San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

FEB 0 3 2012

Marshall Cloud
Defense Distribution Depot, San Joaquin - Sharpe
DS-FJEE P.O. Box 96001
Stockton, CA 95296

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: N-1112983

Dear Mr. Cloud:

Enclosed for your review and comment is the District's analysis of Defense Distribution Depot, San Joaquin - Sharpe's application for Authority to Construct for the installation of two 755 bhp diesel-fired emergency IC engines to power electrical generators (permit unit #s N-754-59-0 and N-754-60-0) and the removal of two 900 bhp diesel-fired emergency IC engines powering electrical generators (permit unit #s N-754-24-0 and N-754-25-0), at 700 E. Roth Road, Lathrop.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Robert Gilles of Permit Services at (209) 557-6455.

Sincerely,

David Warner
Director of Permit Services

DW:RPG/st

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

Central Region (Main Office)
1990 E. Gettysburg Avenue
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
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www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

FEB 0 3 2012

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

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: N-1112983

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Defense Distribution Depot, San Joaquin - Sharpe's application for Authority to Construct for the installation of two 755 bhp diesel-fired emergency IC engines to power electrical generators (permit unit #s N-754-59-0 and N-754-60-0) and the removal of two 900 bhp diesel-fired emergency IC engines powering electrical generators (permit unit #s N-754-24-0 and N-754-25-0), at 700 E. Roth Road, Lathrop.

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

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Robert Gilles of Permit Services at (209) 557-6455.

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Stockton Record
Stockton Record

**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 Defense Distribution Depot, San Joaquin - Sharpe for the installation of two 755 bhp diesel-fired emergency IC engines to power electrical generators (permit unit #s N-754-59-0 and N-754-60-0) and the removal of two 900 bhp diesel-fired emergency IC engines powering electrical generators (permit unit #s N-754-24-0 and N-754-25-0), at 700 E. Roth Road, Lathrop.

The analysis of the regulatory basis for this proposed action, Project #N-1112983, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY MODESTO, CA 95356.**

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Diesel-fired emergency standby IC engines (2) powering electrical generators

Facility Name:	Defense Distribution Depot San Joaquin – Sharpe	Date:	January 9, 2012
Mailing Address:	DS-FJEE P.O. Box 96001 Stockton, CA 95296	Engineer:	Robert Gilles
		Lead Engineer:	Nick Peirce
Contact Person:	Marshall Cloud		
Telephone:	(209) 839-4129		
Fax:	(209) 839-4949		
E-Mail:	Marshall.Cloud@dla.mil		
Application #'s:	N-754-59-0 and '-60-0		
Project #:	N-1112983		
Deemed Complete:	December 14, 2011		

I. Proposal

Defense Distribution Depot has requested two Authority to Construct (ATC) permits for the installation of two 755 bhp emergency stand-by internal combustion (IC) engines powering electrical generators.

The applicant has proposed that these two engines will replace the two 900 bhp diesel-fired emergency IC engines powering electrical generators permitted under N-754-24-0 and N-754-25-0. Thus, permit units N-754-24 and '-25 will be removed with this project and the permits will be deleted. The following condition will be included on each permit to ensure this action.

- *Permit to Operate (PTO) N-754-24-0 and PTO N-754-25-0 shall be canceled upon the implementation of this ATC. [District Rule 2201]*

The draft ATCs, N-754-59-0 and N-754-60-0, are included in Appendix A and current PTOs, N-754-24-0 and N-754-25-0, are included in Appendix D.

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 – Phase 2 (8/18/11)
Rule 4801 Sulfur Compounds (12/17/92)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Title 17 CCR, Section 93115 - Airborne Toxic Control Measure (ATCM) for Stationary Compression-Ignition (CI) Engines
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 700 E. Roth Rd. in Lathrop, CA. 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

These emergency standby engines power electrical generators. Other than emergency standby operation, the engines may be operated up to 50 hours per year for maintenance and testing purposes.

V. Equipment Listing

Both engines that will be installed with this project are identical and will have identical permit equipment descriptions.

N-0754-59-0: 755 BHP CUMMINS MODEL # QSX 15-G9 NR2 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

N-0754-60-0: 755 BHP CUMMINS MODEL # QSX 15-G9 NR2 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

VI. Emission Control Technology Evaluation

The applicant has proposed to install two Tier 2 certified diesel-fired IC engines that are fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum).

The proposed engines meet the latest Tier Certification requirements; therefore, the engines meet the latest ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide.

The use of very low-sulfur diesel fuel (0.0015% by weight sulfur maximum) reduces SO_X emissions by over 99% from standard diesel fuel.

VII. General Calculations

A. Assumptions

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

B. Emission Factors

For the new diesel-fired IC engines, the emissions factors for NO_X, CO, VOC, and PM_{10} are provided by the applicant and are guaranteed by the engine manufacturer. The SO_X emission factor is calculated using the sulfur content in the diesel fuel (0.0015% sulfur).

