

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

Facility Name: [Facility Name] Date: June 1, 2016
Mailing Address: [Mailing Address] Engineer/ [Your Name]
Specialist:
Lead Engineer: [Lead Engr Name]

Contact Person: [Contact Person]
Telephone: [Phone #]
Application #: [ATC #]
Project #: [Project #]
Complete: [Deemed Complete]

Note: This GEAR is to be used for **emergency floodwater pump** IC engines only. Section 4.3 of District Rule 4702 defines an “Emergency Engine” as an internal combustion engine which is operated exclusively to preserve or protect property, human life, or public health during a disaster or state of emergency, such as a fire or flood.

Note: It is also important to verify that prior to processing this engineer evaluation, **all new IC engines** must meet the applicable off-road emissions standards (Tier rating) for the year of manufacture and bhp rating range of the proposed engine.

I. Proposal

[Facility Name] is proposing to **install/modify** a **XXX** bhp (intermittent) diesel-fired emergency internal combustion (IC) engine powering a **floodwater pump**.

Note: As of September 1, 2006, all diesel fuel sold in California is required to have a sulfur content of 0.0015% by weight. Therefore, SO_x emissions will be calculated using this diesel fuel sulfur content and no further discussion is required.

{For Title V facilities that did not request ATC w/ COC, use the following:}

“Facility name” received their Title V Permit on **September 5, 2002**. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). But the facility has not requested that this project be processed in that manner; therefore, “Facility name” will be required to submit a Title V minor modification application prior to operating under the revised provisions of the ATC issued with this project.

{For Title V facilities that request ATC w/ COC, use the following:}

“Facility name” received their Title V Permit on July 10, 1998. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day Environmental Protection Agency (EPA) comment period will be satisfied prior to the issuance of the Authority to Construct. “Facility name” must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC issued with this project.

{Expand proposal, discussions, and tables as necessary to accommodate extra units or special cases using APR-1010, and adjust page breaks so that the report looks good.}

II. Applicable Rules

Note: If very low-sulfur diesel fuel is determined to be required, BACT will likely no longer be triggered for SO_x.

Rule 2201 New and Modified Stationary Source Review Rule (8/15/19)

Rule 2520 Federally Mandated Operating Permits (8/15/19)

Rule 4001 New Source Performance Standards (4/14/99)

Rule 4101 Visible Emissions (2/17/05)

Rule 4102 Nuisance (12/17/92)

Rule 4201 Particulate Matter Concentration (12/17/92)

Rule 4701 Stationary Internal Combustion Engines – Phase 1 (8/21/03)

Rule 4702 Stationary Internal Combustion Engines – Phase 2 (8/19/21)

Rule 4801 Sulfur Compounds (12/17/92)

CH&SC 41700 Health Risk Assessment

CH&SC 42301.6 School Notice

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

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

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

{Indicate the actual location of this project including the street address. Use Universal Transverse Meridian (UTM) coordinates, or township, section and range if street address is not practical. Verify whether or not the equipment is or will be located within 1,000 feet of the nearest outer boundary of a K-12 school (using Google maps etc.). If there is a school within 1,000 feet, check to see if there is another school with ¼ mile of the emissions source and include that school with the school notice. This will be stated in the compliance Section VIII of the EE.}

{For facilities with Street Addresses, use the following:}

The project is located at 1132 N. Belmont Rd. in Exeter, CA. The District has verified that the equipment [is/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/is not] applicable to this project.

{For facilities with a Mount Diablo Base Meridian Location, use the following:}

The equipment will be located at the 31X oil and water treatment plant in the Cymric Oil Field, within the SW/4 of Section 31, Township 29S, Range 21E. The District has verified that the equipment [is/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/is not] applicable to this project.

{For facilities with a descriptive location, use the following:}

The site is located on the eastern side of 25th Avenue, approximately one mile south of State Route (SR) 198, in Kings County. The District has verified that the equipment [is/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/is not] applicable to this project.

