San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JAN 0 4 2012

Cruz Dominguez
City of Woodlake
350 North Valencia Blvd
Woodlake, CA 93286

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: S-1114296

Dear Mr. Dominguez:

Enclosed for your review and comment is the District's analysis of City of Woodlake's application for an Authority to Construct for one 57.3 bhp transportable diesel-fired IC engine powering a trash pump and one 755 bhp emergency diesel-fired IC engine powering an electrical generator, at 900 South Valencia Blvd in Woodlake, 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. Jessica Seifert of Permit Services at (661) 392-5613.

Sincerely,

David Warner
Director of Permit Services

DW:JAS/st

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
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www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

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JAN 04 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-1114296

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of City of Woodlake's application for an Authority to Construct for one 57.3 bhp transportable diesel-fired IC engine powering a trash pump and one 755 bhp emergency diesel-fired IC engine powering an electrical generator, at 900 South Valencia Blvd in Woodlake, 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.

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Visalia Times-Delta
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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 City of Woodlake for one 57.3 bhp transportable diesel-fired IC engine powering a trash pump and one 755 bhp emergency diesel-fired IC engine powering an electrical generator, at 900 South Valencia Blvd in Woodlake, CA.

The analysis of the regulatory basis for this proposed action, Project #S-1114296, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review
Diesel-Fired IC Engines

Facility Name:	City of Woodlake	Date:	December 13, 2011
Mailing Address:	350 North Valencia Blvd Woodlake, CA 93286	Engineer:	Jessica Seifert
		Lead Engineer:	Rich Karrs
Contact Person:	Cruz Dominguez		RWK
Telephone:	(559) 564-2317		12-14-11
Application #:	S-8089-1-0, '-2-0		
Project #:	S-1114296		
Complete:	November 16, 2011		

I. Proposal

City of Woodlake has requested Authority to Construct (ATC) permits for one 57.3 bhp diesel-fired transportable internal combustion (IC) engine powering a trash pump and one 755 bhp (intermittent) diesel-fired emergency standby IC engine powering an electrical generator. The applicant has requested that the 57.3 bhp transportable engine be designated as low use and limited to 200 hours per year or less.

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
40 CFR Part 89 Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines
Title 13 California Code of Regulations (CCR), Section 2423 - Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment

Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines
Title 17 CCR, Section 93116 - Airborne Toxic Control Measure (ATCM) for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater
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 facility is located at 900 South Valencia Boulevard in Woodlake, 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

S-8089-1-0

The transportable engine powers a trailer-mounted trash pump used for annual maintenance on the sanitary sewer system and wastewater treatment facilities. The applicant has requested that the transportable engine be designated as low-use, allowing the engine to be operated up to 200 hours per year for all purposes, including maintenance and testing.

S-8089-2-0

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

V. Equipment Listing

S-8089-1-0: TRANSPORTABLE 57.3 BHP DEUTZ MODEL D914L03 TIER 4 INTERIM CERTIFIED LOW-USE DIESEL-FIRED IC ENGINE POWERING A TRASH PUMP

S-8089-2-0: 755 BHP (INTERMITTENT) CUMMINS MODEL QSX15-G9-NR2 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

Both IC engines will be fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum). The use of very low-sulfur diesel fuel reduces SO_X emissions by over 99% from standard diesel fuel.

S-8089-1-0

The applicant has proposed to install a Tier 4 Interim certified diesel-fired IC engine. The proposed engine meets the latest Tier Certification requirements for prime engines; therefore, the engine meets the latest ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide (see Appendix A for a copy of the ARB executive order).

S-8089-2-0

The applicant has proposed to install a Tier 2 certified diesel-fired IC engine. The proposed engine meets the latest Tier Certification requirements for emergency engines; therefore, the engine meets the latest ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide (see Appendix B for a copy of the emissions data sheet).

VII. General Calculations

A. Assumptions

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 engines:	commonly ≈ 35%
PM_{10} fraction of diesel exhaust:	0.96 (CARB, 1988)

S-8089-1-0

Maximum daily operating schedule: 24 hours/day
Maximum annual operating schedule: 200 hours/year

The engine has certified NO_X + VOC emissions of 3.3 g/bhp-hr. It will be assumed the NOx + VOC emission factor is split 95% NOx and 5% VOC (per the District's Carl Moyer program).

S-8089-2-0

Emergency operating schedule: 24 hours/day
Non-emergency operating schedule: 50 hours/year

B. Emission Factors

S-8089-1-0

Emission Factors		
Pollutant	Emission Factor (g/bhp-hr)	Source
NO_X	3.1	ARB Certification
SO_X	0.0051	Mass Balance Equation Below
PM_{10}	0.2	ARB Certification
CO	2.6	ARB Certification
VOC	0.2	ARB Certification

$$\frac{0.000015\ lb-S}{lb-fuel}\times\frac{7.1\ lb-fuel}{gallon}\times\frac{2\ lb-SO_2}{1\ lb-S}\times\frac{1\ gal}{137{,}000\ Btu}\times\frac{1\ bhp\ input}{0.35\ bhp\ out}\times\frac{2{,}542.5\ Btu}{bhp-hr}\times\frac{453.6\ g}{lb}=0.0051\ \frac{g-SO_x}{bhp-hr}$$

S-8089-2-0

Emission Factors		
Pollutant	Emission Factor (g/bhp-hr)	Source
NO_X	5.15	Engine Manufacturer
SO_X	0.0051	Mass Balance Equation Below
PM_{10}	0.03	Engine Manufacturer
CO	0.42	Engine Manufacturer
VOC	0.08	Engine Manufacturer

$$\frac{0.000015\ lb-S}{lb-fuel}\times\frac{7.1\ lb-fuel}{gallon}\times\frac{2\ lb-SO_2}{1\ lb-S}\times\frac{1\ gal}{137{,}000\ Btu}\times\frac{1\ bhp\ input}{0.35\ bhp\ out}\times\frac{2{,}542.5\ Btu}{bhp-hr}\times\frac{453.6\ g}{lb}=0.0051\ \frac{g-SO_x}{bhp-hr}$$