Diesel-fired IC Engine Emission Factors (N-754-59-0 and N-754-60-0)		
Pollutant	g/bhp-hr	Source
NO_X	4.54	Engine Manufacturer
SOx	0.0051	Mass Balance Equation Below*
PM_{10}	0.14	Engine Manufacturer
CO	2.61	Engine Manufacturer
VOC	0.4	Engine Manufacturer

$$*0.0015\% \times \frac{7.1\,lb \cdot fuel}{gallon} \times \frac{2\,lb \cdot SO_2}{1\,lb \cdot S} \times \frac{1\,gal}{137{,}000\,Btu} \times \frac{1\,hp\,input}{0.35\,hp\,out} \times \frac{2{,}542.5\,Btu}{hp \cdot hr} \times \frac{453.6\,g}{lb} = 0.0051\,\frac{g\,SOx}{hp \cdot hr}$$

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Since these are new emissions units, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

The daily and annual PE values are calculated as follows for each engine:

PE2 Calculation (N-754-59-0 and N-754-60-0)						
			Hours of Operation			
Pollutant	Emission Factor (g/bhp-hr)	Rating (bhp)	Daily (hrs/day)	Annual (hrs/year)	Daily PE2 (lb/day)	Annual PE2 (lb/year)
NOx	4.54	755	24	50	181.4	378
SOx	0.0051	755	24	50	0.2	0
PM_{10}	0.14	755	24	50	5.6	12
CO	2.61	755	24	50	104.3	217
VOC	0.4	755	24	50	16.0	33

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 Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and 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.

Since this is an existing facility, SSPE1 is equal to the sum of the total pre project PE from all units for all criteria pollutants. The table below summarizes the total SSPE1 values as calculated in Appendix E.

Pre Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit #	NO_X	SO_X	PM_{10}	CO	VOC
N-754-20-0	355	0	11	77	3
N-754-22-0	218	0	2	358	3
N-754-23-2	218	0	2	358	3
N-754-24-0	397	0	9	101	6
N-754-25-0	397	0	9	101	6
N-754-33-0	101	0	10	31	11
N-754-38-2	441	26	68	756	50
N-754-51-1	0	0	0	0	863
N-754-53-0	64	0	3	12	7
N-754-54-0	662	1	4	20	20
N-754-55-1	912	1	14	291	12
N-754-56-0	22	0	2	13	4
N-754-58-0	112	0	2	8	5
Total SSPE1	**3,899**	**28**	**136**	**2,126**	**993**

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 Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and 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.

For this project the change in emissions for the facility is due to the installation of the two new emergency standby IC engines, permit units '-59-0 and '-60-0 and the cancellation of two existing emergency standby IC engines, permit units '-24-0 and '-25-0. Thus:

Post Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit #	NO_X	SO_X	PM_{10}	CO	VOC
N-754-20-0	355	0	11	77	3
N-754-22-0	218	0	2	358	3
N-754-23-2	218	0	2	358	3
N-754-24-0	0	0	0	0	0
N-754-25-0	0	0	0	0	0
N-754-33-0	101	0	10	31	11
N-754-38-2	441	26	68	756	50
N-754-51-1	0	0	0	0	863
N-754-53-0	64	0	3	12	7
N-754-54-0	662	1	4	20	20
N-754-55-1	912	1	14	291	12
N-754-56-0	22	0	2	13	4
N-754-58-0	112	0	2	8	5
N-754-59-0	378	0	12	217	33
N-754-60-0	378	0	12	217	33
Total SSPE2	**3,861**	**28**	**142**	**2,358**	**1,047**

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 that, 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.

Major Source Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1	3,899	28	136	2,126	993
SSPE2	3,861	28	142	2,358	1,047
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No

As shown in the preceding table, the post-project facility is a non-major source for all criteria pollutants.

6. Baseline Emissions (BE)

The BE calculation (lb/year) is performed pollutant-by-pollutant for each unit within the project, to calculate the QNEC and if applicable, to determine the amount of offsets required.

Pursuant to Section 3.7 of District Rule 2201, BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or

- Any Clean Emissions Unit, located at a Major Source,

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.22 of District Rule 2201.

Since these are new emissions units, BE = 0 for all criteria pollutants.

7. SB288 Major Modification

SB288 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.6, this facility is a non-major source for all criteria pollutants; therefore, this project cannot be a SB288 Major Modification. No further discussion is required.

8. Federal Major Modification

District Rule 2201, Section 3.17 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.

As discussed in Section VII.C.6, this facility is a non-major source for all criteria pollutants; therefore, this project cannot be a Federal Major Modification. No further discussion is required.

9. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Attachment I.

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. Unless exempted pursuant to Section 4.2, BACT shall be required for the following actions:[1]

[1] Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. 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.

