carbon Monoxide	0.8	3.5	--	Pass
Particulate Matter	0.14	0.20	--	Pass
Nitrogen Oxides plus Non-Methane Hydrocarbons	6.0	6.4	--	Pass
<b>Test Dataset #4</b>				
Test Data Type	Test data for an engine model in a Pre-Verify Carryover Engine Family			
Verify Test Dataset Number	CCEXLM0000571	Manufacturer Test Dataset Number	SEH2009T0141	
Engine Model	QSK23-NR2	Engine Code	CPL3352FR50069	
Engine Id	319546	Engine Displacement (in liters)	23.15	
Number of hours Engine was run prior to test	100	Crankcase Emission Discharge Path	CCEs Routed into the Exhaust Downstream of After Treatment	
Test Date	05/19/2009			

## Certification Summary Information Report

<b>Engine Family</b>	CCEXL023.AAB	<b>Model Year</b>	2012
<b>Test Fuel</b>			
300-500 ppm Low Sulfur Diesel			
<b>Special Test Procedure Used</b>	No		
<b>Test Lab Name</b>	CTC	<b>Test Lab Code</b>	1
<b>Engine Operation</b>	Constant Speed	<b>Steady-State Cycle Type</b>	Steady-State 5-Mode Cycle
<b>Steady-State Modal Testing Type</b>	Discrete-Modal Testing	<b>Transient Test Required</b>	No
<b>Devices Regenerated during Steady State Test (Ramped Model)</b>	None		
<b>Devices Regenerated during Cold Start of a Transient Test</b>	None		
<b>Devices Regenerated during Hot Start of a Transient Test</b>	None		
<b>Test Comments</b>			
<b>Steady-State Discrete Modal Test Results</b>			
<b>Steady-State Discrete Modal Test Result #1</b>			
<b>Mode Identifier</b>	1	<b>Mode Power</b>	910.6
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Non-Methane Hydrocarbons	104.55	
	Carbon Monoxide	322.6	
	Particulate Matter	22.05	
	Nitrogen Oxides	6111.66	
	Carbon Dioxide	573373.5	
<b>Steady-State Discrete Modal Test Result #2</b>			
<b>Mode Identifier</b>	2	<b>Mode Power</b>	682.3
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Carbon Monoxide	98.91	
	Particulate Matter	23.2	
	Carbon Dioxide	420919	
	Nitrogen Oxides	4088.27	
	Non-Methane Hydrocarbons	143.16	
<b>Steady-State Discrete Modal Test Result #3</b>			
<b>Mode Identifier</b>	3	<b>Mode Power</b>	455.2
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Particulate Matter	24.23	
	Carbon Dioxide	291174.2	
	Nitrogen Oxides	2088.94	
	Carbon Monoxide	112.93	
	Non-Methane Hydrocarbons	150.8	
<b>Steady-State Discrete Modal Test Result #4</b>			
<b>Mode Identifier</b>	4	<b>Mode Power</b>	228.2
<b>Devices Regenerated during this Mode</b>			
	<b>Pollutant Name</b>	<b>Pollutant Mode Test Result (Initial)</b>	
	Carbon Monoxide	201.64	
	Particulate Matter	53.96	
	Nitrogen Oxides	914.82	
	Carbon Dioxide	160479.7	