C. Calculations

1. Pre-Project Emissions (PE1)

S-8089-1-0

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

S-8089-2-0

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

2. Post-Project PE (PE2)

S-8089-1-0

The daily and annual PE are calculated as follows for the transportable engine:

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_X	3.10	57.3	24	200	**9.4**	**78**
SO_X	0.0051	57.3	24	200	**0.0**	**0**
PM_{10}	0.20	57.3	24	200	**0.6**	**5**
CO	2.60	57.3	24	200	**7.9**	**66**
VOC	0.20	57.3	24	200	**0.6**	**5**

S-8089-2-0

The daily and annual PE are calculated as follows for the emergency engine:

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_X	5.15	755	24	50	**205.7**	**429**
SO_X	0.0051	755	24	50	**0.2**	**0**
PM_{10}	0.03	755	24	50	**1.2**	**2**
CO	0.42	755	24	50	**16.8**	**35**
VOC	0.08	755	24	50	**3.2**	**7**

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 two new IC engines, permit units '-1-0 and '-2-0. Thus:

SSPE2					
Permit Unit	NO_X (lb/yr)	SO_X (lb/yr)	PM_{10} (lb/yr)	CO (lb/yr)	VOC (lb/yr)
SSPE1	0	0	0	0	0
S-8089-1-0	78	0	5	66	5
S-8089-2-0	429	0	2	35	7
SSPE2 Total	**507**	**0**	**7**	**101**	**12**
Offset Threshold	**20,000**	**54,750**	**29,200**	**200,000**	**20,000**
Offset Threshold Surpassed?	**No**	**No**	**No**	**No**	**No**

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_X	0	507	20,000	No	No
SO_X	0	0	140,000	No	No
PM_{10}	0	7	140,000	No	No
CO	0	101	200,000	No	No
VOC	0	12	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 both units are new emissions units, BE = PE1 = 0 for all criteria pollutants for each unit.

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_{10} (140,000 lb/year), it is not a major source for PM2.5 (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 C.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
c. Modifications to an existing emissions unit with a 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 two new IC engines. 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 for each engine can only be triggered if the daily emissions exceed 2.0 lb/day for any pollutant.

S-8089-1-0

The daily emissions from the new transportable 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_X	9.4	> 2.0	n/a	Yes
SO_X	0.0	> 2.0	n/a	No
PM_{10}	0.6	> 2.0	n/a	No
CO	7.9	> 2.0 and SSPE2 ≥ 200,000 lb/yr	101	No
VOC	0.6	> 2.0	n/a	No

As shown above, BACT will be triggered for NO_X emissions from the transportable engine for this project.

S-8089-2-0

The daily emissions from the new emergency engine are compared to the BACT threshold levels in the following table:

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions for unit -2-0 (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO_X	205.7	> 2.0	n/a	Yes
SO_X	0.2	> 2.0	n/a	No
PM_{10}	1.2	> 2.0	n/a	No
CO	16.8	> 2.0 and SSPE2 ≥ 200,000 lb/yr	101	No
VOC	3.2	> 2.0	n/a	Yes

As shown above, BACT will be triggered for NO_X and VOC emissions from the emergency engine for this project.

2. BACT Guideline

BACT Guideline 3.2.11 covers non-agricultural, non-electric generation transportable compression-ignition IC engines (see Appendix D). BACT Guideline 3.1.1 covers diesel-fired emergency IC engines (see Appendix F).

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."

S-8089-1-0

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

NO_X: Latest available CARB Tier Certification standard for the particular horsepower range

S-8089-2-0

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

NO_X: Latest EPA Tier Certification level for applicable horsepower range
VOC: Latest EPA Tier Certification level for applicable horsepower range

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Applicability			
Pollutant	SSPE2 (lb/year)	Offset Threshold	Offsets Required?
NO_x	507	20,000 lb/year	No
SO_x	0	54,750 lb/year	No
PM_{10}	7	29,200 lb/year	No
CO	101	200,000 lb/year	No
VOC	12	20,000 lb/year	No

2. Quantity of Offsets Required

As seen above, the SSPE2 is not greater than the offset thresholds for all the pollutants; therefore, offset calculations are not necessary and offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

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

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

As demonstrated in VII.C.7, this project does not constitute a SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

The PE2 for each new unit is compared to the daily PE Public Notice thresholds in the following table:

S-8089-1-0

PE>100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO_x	9.4	100 lb/day	No
SO_x	0.0	100 lb/day	No
PM_{10}	0.6	100 lb/day	No
CO	7.9	100 lb/day	No
VOC	0.6	100 lb/day	No

Therefore, public noticing for PE > 100 lb/day purposes is not required.

S-8089-2-0

PE>100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO_x	205.7	100 lb/day	Yes
SO_x	0.2	100 lb/day	No
PM_{10}	1.2	100 lb/day	No
CO	16.8	100 lb/day	No
VOC	3.2	100 lb/day	No

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

c. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_x	0	507	20,000 lb/year	No
SO_x	0	0	54,750 lb/year	No
PM_{10}	0	7	29,200 lb/year	No
CO	0	101	200,000 lb/year	No
VOC	0	12	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore, public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. SSIPE = SSPE2 – SSPE1. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	507	0	507	20,000 lb/year	No
SO_x	0	0	0	54,750 lb/year	No
PM_{10}	7	0	7	29,200 lb/year	No
CO	101	0	101	200,000 lb/year	No
VOC	12	0	12	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore, public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for NO_X emissions in excess of 100 lb/day for the emergency engine. 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:

S-8089-1-0

- Emissions from this IC engine shall not exceed any of the following limits: 3.10 g-NOx/bhp-hr, 2.60 g-CO/bhp-hr, or 0.20 g-VOC/bhp-hr. [District Rule 2201, 40 CFR Part 89, 13 CCR 2423, and 17 CCR 93116]

- Emissions from this IC engine shall not exceed 0.20 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 40 CFR Part 89, 13 CCR 2423, and 17 CCR 93116]

- Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93116]

- Operation of this engine shall not exceed 200 hours per year. [District Rules 2201, 4102, and 4702]

S-8089-2-0

- Emissions from this IC engine shall not exceed any of the following limits: 5.15 g-NOx/bhp-hr, 0.42 g-CO/bhp-hr, or 0.08 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 0.03 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]

- 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 to demonstrate compliance with Rule 2201.