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

As seen in Section VII.C.2 of this evaluation, the applicant is proposing to install two new diesel-fired IC engines with a PE greater than 2.0 lb/day for NOx, CO, and VOC. However, since SSPE2 is less than 200,000 lb-CO/year, BACT is not triggered for CO emissions greater than 2.0 lb/day. BACT is triggered only for NOx and VOC emissions for each proposed engine.

b. Relocation of emissions units – PE > 2.0 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered for these purposes.

c. Modification of emissions units – AIPE > 2.0 lb/day

As discussed in Section I above, there are no modified emissions units associated with this project; therefore BACT is not triggered for these purposes.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project constitutes neither a SB288 Major Modification nor a Federal Major Modification; therefore BACT is not triggered for these purposes.

2. BACT Guideline

BACT Guideline 3.1.1 applies to the diesel-fired emergency IC engines. BACT guideline 3.1.1 is included in Appendix B.

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, 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.

Pursuant to the attached Top-Down BACT Analysis in Appendix B, BACT has been satisfied with the following:

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

The applicant has proposed to install two Tier 2 certified diesel-fired IC engines that are fired on very low-sulfur diesel fuel (0.0015% by weight sulfur maximum).

The proposed engines meet the latest Tier Certification requirements for the applicable horsepower range; therefore, the engines meet the latest ARB/EPA emissions standards for diesel particulate matter, hydrocarbons, nitrogen oxides, and carbon monoxide.

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.

Pursuant to Section 4.6.2 of District Rule 2201, offsets are not required for emergency IC engines; therefore, offset calculations are not required for these proposed new engines.

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

This facility is not a new facility that is also a major source and this project constitutes neither a SB288 Major Modification nor a Federal Major Modification. Therefore, public notice is not triggered for these purposes.

b. PE > 100 lb/day

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

PE > 100 lb/day Public Notice Thresholds			
Pollutant	PE2 (lb/day)	Public Notice Threshold	Public Notice Triggered?
NO_x	181.4	100 lb/day	Yes
SO_x	0.2	100 lb/day	No
PM_{10}	5.6	100 lb/day	No
CO	104.3	100 lb/day	Yes
VOC	16.0	100 lb/day	No

Since PE2 > 100 lb/day for NOx and CO emissions, 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	3,899	3,861	20,000 lb/year	No
SOx	28	28	54,750 lb/year	No
PM_{10}	136	142	29,200 lb/year	No
CO	2,126	2,358	200,000 lb/year	No
VOC	993	1,047	20,000 lb/year	No

As shown in the table above, there were no offset 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	3,861	3,899	-38	20,000 lb/year	No
SO_x	28	28	0	20,000 lb/year	No
PM_{10}	142	136	6	20,000 lb/year	No
CO	2,358	2,126	232	20,000 lb/year	No
VOC	1,047	993	54	20,000 lb/year	No

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

2. Public Notice Action

As discussed above, the project NOx and CO emissions are greater than 100 lb/day; therefore, public notice requirements are triggered. 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 ATCs for this equipment.

D. Daily Emission Limits (DELs)

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. DELs are also required to enforce the applicability of BACT.

For these IC engines, the DELs are stated in the form of emission factors (g/bhp-hr), the maximum engine horsepower rating, and the maximum operational time of 24 hours per day and 50 hours per year.

Proposed Rule 2201 (DEL) Conditions:

- *Emissions from this IC engine shall not exceed any of the following limits: 4.54 g-NOx/bhp-hr; 2.61 g-CO/bhp-hr; or 0.4 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]*
- *The PM10 emissions rate shall not exceed 0.14 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201 and 17 CCR 93115]*
- *Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]*

E. Compliance Assurance

1. Source Testing

Pursuant to District Policy APR 1705, source testing is not required for emergency standby IC engines to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

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

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

F. Ambient Air Quality Analysis

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.

Although this project triggers a public notice, an AAQA was not performed. Based on EPA's clarification memoranda for NO_2 & SO_2, dated March 1, 2011, intermittent use equipment can be exempted by the reviewing agency from inclusion in analyses. The District has interpreted EPA's guidance to extend to all modeling periods for which there is a CAAQS/NAAQS. Since the number of hours allowed by the District for emergency and intermittent use equipment is less than the levels imposed by EPA, these units will be exempted from CAAQS/NAAQS analyses. Therefore, an AAQA was not performed and no further discussion is required. Refer to Appendix C of this document for the review summary sheet.

Rule 2520 Federally Mandated Operating Permits

Since this facility's potential to emit does not exceed any of the 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 Part 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

The proposed engine at this site is subject to the requirements of this subpart. The District has not yet obtained a delegation from EPA to enforce this subpart. Therefore, requirements of this subpart are not listed in the permit at this time.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

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

The proposed engine at this site is subject to the requirements of this subpart. The District has not yet obtained a delegation from EPA to enforce this subpart. Therefore, requirements of this subpart are not listed in the permit at this time.