## Certification Summary Information Report

Engine Family	CCEXL023.AAB	Model Year	2012	
Non-Methane Hydrocarbons		142.73		
<b>Steady-State Discrete Modal Test Result #5</b>				
<b>Mode Identifier</b>	5	<b>Mode Power</b>	91.7	
<b>Devices Regenerated during this Mode</b>				
<b>Pollutant Name</b>		<b>Pollutant Mode Test Result (Initial)</b>		
Carbon Dioxide		84706.7		
Non-Methane Hydrocarbons		156.49		
Nitrogen Oxides		386.65		
Particulate Matter		44.23		
Carbon Monoxide		232.26		
<b>Steady-State Discrete Modal Certification Levels</b>				
Pollutant Name	Certification Steady-State Emission Result Value (g/kW-hr)	EPA Standard Limit Value (g/kW-hr)	Family Emission Limit Value (g/kW-hr)	Pass/Fail Indicator
Carbon Monoxide	0.4	3.5	--	Pass
Carbon Dioxide	645.76	--	--	--
Nitrogen Oxides plus Non-Methane Hydrocarbons	5.7	6.4	--	Pass
Non-Methane Hydrocarbons	0.39	--	--	--
Nitrogen Oxides	5.27	--	--	--
Particulate Matter	0.09	0.20	--	Pass

Appendix D  
HRA Summary and AAQA

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

To: Ashley Dahlstrom - Permit Services  
 From: Cheryl Lawler - Permit Services  
 Date: March 19, 2012  
 Facility Name: Houchin Community Blood Bank  
 Location: 11515 Bolthouse Drive, Bakersfield  
 Application #(s): S-8125-1-0  
 Project #: S-1120345.

### A. RMR SUMMARY

RMR Summary			
Categories	Emergency Diesel ICE (Unit 1-0)	Project Totals	Facility Totals
Prioritization Score	N/A <sup>1</sup>	N/A <sup>1</sup>	>1
Acute Hazard Index	N/A <sup>2</sup>	N/A <sup>2</sup>	0.00
Chronic Hazard Index	N/A <sup>2</sup>	N/A <sup>2</sup>	0.00
Maximum Individual Cancer Risk	2.0E-07	2.0E-07	2.0E-07
T-BACT Required?	No		
Special Permit Conditions?	Yes		

<sup>1</sup> Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.

<sup>2</sup> Acute and Chronic Hazard Indices were not calculated since there is no risk factor, or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.

### Proposed Permit Conditions

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

#### Unit 1-0

1. The PM10 emissions rate shall not exceed 0.1 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201]
2. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
3. This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

## B. RMR REPORT

### I. Project Description

Technical Services received a request on February 28, 2012, to perform an Ambient Air Quality Analysis (AAQA) and a Risk Management Review (RMR) for a 1220 bhp emergency diesel-fired internal combustion engine.

### II. Analysis

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

The following parameters were used for the review:

Analysis Parameters Unit 1-0			
Source Type	Point	Location Type	Urban
BHP	1220	PM <sub>10</sub> g/hp-hr	0.1
Closest Receptor (m)	305	Quad	2
Max Hours per Year	50	Type of Receptor	Residence & Business

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 a RMR. The emission rates used for criteria pollutant modeling were 546 lb/yr NO<sub>x</sub>, 1 lb/yr SO<sub>x</sub>, 13 lb/yr PM<sub>10</sub>, and 13 lb/yr PM<sub>2.5</sub>. The engineer supplied the maximum fuel rate for the IC engine used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

#### Criteria Pollutant Modeling Results\*

Diesel 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 cancer risk associated with the operation of the proposed diesel IC engine is less than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT) for PM<sub>10</sub>.



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.

## Appendix E

### 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:

$QNEC = PE2 - PE1$ , where:

- QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr
- PE2 = Post-Project Potential to Emit for each emissions unit, lb/qtr
- PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr

Since this is a new unit,  $PE1 = 0$  for all pollutants. Thus,  $QNEC = PE2$  (lb/qtr).

Using the PE2 (lb/yr) values calculated in Section VII.C.2, Quarterly PE2 is calculated as follows:

$$PE2_{\text{quarterly}} = PE2 \text{ (lb/yr)} \div 4 \text{ quarters/year} = QNEC$$

QNEC		
Pollutant	PE2 Total (lb/yr)	Quarterly PE2 (lb/qtr)
NO <sub>x</sub>	546	137
SO <sub>x</sub>	1	0
PM <sub>10</sub>	13	3
CO	50	13
VOC	44	11