2. Monitoring

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

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 H, the proposed equipment will not cause or make worse a violation of an air quality standard for NO_X, CO, PM10, or SO_X.

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential to emit does not exceed any major source thresholds of Rule 2201, this facility is not a major source, and Rule 2520 does not apply.

Rule 4001 New Source Performance Standards (NSPS)

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

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.

S-8089-1-0

No subparts of 40 CFR Part 60 apply to non-stationary (or transportable) IC engines.

S-8089-2-0

The following table demonstrates how the proposed emergency engine will comply with the requirements of 40 CFR Part 60 Subpart IIII.

40 CFR 60 Subpart IIII Requirements for New Emergency IC Engines Powering Generators (2007 and Later Model Year)	Proposed Method of Compliance with 40 CFR 60 Subpart IIII Requirements
Engine(s) must meet the appropriate Subpart IIII emission standards for new engines, based on the model year, size, and number of liters per cylinder.	The applicant has proposed the use of an engine that is certified to the latest EPA Tier Certification level for the applicable horsepower range, guaranteeing compliance with the emission standards of Subpart IIII.
Engine(s) must be fired on 500 ppm sulfur content fuel or less, and fuel with a minimum centane index of 40 or a maximum aromatic content of 35 percent by volume. Starting in October 1, 2010, the maximum allowable sulfur fuel content will be lowered to 15 ppm.	The applicant has proposed the use of CARB certified diesel fuel, which meets all of the fuel requirements listed in Subpart IIII. A permit condition enforcing this requirement was included earlier in this evaluation.
The operator/owner must install a non-resettable hour meter prior to startup of the engine(s).	The applicant has proposed to install a non-resettable hour meter. The following condition will be included on permit '-2-0: • 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]

Emergency engine(s) may be operated for the purpose of maintenance and testing up to 100 hours per year. There is no limit on emergency use.	The Air Toxic Control Measure for Stationary Compression Ignition Engines (Stationary ATCM) limits this engine maintenance and testing to 50 hours/year. Thus, compliance is expected.
The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.	~~The following condition will be included on~~ permit '-2-0: • 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]

Rule 4002 National Emission Standards for Hazardous Air Pollutants

40 CFR 63 Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Emissions (RICE)

Stationary IC engines are subject to this subpart if they are operated at a major or area source of Hazardous Air Pollutant (HAP) emissions. A major source of HAP emissions is a facility that has the potential to emit any single HAP at a rate of 10 tons/year or greater or any combinations of HAPs at a rate of 25 tons/year or greater. An area source of HAPs is a facility is not a major source of HAPs. The proposed transportable engine (S-8089-1-0) is not stationary; therefore, the transportable engine is not subject to this Subpart. The proposed emergency engine (S-8089-2-0) is a new stationary RICE located at an area source of HAP emissions; therefore, the emergency engine is subject to this Subpart.

40 CFR 63 Subpart ZZZZ requires the following engines to comply with 40 CFR 60 Subpart IIII:

1. New emergency engines located at area sources of HAPs
2. Emergency engines rated less than or equal to 500 bhp and located at major sources of HAPs

The proposed emergency engine will be in compliance with 40 CFR 60 Subpart IIII.

Additionally, 40 CFR 63 Subpart ZZZZ requires engines rated greater 500 bhp and located at major sources of HAPs to meet the notification requirements of §63.6645(h); however, that section only applies if an initial performance test is required. Since an initial performance test is not required for emergency engines, the notification requirement is not applicable.

The proposed engines are expected to be in compliance with 40 CFR 63 Subpart ZZZZ.

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 ATCs S-8089-1-0 and '-2-0 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 ATCs S-8089-1-0 and '-2-0 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 H.

RMR Results				
Unit	Acute Hazard Index	Chronic Hazard Index	Cancer Risk	T-BACT Required?
S-8089-1-0	N/A	N/A	2.64 in a million	Yes
S-8089-2-0	N/A	N/A	0.11 in a million	No

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for the emergency engine (S-8089-2-0) 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.

However, T-BACT is required for the transportable engine (S-8089-1-0) because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements.

For the transportable engine, T-BACT is triggered for PM_{10}. T-BACT is satisfied with BACT for PM_{10} (see Appendix E), which is the latest available CARB certification standard for the particular horsepower range; therefore, compliance with the District's Risk Management Policy is expected.

The following conditions will be listed on the ATC S-8089-1-0 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 0.20 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 40 CFR Part 89, 13 CCR 2423, and 17 CCR 93116]

- Operation of this engine shall not exceed 200 hours per year. [District Rules 2201, 4102, and 4702]

- This engine shall not operate within 150 feet of the nearest receptor. [District Rule 4102]

The following conditions will be listed on the ATC S-8089-2-0 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 0.03 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, 17 CCR 93115 and 40 CFR Part 60 Subpart IIII]

Rule 4201 Particulate Matter Concentration

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

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

Both new engines have a PM_{10} emission factor less than 0.4 g/bhp-hr. Therefore, compliance is expected and the following condition will be listed on ATCs S-8089-1-0 and '-2-0:

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

Rule 4702 Internal Combustion Engines

The following table demonstrates how the proposed transportable engine (S-8089-1-0) will comply with the requirements of District Rule 4702. The applicant has proposed to operate the engine no more than 200 hours per year. Additionally, the engine will not be used to perform any of the functions specified in Sections 3.26.1 through 3.26.3. Therefore, the engine can be classified as a low-use engine. Pursuant to Section 4.2, low-use engines are not required to comply with the requirements of this rule except for the requirements of Sections 5.9 and 6.2.3.