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 each permit 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

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations provided the equipment is well maintained. Therefore, compliance with this rule is expected. The following condition will be listed on each permit to ensure compliance with the requirements of this section:

- *{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 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.

An HRA is not required for a project with a total facility prioritization score of less than one. According to the Technical Services Memo for this project (Appendix C), the total facility prioritization score including this project was greater than one. Therefore, a health risk assessment was required to determine the short-term acute and long-term chronic exposure from this project.

The cancer risk for this project is shown below:

HRA Summary		
Unit	Cancer Risk	T-BACT Required
N-754-59-0	0.13 per million	No
N-754-60-0	0.13 per 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 this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-

BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

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

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

- *{Modified 1901} The PM10 emissions rate shall not exceed 0.14 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 17 CCR 93115]*
- *{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] N*
- *{Modified 1344} The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per year. [District Rules 2201 and 4702] N*

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot, which, as calculated below, is equivalent to a PM_{10} emission factor of 0.4 g-PM_{10}/bhp-hr.

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

Since the new engines have a PM_{10} emission factor less than 0.4 g/bhp-hr, compliance is expected. The following condition will be listed on each ATC to ensure continued compliance with this Rule:

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

Rule 4701 Stationary Internal Combustion Engines – Phase 1

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

Rule 4702 Stationary Internal Combustion Engines – Phase 2

The following table demonstrates how the proposed engines 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. The following condition will be included on each permit: • *This engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per year. [District Rules 2201 and 4702 and 17 CCR 93115] N*
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 each permit: • *{3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]* • *{3808} This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]*
The owner/operator must operate and maintain the engine(s) and any installed control devices according to the manufacturers written instructions.	A permit condition enforcing this requirement was included earlier in this 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 each permit: • *{3478} During periods of operation for maintenance, testing, and required regulatory purposes, the permittee shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]*

Records of the total hours of operation of the emergency standby engine, type of fuel used, purpose for operating the engine, all hours of non-emergency and emergency operation, and support documentation must be maintained. All records shall be retained for a period of at least five years, shall be readily available, and be made available to the APCO upon request.	The following conditions will be included on each permit: • *{3496} The permittee shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]* • *{4263} 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) = $\frac{10.73\,psi \cdot ft^3}{lb \cdot mol \cdot °R}$

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

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

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

California Health & Safety Code 42301.6 (School Notice)

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

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

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

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 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 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 two Tier 2 certified engines, which meets the latest EPA Tier Certification level for the applicable horsepower range, guaranteeing compliance with the emission standards of this section. Additionally, the proposed diesel PM emissions rate is less than or equal to 0.15 g/bhp-hr for each engine.
The engine may not be operated more than 50 hours per year for maintenance and testing purposes.	The proposed permit condition enforcing this requirement was included earlier in this evaluation.
New stationary emergency standby diesel-fueled IC 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 engines that are Tier 2 certified, which meets the latest EPA Tier Certification level for the applicable horsepower range.
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.	The proposed permit conditions enforcing these requirements were included earlier in this evaluation.

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 no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

The District's engineering evaluation (this document – Appendix F) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending successful NSR Public Noticing period, issue Authority to Construct permits N-754-59-0 and N-754-60-0 subject to the permit conditions on the attached draft Authority to Construct permits in Appendix A.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
N-754-59-0	3020-10-D	755 bhp IC engine	$479.00
N-754-60-0	3020-10-D	755 bhp IC engine	$479.00

Appendices

A: Draft ATCs
B: BACT Guideline and BACT Analysis
C: HRA/RMR/AAQA Summary
D: Current PTOs – N-754-24-0 and N-754-25-0
E: SSPE1 Calculation
F: Greenhouse Gas Evaluation

Attachments

I: QNEC Calculations

APPENDIX A

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-754-59-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: DEFENSE DISTRIB DEPOT SAN JOAQUIN-SHARPE
MAILING ADDRESS: P O BOX 960001
STOCKTON, CA 95296-0710

LOCATION: 700 E ROTH RD
LATHROP, CA 95231

EQUIPMENT DESCRIPTION:
755 BHP CUMMINS MODEL # QSX 15-G9 NR2 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. Permit to Operate (PTO) N-754-24-0 and PTO N-754-25-0 shall be cancelled prior to, or upon implementation of this Authority to Construct. [District Rule 2201]
2. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. {3395} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]
7. {3403} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed any of the following limits: 4.54 g-NOx/bhp-hr; 2.61 g-CO/bhp-hr; or 0.4 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
9. The PM10 emissions rate shall not exceed 0.14 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201 and 17 CCR 93115]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-754-59-0 : Jan 9 2012 8:58AM – GILLESR : Joint Inspection NOT Required