IV. Process Description

Note: Depending on the requirements of the ATCM, detailed in Section VIII, the annual hours of operation for non-emergency use will vary between 100 and 20. This section at the end of the EE should be completed first so that the annual hours of operation for the engine can then be used throughout the EE.

The emergency engine powers a floodwater pump. Other than emergency operation, the engine may be operated up to [100 to 20, depending on the PM₁₀ emissions factor] hours per year for maintenance and testing purposes.

V. Equipment Listing

{Note: The maximum intermittent hp rating of the engine shall be used in the equipment description.}

{For an engine being installed to power a floodwater pump, use the following equipment description:}

**X-XXXX-XX-XX: [XXX] BHP (INTERMITTENT) [MAKE] MODEL [MODEL #] TIER X
CERTIFIED DIESEL-FIRED EMERGENCY IC ENGINE POWERING
A FLOODWATER PUMP**

VI. Emission Control Technology Evaluation

Note: Place a lowercase “x” in the box of all of the applicable control technologies that the engine is equipped with.

The engine is equipped with:

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

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

Note: Delete the following paragraph(s) if equipment/technology is not proposed or required.

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

The intercooler/aftercooler functions in conjunction with the turbocharger to reduce the inlet air temperature. By reducing the inlet air temperature, the peak combustion temperature is lowered, which reduces the formation of thermal NO_x. NO_x emissions are reduced by approximately 15% with this control technology.

Retarding the fuel injection timing by 4° from standard or having the fuel injection timing advanced to no greater than 16° before top dead center (BTDC) lowers the peak combustion temperature and reduces the formation of thermal NO_x. NO_x emissions are reduced by approximately 15% with this control technology.

The PCV system reduces crankcase VOC and PM₁₀ emissions by at least 90% over an uncontrolled crankcase vent.

The particulate filter reduces exhaust stack PM₁₀ emissions by at least 90%.

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** *{Note: Might be less than 24 hrs/day pending HRA results, change accordingly.}*

Non-emergency operating schedule: [100, 50, 30, or 20] hours/year *{Note: Depends on ATCM or CH&SC drinking water system requirements, change accordingly.}*

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%
 PM₁₀ fraction of diesel exhaust: 0.96 (CARB, 1988)

{Include the following assumption if the applicant has only supplied the NO_x + VOC emissions factor.}

- The applicant has only supplied an emissions factor for NO_x and VOC emissions combined. Therefore the District will use data from the EPA document “Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compressions Ignition”, dated November 2002, as presented in the following table to estimate NO_x and VOC emissions (District assumption).

Tier 2 and Tier 3 Diesel-Fired IC Engines NO _x and VOC Estimated Emissions						
Horsepower Range (bhp)	Combined Standard, NO _x + VOC (g/bhp-hr)		Estimated NO _x Emissions (g/bhp-hr)		Estimated VOC Emissions (g/bhp-hr)	
	Tier 2	Tier 3	Tier 2	Tier 3	Tier 2	Tier 3
≥ 50 to < 100	5.6	3.5	5.2	3.3	0.4	0.2
≥ 100 to < 175	4.9	3.0	4.5	2.8	0.4	0.2
≥ 175 to < 300	4.9	3.0	4.5	2.8	0.4	0.2
≥ 300 to < 600	4.8	3.0	4.5	2.8	0.3	0.2
≥ 600 to < 750	4.8	3.0	4.5	2.8	0.3	0.2
≥ 750	4.8	N/A	4.5	N/A	0.3	N/A

For this application for a 320 bhp Tier 3 certified IC engine the applicant supplied NO_x + VOC emissions factor is 2.7 g/bhp-hr. Therefore, the NO_x and VOC emissions factors for this engine are calculated as follows:

$$\text{NO}_x \text{ (g/bhp-hr)} = \text{NO}_x + \text{VOC (g/bhp-hr)} \times (2.8 \text{ g/bhp-hr} \div 3.0 \text{ g/bhp-hr})$$

$$\text{NO}_x \text{ g/bhp-hr} = 2.7 \text{ g/bhp-hr} \times (2.8 \text{ g/bhp-hr} \div 3.0 \text{ g/bhp-hr})$$