District Rule 4702 Requirements Low-Use IC Engines	Proposed Method of Compliance with District Rule 4702 Requirements
Operation of low-use engines is limited to 200 hours or less per calendar year, verified through the use of a non-resettable elapsed operating time meter.	The following conditions will be included on permit '-1-0: • Operation of this engine shall not exceed 200 hours per year. [District Rules 2201, 4102, and 4702]

	• This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
Low-use engines cannot be used in the following applications: (1) to generate electrical power that is either fed into the power grid or used to reduce the amount of electrical power purchased, (2) to generate mechanical power used to reduce the amount of electrical power purchased, or (3) in a distributed generation application.	The applicant has proposed to use this engine to power a trash pump. This application does not fall under any of the low-use engine applications prohibited by this rule.
The owner/operator must operate and maintain the engine and any installed control devices according to the manufacturers written instructions.	The following condition will be included on permit '-1-0: • 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]
The owner/operator must monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.	The following condition will be included on permit '-1-0: • During periods of operation, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
Records of the total hours of operation of the low-use engine, type of fuel used, purpose for operating the engine, and support documentation must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.	The following conditions will be included on permit '-1-0: • The operator shall maintain a monthly operating log for this engine that includes all of the following information: The time and date of engine operation, total hours of operation, type of fuel used, any maintenance or modifications performed, and all monitored operational characteristics. [District Rule 4702] • The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93116] • 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 93116]

The following table demonstrates how the proposed emergency engine (S-8089-2-0) 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 permit '-2-0: • {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702] • {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]
The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.	A permit condition enforcing this requirement was shown earlier in the evaluation.
The owner/operator must monitor the operational characteristics of each engine as recommended by the engine manufacturer or emission control system supplier.	The following condition will be included on permit '-2-0: • {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]

Records of the total hours of operation of the emergency standby engine, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and support documentation must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.	The following conditions will be included on permit '-2-0: • {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115] • The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115] • {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO_2) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

Volume SO_2 = (n x R x T) ÷ P
n = moles SO_2
T (standard temperature) = 60 °F or 520 °R
R (universal gas constant) = $\frac{10.73\,\text{psi}\cdot\text{ft}^3}{\text{lb}\cdot\text{mol}\cdot{}^\circ\text{R}}$

$$\frac{0.000015\,lb-S}{lb-fuel}\times\frac{7.1\,\text{lb}}{\text{gal}}\times\frac{64\,\text{lb}-SO_2}{32\,\text{lb}-\text{S}}\times\frac{1\,\text{MMBtu}}{9{,}051\,\text{scf}}\times\frac{1\,\text{gal}}{0.137\,\text{MMBtu}}\times\frac{\text{lb}-\text{mol}}{64\,\text{lb}-SO_2}\times\frac{10.73\,\text{psi}-\text{ft}^3}{\text{lb}-\text{mol}-{}^\circ\text{R}}\times\frac{520{}^\circ\text{R}}{14.7\,\text{psi}}\times 1{,}000{,}000 = 1.0\,\text{ppmv}$$

Since 1.0 ppmv is ≤ 2,000 ppmv, both engines are expected to comply with Rule 4801.

Therefore, the following condition will be listed on ATC S-8089-1-0 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 and 17 CCR 93116]

Therefore, the following condition will be listed on ATC S-8089-2-0 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.

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

40 CFR 89 applies to non-road engines.

Pursuant to Section 89.2, a non-road engine is any internal combustion engine that is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicators of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

Pursuant to paragraph (2), an ICE is not a non-road engine if the engine remains or will remain at a location for more than 12 consecutive months. While the word location is not defined in 40 CFR 89.2, District Rule 4702 defines location as any single site at a building, structure, facility, or installation.

S-8089-1-0

While the transportable engine may remain in the shed waiting to be used at the facility, it will eventually be brought forth for its intended purpose as needed. The engine will be used to power a trash pump for annual maintenance on the sanitary sewer system and wastewater treatment facility. The applicant has indicated that the engine will be transportable, not remaining at one location for more than 12 months. Therefore, this engine can be classified as a non-road engine pursuant to 40 CFR 89.2.

40 CFR 89, Subpart A, Appendix A, which only applies to non-road engines, states:

> "EPA believes that states are not precluded (*or prevented*) under section 209 from regulating the use and operation of non-road engines, such as regulations on hours of usage, daily mass emission limits, or sulfur limits on fuel; nor are permits regulating such operations precluded (*or prevented*), once the engine is no longer new. EPA believes that states are precluded from requiring retrofitting of used non-road engines except that states are permitted to adopt and enforce any such retrofitting requirements identical to California requirements which have been authorized by EPA under section 209 of the Clean Air Act."

Accordingly, since this is a new non-road engine, local authorities (The District) can only regulate the use and operation of non-road engines such as regulations on the hours of usage, daily mass emission limits, or sulfur limits on fuel. Local authorities cannot require retrofitting of used non-road engines except those that are identical to California requirements that have been authorized by EPA, e.g. in the California Code of Regulations (CCR).

The engine proposed is of the latest certification for the applicable rated power category. Since no further retrofitting has been required, this Part is satisfied, and compliance with 40 CFR 89 is expected.

S-8089-2-0

The emergency engine is stationary and will remain at the same location indefinitely. Therefore, the emergency engine cannot be classified as a non-road engine and 40 CFR Part 89 does not apply.

Title 13 California Code of Regulations (CCR), Section 2423 – Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment

This article is applicable to new heavy-duty compression-ignited engines produced on or after January 1, 1996 and all other new 2000 model year and later off-road compression-ignition engines, with the exception of all engines and equipment that fall within the scope of the preemption of Section 209(e)(1)(A) of the Federal Clean Air Act and as defined by regulation of the U.S. Environmental Protection Agency.

Like District "transportable" engines and federal "non-road" engines, California "off-road" engines are also mobile. "Off-road" engines are defined as follows:

> "(A) Except as specified in paragraph (B) of this definition, an off-road compression-ignition engine is any internal combustion engine:
>
> 1. In or on a piece of equipment that is self-propelled or serves as a dual purpose by

both propelling itself and performing another function and is primarily used off the highways (such as garden tractors, off-highway mobile cranes and bulldozers); or

2. In or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or

3. That, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to wheels, skids, carrying handles, dolly, trailer, or platform.