10. {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]

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

12. {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]

13. {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]

14. {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]

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]

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

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-754-60-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: DEFENSE DISTRIB DEPOT SAN JOAQUIN-SHARPE
MAILING ADDRESS: P O BOX 960001
STOCKTON, CA 95296-0710

LOCATION: 700 E ROTH RD
LATHROP, CA 95231

EQUIPMENT DESCRIPTION:
755 BHP CUMMINS MODEL # QSX 15-G9 NR2 TIER 2 CERTIFIED DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR

CONDITIONS

1. Permit to Operate (PTO) N-754-24-0 and PTO N-754-25-0 shall be cancelled prior to, or upon implementation of this Authority to Construct. [District Rule 2201]
2. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. {3395} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]
7. {3403} This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]
8. Emissions from this IC engine shall not exceed any of the following limits: 4.54 g-NOx/bhp-hr; 2.61 g-CO/bhp-hr; or 0.4 g-VOC/bhp-hr. [District Rule 2201 and 17 CCR 93115]
9. The PM10 emissions rate shall not exceed 0.14 g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201 and 17 CCR 93115]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-754-60-0 : Jan 9 2012 9:56AM – GILLESR : Joint Inspection NOT Required

10. {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]

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

12. {3807} An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the permittee. [District Rule 4702]

13. {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]

14. {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]

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]

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

APPENDIX B

BACT Guideline and BACT Analysis

San Joaquin Valley
Unified Air Pollution Control District

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

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

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

Top Down BACT Analysis for the Emergency IC Engine

1. BACT Analysis for NOx and VOC Emissions:

a. Step 1 - Identify all control technologies

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

Pollutant	Achieved in Practice
NOx and VOC	Latest EPA Tier Certification level for applicable horsepower range

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

b. Step 2 - Eliminate technologically infeasible options

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

c. Step 3 - Rank remaining options by control effectiveness

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

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control option listed for each pollutant. Therefore, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NOx and VOC emissions from these diesel-fired emergency standby IC engines is the latest EPA Tier Certification level for the applicable horsepower range. The applicant has proposed to install two Tier 2 certified 755 bhp emergency standby diesel IC engines, which meet the latest Tier Certification for engines this size as shown in the attached Tier Certification table at the end of this Appendix.

Title 13 CCR 2423

(December 2005)

Tier Certification & Exhaust Emission Standards

(grams per brake horsepower-hour)

Power Rating (hp)	Tier	Model Year	NO_x	HC	NMHC +NO_x	CO	PM
50 ≤ hp < 75	1	1998 – 2003	6.9	-	-	-	-
	2	2004 - 2007	-		5.6	3.7	0.3
	3	2008 - 2011			3.5		
	4*	2008 – 2012 (Interim)			3.5	3.7	0.22
75 ≤ hp < 100	1	1998 – 2003	6.9	-	-	-	-
	2	2004 – 2007	-		5.6	3.7	0.3
	3	2008 – 2011			3.5		
100 ≤ hp < 175	1	1997 – 2002	6.9	-	-	-	-
	2	2003 – 2006	-		4.9	3.7	0.22
	3	2007 – 2011			3.0		
175 ≤ hp < 300	1	1996 – 2002	6.9	1.0	-	8.5	0.4
	2	2003 – 2005	-	-	4.9	2.6	0.15
	3	2006 - 2010			3.0		
300 ≤ hp < 600	1	1996 – 2000	6.9	1.0	-	8.5	0.4
	2	2001 – 2005	-	-	4.8	2.6	0.15
	3	2006 – 2010			3.0		
600 ≤ hp ≤ 750	1	1996 – 2001	6.9	1.0	-	8.5	0.4
	2	2002 – 2005	-	-	4.8	2.6	0.15
	3	2006 – 2010			3.0		
> 750	1	2000 – 2005	6.9	1.0	-	8.5	0.4
	2	2006 – 2010	-	-	4.8	2.6	0.15

* Manufacturers may optionally certify engine families to the interim Tier 4 for this power category through 2012.

APPENDIX C

HRA / RMR / AAQA Summary

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Robert Gilles – Permit Services
From:	Cheryl Lawler – Technical Services
Date:	January 6, 2012
Facility Name:	Defense Depot San Joaquin Sharpe
Location:	700 E. Roth Road, Lathrop
Application #(s):	N-754-59-0 & 60-0
Project #:	N-1112983

A. RMR SUMMARY

RMR Summary				
Categories	**Emergency Diesel ICE (Unit 59-0)**	**Emergency Diesel ICE (Unit 60-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	N/A[1]	N/A[1]	>1	>1
Acute Hazard Index	N/A[2]	N/A[2]	N/A	0.00
Chronic Hazard Index	N/A[2]	N/A[2]	N/A	0.00
Maximum Individual Cancer Risk	**1.3E-07**	**1.3E-07**	2.6E-07	6.88E-07
T-BACT Required?	**No**	**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 prioritization scores 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 it has been determined to be insignificant for these types of units.