NO_x = 2.52 g/bhp-hr

$$\text{VOC (g/bhp-hr)} = \text{NO}_x + \text{VOC (g/bhp-hr)} \times (0.2 \text{ g/bhp-hr} \div 3.0 \text{ g/bhp-hr})$$

$$\text{VOC g/bhp-hr} = 2.7 \text{ g/bhp-hr} \times (0.2 \text{ g/bhp-hr} \div 3.0 \text{ g/bhp-hr})$$

VOC = 0.18 g/bhp-hr

{Include the following assumption if the applicant has only supplied the emissions factors at 10% load, 25% load, 50% load, 75% load, and full standby. Otherwise delete.}

- The applicant has supplied the emissions factors for NO_x, PM₁₀, CO, and VOC at 10% load, 25% load, 50% load, 75% load, and full standby. Therefore, the District will use the ISO 8178 weighted average of each emissions factor as the emissions factors for this engine as follows (District calculation to determine emissions).

B. Emission Factors

Note: List the engine manufacturer's engine specific ISO 8178 emission factors (as required by the ATCM for new installations) for the engine being installed and the source. The family certification may be used **only** if the engine specific emissions factors are not available. If engine specific emissions factors or the family certification is not available (applicable for modifications only), use the applicable AP-42 emission factors listed below.

{If the applicant has supplied the emissions factors at 10% load, 25% load, 50% load, 75% load, and 100% load, average the five emissions factors using the ISO 8178 method below for each pollutant and use these EFs instead (as stated in the assumptions section previously). See the AIRnet under "Source Category – IC Engines – Emissions Calculations" for the ISO 8178 weighted average emissions calculation. Otherwise delete.}

ISO 8178 Emissions Calculations:

$$EF_{\text{ISO 8178}} = 0.05(\text{Pollutant } EF_{100\%}) + 0.25(\text{Pollutant } EF_{75\%}) + 0.30(\text{Pollutant } EF_{50\%}) + 0.30(\text{Pollutant } EF_{25\%}) + 0.10(\text{Pollutant } EF_{10\%})$$

Where:

$EF_{\text{ISO 8178}}$ is the emission factor in mass per unit of power and time (g/bhp-hr),
 $EF_{XX\%}$ is the emissions factor in mass per unit of power and time (g/bhp-hr) for the particular mode

Therefore:

$$\text{NO}_x \text{ } EF_{\text{ISO 8178}} = 0.05(\text{NO}_x \text{ } EF_{100\%}) + 0.25(\text{NO}_x \text{ } EF_{75\%}) + 0.30(\text{NO}_x \text{ } EF_{50\%}) + 0.30(\text{NO}_x \text{ } EF_{25\%}) + 0.10(\text{NO}_x \text{ } EF_{10\%})$$

$$\text{NO}_x \text{ } EF_{\text{ISO 8178}} = \text{X.XX g/bhp-hr}$$

$$\text{SO}_x \text{ } EF_{\text{ISO 8178}} = 0.05(\text{SO}_x \text{ } EF_{100\%}) + 0.25(\text{SO}_x \text{ } EF_{75\%}) + 0.30(\text{SO}_x \text{ } EF_{50\%}) + 0.30(\text{SO}_x \text{ } EF_{25\%}) + 0.10(\text{SO}_x \text{ } EF_{10\%})$$

$$\text{SO}_x \text{ } EF_{\text{ISO 8178}} = \text{X.XX g/bhp-hr}$$

$$PM_{10} EF_{ISO\ 8178} = 0.05(PM_{10} EF_{100\%}) + 0.25(PM_{10} EF_{75\%}) + 0.30(PM_{10} EF_{50\%}) + 0.30(PM_{10} EF_{25\%}) + 0.10(PM_{10} EF_{10\%})$$