(B) An internal combustion engine is not an off-road compression-ignition engine if:

1. The engine is used to propel a vehicle subject to the emission standards contained in Title 13, California Code of Regulations, Sections 1950-1978, or a vehicle used solely for competition, or is subject to standards promulgated under Section 202 of the federal Clean Air Act (42 U.S.C. 7521); or

2. The engine is regulated by a federal New Source Performance Standard promulgated under Section 111 of the federal Clean Air Act (42 U.S.C. 7511); or

3. The engine otherwise included in paragraph (A)3. of this definition remains or will remain at a location for more than 12 consecutive months or a shorter time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at a single location approximately three months (or more) each year. This paragraph does not apply to an engine after the engine is removed from the location."

This article requires subject engines to meet the tier certification requirements identified in this section.

S-8089-1-0

The proposed transportable engine falls under the applicability of this article since it is "off-road" as defined above. For 2011 model year engines rated greater than or equal to 50 horsepower but less than 75 horsepower, a Tier 4 Interim certification is required. The proposed engine is EPA Tier 4i certified; therefore, the engine meets the requirements of this section.

S-8089-2-0

The emergency engine is stationary and will remain at the same location indefinitely. Therefore, the emergency engine cannot be classified as an off-road engine and will not fall under the applicability of this section.

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

The purpose of this ATCM is to reduce diesel particulate matter (PM) and criteria pollutant emissions from stationary diesel-fueled CI engines.

This ATCM applies to any person who sells, leases, or purchases a stationary CI engine in California unless such engine is: (1) a portable CI engine, (2) a CI engine used to provide motive power, (3) an auxiliary CI engine used on a marine vessels, or (4) an agricultural wind machine as defined in section 93115.4. Additionally, this ATCM applies to any person who owns or operates a stationary CI engine is California with a rated brake horsepower greater than 50.

S-8089-1-0

This ATCM does not apply to portable CI engines. Per Section 93115.4(a)(57), a portable CI engine is defined as "a CI engine designed and capable of being carried or moved from one location to another, except as provided in section 93115.4(a)(72). Indicators of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. The provisions of this definition notwithstanding, an engine with indicators of portability that remains at the same facility location for more than 12 consecutive rolling months or 365 rolling days, whichever occurs first, not including time spent in a storage facility, shall be deemed a stationary engine."

The transportable engine is a portable CI engine as defined by this ATCM. Therefore, Title 17, Section 93115 is not applicable to this engine.

S-8089-2-0

The emergency engine is stationary as defined by this ATCM and is therefore subject to Title 17, Section 93115. The following table demonstrates how the proposed emergency engine will comply with the requirements of this section.

Title 17 CCR Section 93115 Requirements for New Emergency IC Engines Powering Electrical Generators	**Proposed Method of Compliance with Title 17 CCR Section 93115 Requirements**
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 ignition standards for off-road engines with the same maximum rated power (Title 13 CCR, Section 2423).	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. Additionally, the proposed diesel PM emissions rate is less than or equal to 0.15 g/bhp-hr.
The engine may not be operated more than 50 hours per year for maintenance and testing purposes.	The following condition will be included on permit '-1-0: • 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]
New stationary emergency standby diesel-fueled CI engines (> 50 bhp) must meet the standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression Ignition Engine Standards (title 13, CCR, section 2423).	The applicant has proposed the use of an engine that is certified to the latest EPA Tier Certification level for the applicable horsepower range.
Engines, with a PM10 emissions rate greater than 0.01 g/bhp-hr and located at schools, may not be operated for maintenance and testing whenever there is a school sponsored activity on the grounds. Additionally, engines located within 500 feet of school grounds may not be operated for maintenance and testing between 7:30 AM and 3:30 PM.	The District has verified that this engine is not located within 500' of a school.
An owner or operator shall maintain monthly records of the following: emergency use hours of operation; maintenance and testing hours of operation; hours of operation for emission testing; initial start-up testing hours; hours of operation for all other uses; and the type of fuel used. All records shall be retained for a minimum of 36 months.	Permit conditions enforcing these requirements were shown earlier in the evaluation.

Title 17 California Code of Regulations (CCR), Section 93116 - Airborne Toxic Control Measure (ATCM) for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater

The purpose of this ATCM is to reduce diesel particulate matter (PM) emissions from portable diesel-fueled engines having a rated brake horsepower of 50 and greater.

This ATCM applies to all portable engines, except as provided in Section 93116.1(b), having a maximum rated horsepower of 50 bhp and greater and fueled with diesel.

Per Section 93116.2(a)(29), a "portable" engine is capable of being carried or moved from one location to another. The engine is not portable if: (1) the engine is attached to a foundation or will reside at the same location for more than 12 consecutive months (excluding residency time at a storage facility), (2) the engine will reside at a location for less than 12 consecutive months if the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, or (3) the engine is moved from one location to another in an attempt to circumvent the portable residence time requirements.

S-8089-1-0

The transportable engine can be classified as portable because it does not fall under one of the categories listed in Section 93116.1(b), is capable of being moved, and will not reside at the same location for more than 12 consecutive months (excluding time in the storage shed). Therefore, this section is applicable to the transportable engine. The following table demonstrates how the proposed transportable engine will comply with the requirements of this section.

Title 17 CCR Section 93116 Requirements for Diesel-Fueled Portable IC Engines with a Rated Horsepower of 50 and Greater	**Proposed Method of Compliance with Title 17 CCR Section 93116 Requirements**
Portable engines may not reside at the same location for more than 12 consecutive months. If the engine is located at a seasonal source, it may not operate during the full annual operating period of the seasonal source.	The following conditions will be included on permit '-1-0: • This engine shall be operated at one location or site at a facility for no more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rule 2201, 40 CFR Part 89, 13 CCR 2423, and 17 CCR 93116] • The permittee shall maintain records of each location where the permit unit is operated, including dates and duration of residency at each location, and shall update those records each time the unit is moved. [District Rule 2201, 40 CFR 89, 13 CCR 2423, and 17 CCR 93116]

Portable engines 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.
New portable diesel-fueled engines shall not be permitted or registered unless they are certified to the most stringent PM standard contained in the federal or California emission standards for non-road engines.	The most stringent PM standard is contained in Title 13 CCR, Section 2423, which requires use of a Tier 4 Interim engine for the applicable horsepower range. The applicant has proposed use of such an engine.
Engine fleets shall comply with the weighted PM emission fleet averages expressed as grams per brake horsepower-hour by the listed compliance dates.	The earliest fleet standard compliance date is 1/1/13; therefore, there is no PM emissions fleet standard required at this time.