Proposed Permit Conditions

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

Units 59-0 & 60-0

1. Modified {1901} The PM10 emissions rate shall not exceed **0.14** g/bhp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201]
2. {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] N
3. Modified {1344} The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed **50** hours per year. [District NSR Rule and District Rule 4701] N

B. RMR REPORT

I. Project Description

Technical Services received a request on December 14, 2011, to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the installation of two new 755 bhp emergency standby diesel-fired internal combustion engines powering electrical generators. These engines will replace existing 900 bhp emergency engines (Units 24-0 & 25-0) which will be removed as part of this project.

II. Analysis

Technical Services performed a screening level health risk assessment for each engine using the District's Diesel Exhaust Risk Screening spreadsheet.

The following parameters were used for the review:

Analysis Parameters						
Unit #	**bhp-hr**	**PM_{10} g/hp-hr**	**Receptor (m)**	**Quad**	**Hours/Year**	**Load%**
59-0 & 60-0	755	0.14	640	2	50	100
Location Type		Urban	**Receptor Type**		Business	

Although this project triggers a public notice, an AAQA was not performed. Based on EPA's clarification memoranda for NO_2 & SO_2, dated March 1, 2011, intermittent use equipment can be exempted by the reviewing agency from inclusion in analyses. The District has interpreted EPA's guidance to extend to all modeling periods for which there is a CAAQS/NAAQS. Since the number of hours allowed by the District for emergency and intermittent use equipment is less than the levels imposed by EPA, these units will be exempted from CAAQS/NAAQS analyses. Therefore, an AAQA was not performed and no further discussion is required.

III. Conclusion

The cancer risk associated with the operation of each proposed emergency diesel IC engine is **1.3E-07**, which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the engines are approved **without** Toxic Best Available Control Technology (T-BACT).

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

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

APPENDIX D

Current PTOs
N-754-24-0 and N-754-25-0

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-754-24-0 **EXPIRATION DATE:** 07/31/2013

EQUIPMENT DESCRIPTION:
900 BHP CUMMINS MODEL VTA28G252 DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR (BLDG 330, EAST GENERATOR #1)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. NOx emissions shall not exceed 10 g/hp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]
5. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]
6. 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]
7. The permittee shall maintain monthly records of the type of fuel purchased, the amount of fuel purchased, date when the fuel was purchased, signature of the permittee who received the fuel, and signature of the fuel supplier indicating that the fuel was delivered. [17 CCR 93115]
8. If this engine is located on the grounds of a K-12 school, or if this engine is located within 500 feet of the property boundary of a K-12 school, the engine shall not be operated for non-emergency purposes, including maintenance and testing, between 7:30 a.m. and 3:30 p.m. on days when school is in session. [17 CCR 93115]
9. If this engine is located on the grounds of a K-12 school, the engine shall not be operated for non-emergency purposes, including maintenance and testing, whenever there is a school sponsored activity. [17 CCR 93115]
10. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]
11. 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]
12. 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 20 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
13. 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]
14. 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]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

15. 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]
16. 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]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-754-25-0 **EXPIRATION DATE:** 07/31/2013

EQUIPMENT DESCRIPTION:
900 BHP CUMMINS MODEL VTA28G252 DIESEL-FIRED EMERGENCY STANDBY IC ENGINE POWERING AN ELECTRICAL GENERATOR (BLDG 330, WEST GENERATOR #2)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
3. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. NOx emissions shall not exceed 10 g/hp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]
5. This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]
6. 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]
7. The permittee shall maintain monthly records of the type of fuel purchased, the amount of fuel purchased, date when the fuel was purchased, signature of the permittee who received the fuel, and signature of the fuel supplier indicating that the fuel was delivered. [17 CCR 93115]
8. If this engine is located on the grounds of a K-12 school, or if this engine is located within 500 feet of the property boundary of a K-12 school, the engine shall not be operated for non-emergency purposes, including maintenance and testing, between 7:30 a.m. and 3:30 p.m. on days when school is in session. [17 CCR 93115]
9. If this engine is located on the grounds of a K-12 school, the engine shall not be operated for non-emergency purposes, including maintenance and testing, whenever there is a school sponsored activity. [17 CCR 93115]
10. Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801 and 17 CCR 93115]
11. 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]
12. 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 20 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
13. 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]
14. 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]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

15. 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]

16. 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]

APPENDIX E

SSPE1 Calculation

Pre Project Stationary Source Potential to Emit (SSPE1)

Unit N-754-20-0

Permit Unit	N-754-20
Unit Rating	115 bhp
Fuel Type	CARB certified Diesel
Annual Operation	100 hours