$$PM_{10} EF_{ISO\ 8178} = X.XX\ g/bhp-hr$$

$$CO EF_{ISO\ 8178} = 0.05(CO EF_{100\%}) + 0.25(CO EF_{75\%}) + 0.30(CO EF_{50\%}) + 0.30(CO EF_{25\%}) + 0.10(CO EF_{10\%})$$

$$CO EF_{ISO\ 8178} = X.XX\ g/bhp-hr$$

$$VOC EF_{ISO\ 8178} = 0.05(VOC EF_{100\%}) + 0.25(VOC EF_{75\%}) + 0.30(VOC EF_{50\%}) + 0.30(VOC EF_{25\%}) + 0.10(VOC EF_{10\%})$$

$$VOC EF_{ISO\ 8178} = X.XX\ g/bhp-hr$$

{Important note: If this is a new IC engine installation (as defined per the ATCM) and the PM₁₀ emissions factor is > 0.15 g/bhp-hr, then this project is not approvable per the ATCM.}

Emission Factors		
Pollutant	Emission Factor (g/bhp-hr)	Source
NO _x	X.XX	Engine Manufacturer
SO _x	0.0051	Mass Balance Equation Below
PM ₁₀	X.XX	ARB/EPA Certification
CO	3.03 ¹	AP-42 (10/96) Table 3.3-1
VOC	1.14 or 1.12	AP-42 (10/96) Table 3.3-1 ²

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

C. Calculations

1. Pre-Project Emissions (PE1)

{For a new IC engine, use the following:}

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

{For a modification include the pre-project emissions, use the following:}

The daily and annual pre-project emissions are determined as follows:

¹According to the manufacturer of the engine, CO emissions were measured at "trace" amounts. In order to quantify CO emissions, the District will (*first, either use the CARB/EPA certification or secondly, assume AP-42*). [Leave this footnote in, if applicable, otherwise delete.]

²According to AP-42, the use of a PCV valve reduces VOC emissions to 1.12 g/hp-hr. [Leave this footnote in if the engine is equipped with a PCV and AP-42 is used, otherwise delete.]

Note: The following tables multiply column 2 by column 3 by column 4 then divides by column 5 with the result presented in column 6. After entering the data in columns 2, 3, and 4, highlight column 6 and press F9.

Daily Pre-Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	PE1 Total (lb/day)
NO _x	0.0	0	24	453.6	0.0
SO _x	0.0051	0	24	453.6	0.0
PM ₁₀	0.0	0	24	453.6	0.0
CO	0.0	0	24	453.6	0.0
VOC	0.0	0	24	453.6	0.0

Annual Pre-Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Annual Hours of Operation (hrs/yr)	Conversion (g/lb)	PE1 Total (lb/yr)
NO _x	0.0	0	200	453.6	0
SO _x	0.0051	0	200	453.6	0
PM ₁₀	0.0	0	200	453.6	0
CO	0.0	0	200	453.6	0
VOC	0.0	0	200	453.6	0

2. Post Project PE (PE2)

{Note: The maximum intermittent hp rating of the engine shall be used in the emission calculations.}

The daily and annual PE are calculated as follows:

{If annual operation of the IC engine is limited to 20 hrs/yr, daily PE is calculated at 24 hrs/day and annual PE is calculated at 20 hrs/yr.}

Note: The following tables multiply column 2 by column 3 by column 4 then divides by column 5 with the result presented in column 6. After entering the data in columns 2, 3, and 4, highlight column 6 and press F9.