S-8089-2-0

The emergency engine cannot be classified as portable because it will reside at the same location indefinitely. Therefore, this section is not applicable to the emergency engine.

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; and
- 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.

Greenhouse Gas (GHG) Significance Determination

It is determined that another agency has prepared an environmental review document for the project. The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating greenhouse gas emissions. The District has determined that the applicant is responsible for implementing greenhouse gas mitigation measures, if any, imposed by the Lead Agency.

District CEQA Findings

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). The District's engineering evaluation of the project (this document) demonstrates that compliance with District rules and permit conditions would reduce Stationary Source emissions from the project to levels below the District's significance thresholds for criteria pollutants. The District has determined that no additional findings are required (CEQA Guidelines §15096(h)).

IX. Recommendation

Pending a successful NSR Public Noticing period, issue Authorities to Construct S-8089-1-0 and '-2-0 subject to the permit conditions on the attached draft Authorities to Construct in Appendix I.

X. Billing Information

Billing Schedule			
Permit Number	**Fee Schedule**	**Fee Description**	**Fee Amount**
S-8089-1-0	3020-10-A	57.3 bhp IC engine	$80.00
S-8089-2-0	3020-10-F	755 bhp IC engine	$607.00

Appendices

A. ARB Executive Order for Unit S-8089-1-0
B. Emissions Data Sheet for Unit S-8089-2-0
C. QNEC Calculations
D. BACT Guideline 3.2.11
E. Top-Down BACT Analysis for Unit S-8089-1-0
F. BACT Guideline 3.1.1
G. Top-Down BACT Analysis for Unit S-8089-2-0
H. HRA & AAQA Summary
I. Draft Authorities to Construct

Appendix A

ARB Executive Order for Unit S-8089-1-0

California Environmental Protection Agency AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0325 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

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

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

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2010	ADZXL05.4087	4.314	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Mechanical Direct Injection, Electronic Control Module, Exhaust Gas Recirculation	Loaders, Tractor, Dozer, Pump, Compressor

The engine models and codes are attached.

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

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
37 ≤ kW < 56	Tier 4 Interim	STD	N/A	N/A	4.7	5.0	0.30	20	15	50
		CERT	-	-	4.4	3.5	0.27	4	4	7

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

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

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

Executed at El Monte, California on this 26 day of February 2010.

Annette Hebert, Chief
Mobile Source Operations Division

Appendix B

Emissions Data Sheet for Unit S-8089-2-0

Power Generation

Exhaust Emission Data Sheet

450DFEJ

60 Hz Diesel Generator Set
EPA NSPS Stationary Emergency

Engine Information:

Model: Cummins Inc. QSX15-G9 NR 2
Nameplate BHP @ 1800 RPM: 755
Type: 4 Cycle, In-Line, 6 Cylinder Diesel
Aspiration: Turbo-charged with air-to-air charge air cooling
Compression Ratio: 17:1
Emission Control Device: Turbocharged with Charge Air Cooled

Bore: 5.39 in. (137 mm)
Stroke: 6.65 in. (169 mm)
Displacement: 912 cu. in. (14.9 liters)

	1/4	1/2	3/4	Full	Full
PERFORMANCE DATA	**Standby**	**Standby**	**Standby**	**Standby**	**Prime**
Engine HP @ Stated Load (1800 RPM)	185	344	502	661	605
Fuel Consumption (gal/hr)	10.6	17.4	23.6	30.3	28.0
Exhaust Gas Flow (CFM)	1360	2000	2605	3110	2920
Exhaust Temperature (°F)	735	820	810	865	825
EXHAUST EMISSION DATA					
HC (Total Unburned Hydrocarbons)	0.20	0.08	0.06	0.08	0.07
NOx (Oxides of Nitrogen as NO2)	2.75	2.95	4.25	5.15	4.95
CO (Carbon Monoxide)	0.50	0.36	0.31	0.42	0.45
PM (particular Matter)	0.08	0.05	0.05	0.03	0.05
Smoke (Pierburg)	0.52	0.56	0.52	0.40	0.45
					All values are Grams per HP-Hour

TEST METHODS AND CONDITIONS

Test Methods:
Steady-State emissions recorded per ISO8178-1 during operation at rated engine speed (+/-2%) and stated constant load (+/-2%) with engine temperatures, pressures and emission rated stabilized.

Fuel Specification: 40-48 Cetane Number, 0.05 Wt.% max. Sulfur; Reference ISO8178-5, 40CFR86.1313-98 Type 2-D and ASTM D975 No. 2-D.

Reference Conditions:
25 °C (77 °F) Air Inlet Temperature, 40 °C (104 °F) Fuel Inlet Temperature, 100 kPa (29.53 in Hg) Barometric Pressure; 10.7 g/kg (75 grains H_2O/lb) of dry air Humidity (required for NOx correction); Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back pressure set to maximum allowable limit.

Data was taken from a single engine test according to the test methods, fuel specification and reference conditions stated above and is subjected to instrumentation and engine-to-engine variability. Tests conducted with alternate test methods, instrumentation, fuel or reference conditions can yield different results.

Data Subject to Change Without Notice.

Power Generation

EPA Tier 2 Exhaust Emission Compliance Statement 450DFEJ

60 Hz Diesel Generator Set

Compliance Information:

The engine used in this generator set complies with the Tier 2 emissions limits of U.S EPA New Source Performance Standards for Stationary Emergency engines under the provisions of 40 CFR 60 Subpart IIII when tested per ISO 8178 D2.