PE1 N-754-20-0					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	14.0	115	100	355	N-1021516
SOx	0.0051	115	100	0	Mass Balance
PM_{10}	0.42	115	100	11	N-1021516
CO	3.03	115	100	77	N-1021516
VOC	0.099	115	100	3	N-1021516

Unit N-754-22-2

Permit Unit	N-754-22
Unit Rating	132 bhp
Fuel Type	CARB certified Diesel
Annual Operation	100 hours

PE1 N-754-22-2					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	7.48	132	100	218	Current PTO
SOx	0.0051	132	100	0	Mass Balance
PM_{10}	0.063	132	100	2	Current PTO
CO	12.3	132	100	358	Current PTO
VOC	0.099	132	100	3	Current PTO

Unit N-754-23-2

Permit Unit	N-754-23
Unit Rating	132 bhp
Fuel Type	CARB certified Diesel
Annual Operation	100 hours

PE1 N-754-23-2					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	7.48	132	100	218	Current PTO
SOx	0.0051	132	100	0	Mass Balance
PM_{10}	0.063	132	100	2	Current PTO
CO	12.3	132	100	358	Current PTO
VOC	0.099	132	100	3	Current PTO

Unit N-754-24-0

Permit Unit	N-754-24
Unit Rating	900 bhp
Fuel Type	CARB certified Diesel
Annual Operation	20 hours

PE1 N-754-24-0					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	10	900	20	397	Current PTO
SOx	0.0051	900	20	0	Mass Balance
PM_{10}	0.215	900	20	9	89-362
CO	2.54	900	20	101	89-362
VOC	0.16	900	20	6	89-362

Unit N-754-25-0

Permit Unit	N-754-25
Unit Rating	900 bhp
Fuel Type	CARB certified Diesel
Annual Operation	20 hours

PE1 N-754-25-0					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	10	900	20	397	Current PTO
SOx	0.0051	900	20	0	Mass Balance
PM_{10}	0.215	900	20	9	89-362
CO	2.54	900	20	101	89-362
VOC	0.16	900	20	6	89-362

Unit N-754-33-0

Permit Unit	N-754-33
Unit Rating	230 bhp
Fuel Type	CARB certified Diesel
Annual Operation	20 hours

PE1 N-754-33-0					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	10	230	20	101	Current PTO
SOx	0.0051	230	20	0	Mass Balance
PM_{10}	1.0	230	20	10	90-169
CO	3.03	230	20	31	90-169
VOC	1.12	230	20	11	90-169

Unit N-754-38-2

Permit Unit	N-754-38
Unit Rating	10.5 MMBtu/hr
Fuel Type	Natural Gas
Annual Operation	9 billion Btu

PE1 N-754-38-2					
Pollutant	EF1 (lb/MMBtu)	Boiler Rating (MMBtu/hr)	Annual Operation (MMBtu/yr)	PE1 (lb/year)	Source
NOx	0.049	10.5	9,000	441	Current PTO
SOx	0.00285	10.5	9,000	26	Current PTO
PM_{10}	0.0076	10.5	9,000	68	Current PTO
CO	0.084	10.5	9,000	756	Current PTO
VOC	0.0055	10.5	9,000	50	Current PTO

Unit N-754-51-1

GDF: AST w/ 1-nozzle. See GEAR 1

Annual Emissions:

Annual throughput (gal/yr) = Number of FP x 1,800 (gal/FP-day) x 365 (days/yr)
= 1 x 1,800 (gal/FP-day) x 365 (days/yr)
= 657,000 gal/yr

Annual PE1 = Annual throughput (gal/yr) x 1.313 (lb-VOC/1,000 gal)
= 657,000 (gal/yr) x 1.313 (lb-VOC/1,000 gal)
= 863 lb-VOC/yr

Unit N-754-53-0

Permit Unit	N-754-53
Unit Rating	170 bhp
Fuel Type	CARB certified Diesel
Annual Operation	30 hours

PE1 N-754-53-0					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	5.67	170	30	64	Current PTO
SOx	0.0051	170	30	0	Mass Balance
PM_{10}	0.3	170	30	3	Current PTO
CO	1.04	170	30	12	N-1000774
VOC	0.59	170	30	7	N-1000774

Unit N-754-54-0

Permit Unit	N-754-54
Unit Rating	910 bhp
Fuel Type	CARB certified Diesel
Annual Operation	50 hours

PE1 N-754-54-0					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	6.6	910	50	662	Current PTO
SOx	0.0051	910	50	1	Mass Balance
PM_{10}	0.04	910	50	4	Current PTO
CO	0.2	910	50	20	Current PTO
VOC	0.2	910	50	20	Current PTO

Unit N-754-55-1

Permit Unit	N-754-55
Unit Rating	465 bhp
Fuel Type	CARB certified Diesel
Annual Operation	100 hours