Daily Post Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Daily Hours of Operation (hrs/day)	Conversion (g/lb)	PE2 Total (lb/day)
NO _x	0.0	0	24	453.6	0.0
SO _x	0.0051	0	24	453.6	0.0
PM ₁₀	0.0	0	24	453.6	0.0
CO	0.0	0	24	453.6	0.0
VOC	0.0	0	24	453.6	0.0

Annual Post Project Emissions					
Pollutant	Emissions Factor (g/bhp-hr)	Rating (bhp)	Annual Hours of Operation (hrs/yr)	Conversion (g/lb)	PE2 Total (lb/yr)
NO _x	0.0	0	100	453.6	0
SO _x	0.0051	0	100	453.6	0
PM ₁₀	0.0	0	100	453.6	0
CO	0.0	0	100	453.6	0
VOC	0.0	0	100	453.6	0

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

Note: Calculate the SSPE1 for the entire facility (See Rule 2201, Section 4.9). SSPE1 is used to determine if the offset threshold will be surpassed during this project, for Major Source purposes, and to determine if public notice is required for a 20,000 lb/yr 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.

{For a new facility use the following:}

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

SSPE1 = 0 lb/yr for all criteria pollutants

{If this is an existing facility use the following statement, otherwise delete:}

Since this is an existing facility, SSPE1 is equal to the PE_{1Total Pre-Project} from all units for all criteria pollutants.

Note: Modify the following statement as necessary to meet the specifics of the facility.

There are two existing permit units, one unimplemented ATC, and no banked ERCs at this facility. In this situation the worst-case scenario for the facility will be used for the SSPE1. For this project the worst case is with the ATC for the boiler, permit unit -3-0, being implemented. From the PE calculations done for the facility (see Appendix C), the following annual emissions were calculated. Thus:

Note: The following table adds rows 1 thru X with the results presented in the SSPE1 Total row. After entering the data in rows 1 thru X, highlight the SSPE1 Total row and press F9:

SSPE1					
Permit Unit	NO _x (lb/yr)	SO _x (lb/yr)	PM ₁₀ (lb/yr)	CO (lb/yr)	VOC (lb/yr)
-1-0, gas dispensing operation	0	0	0	0	5,000
-2-0, emergency IC engine	125	5	58	250	6
-3-0, 10.0 MMBtu/hr boiler	2,258	50	452	5,689	753
SSPE1 Total	2,383	55	510	5,939	5,759

4. Post Project Stationary Source Potential to Emit (SSPE2)

Note: Calculate the SSPE2 for the entire facility (See Rule 2201, Section 4.10). SSPE2 is used to determine if the offset threshold will be surpassed during this project, for Major Source purposes, and to determine if public notice is required for a 20,000 lb/yr SSPE.

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 a new facility use the following:}

Since this is a new facility, SSPE2 is equal to the change in emissions for the facility due to the installation of the new emergency IC engine, permit unit -X-X, as previously determined in Section VII.C.2. Thus:

Note: The following table adds rows 1 thru X with the results presented in the SSPE2 Total row. Enter the calculated PE2 for the unit involved with this project from Section VII.C.2.b into the SSPE2 table below. After entering the data in rows 1 thru X, highlight the SSPE2 Total row and press F9:

SSPE2					
Permit Unit	NO _x (lb/yr)	SO _x (lb/yr)	PM ₁₀ (lb/yr)	CO (lb/yr)	VOC (lb/yr)
-X-X, emergency IC engine	2,258	50	452	5,689	753
SSPE2 Total	2,258	50	452	5,689	753

{For an existing facility use the following:}

Since this is a modification to an existing facility, SSPE2 is equal to the PE2_{Total Post Project} from all units for all criteria pollutants.

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

Note: The following table adds rows 1 thru X with the results presented in the SSPE1 row. Enter the calculated PE2 for the unit involved with this project from Section VII.C.2.b into the SSPE2 table below. After entering the data in rows 1 thru X, highlight the SSPE2 Total row and press F9.

SSPE2					
Permit Unit	NO _x (lb/yr)	SO _x (lb/yr)	PM ₁₀ (lb/yr)	CO (lb/yr)	VOC (lb/yr)
-1-0, gas dispensing operation	0	0	0	0	5,000
-2-0, emergency IC engine	125	5	58	250	6
-3-0, 10.0 MMBtu/hr boiler	2,258	50	452	5,689	753
-X-X, emergency IC engine	2,258	50	452	5,689	753
SSPE2 Total	4,641	105	962	11,628	6,512

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.