Engine Manufacturer:	Cummins Inc.
EPA Certificate Number:	CEX-STATCI-11-07
Effective Date:	06/08/2010
Date Issued:	06/08/2010
EPA Diesel Engine Family:	BCEXL015.AAJ
CARB Executive Order:	

Engine Information:

Model:	Cummins Inc. QSX15-G9 NR 2	Bore:	5.39 in. (137 mm)
Engine Nameplate HP:	755		
Type:	4 Cycle, In-Line, 6 Cylinder Diesel	Stroke:	6.65 in. (169 mm)
Aspiration:	Turbo-charged with air-to-air charge air cooling	Displacement:	912 cu. in. (14.9 liters)
Compression Ratio:	17:1		
Emission Control Device:	Turbocharged with Charge Air Cooled		

U.S. Environmental Protection Agency NSPS Stationary Emergency Tier 2 Limits

COMPONENT	(All values are Grams per HP-Hour)
NOx + HC (Oxides of Nitrogen as NO2 + Non Methane Hydrocarbons)	4.8
CO (Carbon Monoxide)	2.6
PM (Particulate Matter)	0.15

Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

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 - 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 both units are new, 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:

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

S-8089-1-0

QNEC for Unit '-1-0		
Pollutant	PE2 Total (lb/yr)	Quarterly PE2 (lb/qtr)
NO_X	78	19.5
SO_X	0	0.0
PM_{10}	5	1.3
CO	66	16.5
VOC	5	1.3

S-8089-2-0

QNEC for Unit '-2-0		
Pollutant	PE2 Total (lb/yr)	Quarterly PE2 (lb/qtr)
NO_X	429	107.3
SO_X	0	0.0
PM_{10}	2	0.5
CO	35	8.8
VOC	7	1.8

Appendix D

BACT Guideline 3.2.11

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 3.2.11*

Last Update 10/30/2008

Transportable Compression - Ignited IC Engines (Non-Agricultural, Non-Electric Generation)

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 ceritified and meet the emission standard of =< 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
NOx	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 ceritified and meet the emission standard of =< 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
CO	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 ceritified and meet the emission standard of =< 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
PM10	The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range. (Example: a 200 bhp engine proposed in 2007 shall be Tier 3 ceritified and meet the emission standard of =< 0.149 g-PM10/bhp-hr)		LPG/Propane Fired Engine
SOX	Very Low Sulfur Fuel (0.0015% fuel S by weight)		

San Joaquin Valley
Unified Air Pollution Control District

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 s 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**

Appendix E

Top-Down BACT Analysis for Unit S-8089-1-0

Top-Down BACT Analysis for the Transportable IC Engine

BACT Guideline 3.2.11 (October 30, 2008) applies to transportable compression-ignition IC engines (non-agricultural, non-electric generation). In accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

1. BACT Analysis for NO_X Emissions

a. Step 1 - Identify all control technologies

BACT Guideline 3.2.11 identifies the following options:

- The proposed engine shall meet the latest available CARB certification standard for the particular horsepower range – Achieved in Practice
- LPG/Propane fired engine – Alternate Basic Equipment

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. LPG/Propane fired engine (Alternate Basic Equipment)
2. Latest available CARB certification standard for the particular horsepower range (Achieved in Practice)

d. Step 4 - Cost Effectiveness Analysis

Per Section III.D of the District's BACT Policy (11/9/99), the facility can be classified as a small emitter because facility-wide emissions are less than two tons per year of each affected pollutant. Therefore, per Section IX.E.1 of the BACT Policy, a cost effective analysis is not required because the facility is only required to comply with Achieved in Practice option.

e. Step 5 - Select BACT

BACT for NOx will be the use of an engine meeting the latest available CARB certification standard for the particular horsepower range. The latest CARB certification, for engines greater than or equal to 50 hp and less than 75 hp, is a Tier 4 Interim engine. The applicant has proposed a Tier 4 Interim engine. Therefore, BACT will be satisfied.

Appendix F

BACT Guideline 3.1.1

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 contained 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 s 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**

Appendix G

Top-Down BACT Analysis for Unit S-8089-2-0

Top-Down BACT Analysis for the Emergency IC Engine

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_X and VOC Emissions

a. Step 1 - Identify all control technologies

BACT Guideline 3.1.1 identifies only the following option:

- Latest EPA Tier Certification level for applicable horsepower range

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

- 40 CFR Part 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 does 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.

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.

Table 1: Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines g/bhp-hr (g/kW-hr)					
Maximum Engine Power	**Tier**	**Model Year(s)**	**PM**	**NMHC+NOx**	**CO**
50 ≤ HP < 75 (37 ≤ kW < 56)	2	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	4i	2008+		3.5 (4.7)	
75 ≤ HP < 100 (56 ≤ kW < 75)	2	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	3	2008+		3.5 (4.7)	
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 highest Tier required is Tier 4i. For IC engines rated greater than or equal to 75 hp and less than 750 hp, the highest Tier reqired 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 755 hp. Therefore, the applicable control technology option is EPA Tier 2 certification.

b. Step 2 - Eliminate technologically infeasible options

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

c. Step 3 - Rank remaining options by control effectiveness

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

d. Step 4 - Cost Effectiveness Analysis

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

e. Step 5 - Select BACT

BACT for NOx and VOC will be the use of an EPA Tier 2 certified engine. The applicant is proposing such a unit. Therefore, BACT will be satisfied.

Appendix H

HRA and AAQA Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Jessica Seifert, AQE - Permit Services
From:	Yu P Vu, AQS - Permit Services
Date:	November 23, 2011
Facility Name:	City Of Woodlake
Location:	900 South Valencia Blvd, Woodlake, CA
Application #(s):	S-8089-1-0 and -2-0
Project #:	S-1114296

A. RMR SUMMARY

RMR Summary				
Categories	**Diesel-Fired IC Engine (Unit 1-0)**	**Diesel-Fired IC Engine (Unit 2-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	N/A[1]	N/A[1]	N/A[1]	>1.0
Acute Hazard Index	N/A[2]	N/A[2]	N/A[2]	N/A[2]
Chronic Hazard Index	N/A[2]	N/A[2]	N/A[2]	N/A[2]
Maximum Individual Cancer Risk (10^{-6})	2.64	0.11	2.75	2.75
T-BACT Required?	**Yes**	**No**		
Special Permit Conditions?	**Yes**	**Yes**		

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

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

Proposed Permit Conditions

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

Unit # 1-0

1. The PM10 emissions rate shall not exceed **0.20** g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
2. {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] N
3. This engine (unit 1-0) shall be not be operated for more than **200** hours per year. [District Rule 2201] N
4. This engine (unit 1-0) may not be operated within **150** feet of the nearest receptor. [District Rule 2201] N

T-BACT is required for this unit because of emissions of Diesel Exhaust which is a PM-10. In accordance with District policy, BACT for this unit will be considered to be T-BACT.