PE1 N-754-55-1					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	8.9	465	100	912	Current PTO
SOx	0.0051	465	100	1	Mass Balance
PM_{10}	0.14	465	100	14	Current PTO
CO	2.84	465	100	291	Current PTO
VOC	0.12	465	100	12	Current PTO

Unit N-754-56-0

Permit Unit	N-754-56
Unit Rating	68 bhp
Fuel Type	CARB certified Diesel
Annual Operation	30 hours

PE1 N-754-56-0					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	4.9	68	30	22	Current PTO
SOx	0.0051	68	30	0	Mass Balance
PM_{10}	0.38	68	30	2	Current PTO
CO	2.9	68	30	13	Current PTO
VOC	1.0	68	30	4	Current PTO

Unit N-754-58-0

Permit Unit	N-754-58
Unit Rating	207 bhp
Fuel Type	CARB certified Diesel
Annual Operation	50 hours

PE1 N-754-58-0					
Pollutant	EF1 (g/bhp-hr)	Engine Rating (bhp)	Annual Operation (hrs/yr)	PE1 (lb/year)	Source
NOx	4.89	207	50	112	Current PTO
SOx	0.0051	207	50	0	Mass Balance
PM_{10}	0.1	207	50	2	Current PTO
CO	0.36	207	50	8	Current PTO
VOC	0.2	207	50	5	Current PTO

SSPE1 Summary

SSPE1 (lb/year)					
Permit #	NOx	SOx	PM_{10}	CO	VOC
N-754-20-0	355	0	11	77	3
N-754-22-2	218	0	2	358	3
N-754-23-2	218	0	2	358	3
N-754-24-0	397	0	9	101	6
N-754-25-0	397	0	9	101	6
N-754-33-0	101	0	10	31	11
N-754-38-2	441	26	68	756	50
N-754-51-1	0	0	0	0	863
N-754-53-0	64	0	3	12	7
N-754-54-0	662	1	4	20	20
N-754-55-1	912	1	14	291	12
N-754-56-0	22	0	2	13	4
N-754-58-0	112	0	2	8	5
Total SSPE1	**3,899**	**28**	**136**	**2,126**	**993**

APPENDIX F

Greenhouse Gas Evaluation

Greenhouse Gas (GHG) Evaluation

N-754-59-0 and N-754-60-0

Emission Factors – CA low sulfur diesel fuel

Emission factors and global warming potentials (GWP) are taken from the California Climate Action Registry (CCAR), Version 3.1, January, 2009 (Appendix C, Tables C.7 and C.8):

- CO_2 73.1 kg/MMBtu (HHV) diesel fuel (161.2 lb/MMBtu)
- CH_4 0.003 kg/MMBtu (HHV) diesel fuel (0.0066 lb/MMBtu)
- N_2O 0.0006 kg/MMBtu (HHV) diesel fuel (0.0013 lb/MMBtu)

GWP for CH_4 = 23 lb-CO_2e per lb-CH4
GWP for N_2O = 296 lb-CO_2e per lb-N2O

Calculations:

Total Maximum Heat Input Increase for this project (2 engines)

Diesel Fuel Combustion	= (10 gallons/hr per engine) x (2 engines) = 20 gallons/hr
Max. Annual Operation	= 50 hours/year
Total Annual Fuel Usage	= (10 gal/hr) x (50 hrs/year) = 500 gallons/year
Convert to MMBtu/yr	= (500 gal/yr) x (137,000 Btu/gal) x (MMBtu/10^6Btu) = **68.5 MMBtu/yr**

CO_2 Emissions = (68.5 MMBtu/year) x (161.2 lb/MMBtu) × (1 ton/2,000 lb)

= *5.5 ton-CO_2e/year*

CH_4 Emission = (68.5 MMBtu/year) x (0.0066 lb/MMBtu) × (23 lb-CO_2e/lb-CH_4) x (1 ton/2,000 lb)

=*0.0052 ton-CO_2e/year*

N_2O Emissions = (68.5 MMBtu/year) x (0.0013 lb/MMBtu) × (296 lb-CO_2e/lb-CH_4) x (1 ton/2,000 lb)

= *0.0132 ton-CO_2e/year*

Total Annual GHG Emissions = (5.5 + 0.0052 + 0.0132)ton-CO_2e/year
= **5.5 short ton-CO_2e/year**

Metric Conversion:

Annual Emissions = (5.5 short ton-CO_2e/year) x 0.9072 metric tons/short ton
= **5 metric tons-CO_2e/year**

Conclusion:

Per District Policy, project specific greenhouse gas emissions less than or equal to 230 metric tons-CO2e/year are considered to be zero for District permitting purposes and are exempt from further environmental review.

As shown above, the project specific greenhouse gas emissions are less than 230 metric tons-CO_2e/year. The emissions are therefore considered to be zero and no further discussion is required.