Note: Make sure to check in PAS (View/List ERCs) to see if the facility does contain ERCs which have been banked at the source, if so please discuss with your lead engineer.

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	0	20,000	Yes/No	Yes/No
SO _x	0	0	140,000	Yes/No	Yes/No
PM ₁₀	0	0	140,000	Yes/No	Yes/No
CO	0	0	200,000	Yes/No	Yes/No
VOC	0	0	20,000	Yes/No	Yes/No

As seen in the table above, the facility is not an existing Major Source and also is not becoming a Major Source as a result of this project.

6. Baseline Emissions (BE)

BE = Pre-project Potential to Emit for:

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

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Section 3.23

Since this is a new emissions unit, BE = PE1 = 0 for all criteria pollutants.

7. SB 288 Major Modification

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

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

8. Federal Major Modification

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

Since this facility is not a Major Source for any pollutants, this project does not constitute a Federal Major Modification. Additionally, since the facility is not a major source for PM₁₀ (140,000 lb/year), it is not a major source for PM_{2.5} (200,000 lb/year).

9. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix [D](#).

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

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

- a) Any new emissions unit with a potential to emit exceeding two pounds per day,
- b) The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c) Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d) Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

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

a. New emissions units – PE > 2 lb/day

{For a project not including a installation of any new emissions units with a PE >2 lb/day, use the following:}

As discussed previously in Section I, for this project there is no installation of a new emissions unit with a PE > 2 lb/day for any criteria pollutant; therefore BACT is not triggered for a new emissions unit with a PE > 2 lb/day.

{For new emissions units, use the following:}

Since this engine is a new emissions unit, the daily emissions are compared to the BACT thresholds in the following table:

New Emissions Unit BACT Applicability				
Pollutant	Daily Emissions for unit -X-X (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	0.0	> 2.0	n/a	Yes/No
SO _x	0.0	> 2.0	n/a	Yes/No
PM ₁₀	0.0	> 2.0	n/a	Yes/No
CO	0.0	> 2.0 and SSPE2 ≥ 200,000 lb/yr	XX	Yes/No
VOC	0.0	> 2.0	n/a	Yes/No

Thus BACT will be triggered for NO_x, SO_x, PM₁₀, CO, and VOC emissions from the engine for this project.

b. Relocation of emissions units – PE > 2 lb/day

{For a project not including a relocation of any emissions units, use the following:}

As discussed previously in Section I, this engine is not being relocated from one stationary source to another as a result of this project. Therefore, BACT is not triggered for the relocation of emissions units with a PE > 2 lb/day.

{For units being transferred to another stationary source, use the following:}

Since this engine is being relocated from one stationary source to another, the daily emissions are compared to the BACT threshold in the following table:

Relocation of an Emissions Unit BACT Applicability				
Pollutant	Daily Emissions for unit -X-X (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	0.0	> 2.0	n/a	Yes/No

SO _x	0.0	> 2.0	n/a	Yes/No
PM ₁₀	0.0	> 2.0	n/a	Yes/No
CO	0.0	> 2.0 and SSPE2 ≥ 200,000 lb/yr	XX	Yes/No
VOC	0.0	> 2.0	n/a	Yes/No

Thus BACT will be triggered for NO_x, SO_x, PM₁₀, CO, and VOC emissions from the engine for this project.

c. Modification of emissions units – Adjusted Increase in Permitted Emissions (AIPE) > 2 lb/day

{For a project not including a modification of any emissions units, use the following:}

As discussed previously in Section I, this engine is not being modified as a result of this project. Therefore, BACT is not triggered for the modification of emissions units with an AIPE > 2 lb/day.