Unit # 2-0

1. The PM10 emissions rate shall not exceed **0.03** g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
2. {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] N
3. The engine shall be not be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed **50** hours per year. [District Rules 2201, and 4702 and 17 CCR 93115] N

B. RMR REPORT

I. Project Description

Technical Services received a request on November 23, 2011, to perform a Risk Management Review for a proposed installation of a 57.3 bhp transportable diesel-fired IC engine powering a trash pump and a 755 bhp diesel-fired emergency IC engine powering an electrical generator.

II. Analysis

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

The following parameters were used for the review:

Analysis Parameters Unit 1-0			
Source Type	Point	**Location Type**	Rural
BHP	57.3	**PM_{10} g/hp-hr**	0.20
Closest Receptor (m)	45.72	**Quad**	Quad 2
Max Hours per Year	200	**Type of Receptor**	Business

Analysis Parameters Unit 2-0			
Source Type	Point	**Location Type**	Rural
BHP	755	**PM_{10} g/hp-hr**	0.03
Closest Receptor (m)	45.72	**Quad**	Quad 2
Max Hours per Year	50	**Type of Receptor**	Business

Technical Services also performed modeling for criteria pollutants CO, NOx, SOx and PM_{10}. The emission rates used for criteria pollutant modeling are seen in the table below:

Emission Rates Used for Modeling Criteria Pollutants			
Unit 1-0		Unit 2-0	
Pollutant	lb/yr	Pollutant	lb/yr
NOx	78	NOx	429
SOx	0	SOx	0
PM_{10}	5	PM_{10}	2
CO	66	CO	35

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[1]	X	NA[1]	X	X
NO_x	NA[1]	X	X	X	Pass
SO_x	NA[1]	NA[1]	X	NA[1]	Pass
PM_{10}	X	X	X	NA[1]	Pass[2]
$PM_{2.5}$	X	X	X	NA[1]	Pass[2]

*Results were taken from the attached PSD spreadsheet.
[1]The project is an intermittent source as defined in APR-1920. In accordance with APR-1920, compliance with short-term (i.e., 1-hour, 3-hour,8-hour and 24-hour) standards is not required.
[2]The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The cancer risk associated with the operation of the proposed diesel IC engines is less than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT) for PM10.

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

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.

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

Appendix I

Draft Authorities to Construct

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-8089-1-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: CITY OF WOODLAKE
MAILING ADDRESS: 350 NORTH VALENCIA BLVD
WOODLAKE, CA 93286

LOCATION: 900 SOUTH VALENCIA BLVD
WOODLAKE, CA

EQUIPMENT DESCRIPTION:
TRANSPORTABLE 57.3 BHP DEUTZ MODEL D914L03 TIER 4 INTERIM CERTIFIED LOW-USE DIESEL-FIRED IC ENGINE POWERING A TRASH PUMP

CONDITIONS

1. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
2. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
5. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702]
6. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, and 17 CCR 93116]
7. This engine shall not operate within 150 feet of the nearest receptor. [District Rule 4102]
8. Operation of this engine shall not exceed 200 hours per year. [District Rules 2201, 4102, and 4702]
9. This engine shall not be operated at one location or site at a facility for more than 12 consecutive months, or if at a seasonal source, the engine shall not be operated at one location or site at a facility for more than the duration of the season. [District Rule 2201, 40 CFR Part 89, 13 CCR 2423, and 17 CCR 93116]

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

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DAVID WARNER, Director of Permit Services
S-8089-1-0 Dec 14 2011 2:45PM – SEIFERTJ Joint Inspection NOT Required

10. Emissions from this IC engine shall not exceed any of the following limits: 3.10 g-NOx/bhp-hr, 2.60 g-CO/bhp-hr, or 0.20 g-VOC/bhp-hr. [District Rule 2201, 40 CFR Part 89, 13 CCR 2423, and 17 CCR 93116]
11. Emissions from this IC engine shall not exceed 0.20 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102, 40 CFR Part 89, 13 CCR 2423, and 17 CCR 93116]
12. 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]
13. During periods of operation, 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]
14. The operator shall maintain a monthly operating log for this engine that includes all of the following information: The time and date of engine operation, total hours of operation, type of fuel used, any maintenance or modifications performed, and all monitored operational characteristics. [District Rule 4702]
15. The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93116]
16. The permittee shall maintain records of each location where the permit unit is operated, including dates and duration of residency at each location, and shall update those records each time the unit is moved. [District Rule 2201, 40 CFR Part 89, 13 CCR 2423, and 17 CCR 93116]
17. 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 93116]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-8089-2-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: CITY OF WOODLAKE
MAILING ADDRESS: 350 NORTH VALENCIA BLVD
WOODLAKE, CA 93286

LOCATION: 900 SOUTH VALENCIA BLVD
WOODLAKE, CA

EQUIPMENT DESCRIPTION:
755 BHP (INTERMITTENT) CUMMINS MODEL QSX15-G9-NR2 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
2. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
5. {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]
6. {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]
7. Emissions from this IC engine shall not exceed any of the following limits: 5.15 g-NOx/bhp-hr, 0.42 g-CO/bhp-hr, or 0.08 g-VOC/bhp-hr. [District Rule 2201, 17 CCR 93115, and 40 CFR Part 60 Subpart IIII]
8. Emissions from this IC engine shall not exceed 0.03 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]
9. {4261} This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702 and 40 CFR 60 Subpart IIII]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

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DAVID WARNER, Director of Permit Services
S-8089-2-0: Dec 13 2011 10:42AM – SEIFERTJ : Joint Inspection NOT Required

10. {3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]
11. {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]
12. {3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]
13. {3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
14. {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]
15. {4263} The permittee shall maintain monthly records of the type of fuel purchased. [District Rule 4702 and 17 CCR 93115]
16. {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]