{For modified units, use the following:}

The AIPE is used to determine if BACT is required for emissions units that are being modified. Since this project involves modifying an existing engine, the BACT requirements are based on the daily AIPE. Therefore, the AIPE needs to be calculated as follows:

Adjusted Potential to Emit (AIPE) Calculations:

AIPE = PE2 – HAPE where,

AIPE = Adjusted Increase in Permitted Emissions, lb/day.

PE2 = the emissions units post project Potential to Emit, lb/day.

HAPE = the emissions unit’s Historically Adjusted Potential to Emit, lb/day.

Historically Adjusted Potential to Emit (HAPE) Calculations:

HAPE = PE1 x (EF2 ÷ EF1) where,

PE1 = The emissions unit’s Potential to Emit prior to modification or relocation.

EF2 = The emissions unit’s permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2 ÷ EF1 shall be set to 1.

EF1 = The emissions unit’s permitted emission factor for the pollutant before the modification or relocation.

$$\text{AIPE (lb/day)} = \text{PE2 (lb/day)} - [\text{PE1 (lb/day)} \times (\text{EF2} \div \text{EF1})]$$

$$\text{AIPE (lb/day)} = \text{PE2 (lb-NO}_x\text{/day)} - [\text{PE1 (lb-NO}_x\text{/day)} \times (\text{EF2} \div \text{EF1})]$$

$$\text{AIPE lb/day} = \text{XX.X lb-NO}_x/\text{day} - [\text{XX.X lb-NO}_x/\text{day} \times (\text{0.XXX g-NO}_x/\text{bhp-hr} \div \text{0.XXX g-NO}_x/\text{bhp-hr})]$$

$$\text{AIPE} = \text{X.X lb-NO}_x/\text{day}$$

$$\text{AIPE (lb/day)} = \text{PE2 (lb-SO}_x/\text{day)} - [\text{PE1 (lb-SO}_x/\text{day)} \times (\text{EF2} \div \text{EF1})]$$

$$\text{AIPE lb/day} = \text{X.X lb-SO}_x/\text{day} - [\text{X.X lb-SO}_x/\text{day} \times (\text{0.XXX g-SO}_x/\text{bhp-hr} \div \text{0.XXX g-SO}_x/\text{bhp-hr})]$$

$$\text{AIPE} = \text{X.X lb-SO}_x/\text{day}$$

$$\text{AIPE (lb/day)} = \text{PE2 (lb-PM}_{10}/\text{day)} - [\text{PE1 (lb-PM}_{10}/\text{day)} \times (\text{EF2} \div \text{EF1})]$$

$$\text{AIPE lb/day} = \text{X.X lb-PM}_{10}/\text{day} - [\text{X.X lb-PM}_{10}/\text{day} \times (\text{0.XXX g-PM}_{10}/\text{bhp-hr} \div \text{0.XXX g-PM}_{10}/\text{bhp-hr})]$$

$$\text{AIPE} = \text{X.X lb-PM}_{10}/\text{day}$$

$$\text{AIPE (lb/day)} = \text{PE2 (lb-CO/day)} - [\text{PE1 (lb-CO/day)} \times (\text{EF2} \div \text{EF1})]$$

$$\text{AIPE lb/day} = \text{XX.X lb-CO/day} - [\text{XX.X lb-CO/day} \times (\text{0.XXX g-CO/bhp-hr} \div \text{0.XXX g-CO/bhp-hr})]$$

$$\text{AIPE} = \text{X.X lb-CO/day}$$

$$\text{AIPE (lb/day)} = \text{PE2 (lb-VOC/day)} - [\text{PE1 (lb-VOC/day)} \times (\text{EF2} \div \text{EF1})]$$

$$\text{AIPE lb/day} = \text{X.X lb-VOC/day} - [\text{X.X lb-VOC/day} \times (\text{0.XXX g-VOC/bhp-hr} \div \text{0.XXX g-VOC/bhp-hr})]$$

$$\text{AIPE} = \text{X.X lb-VOC/day}$$

Modified Emissions Unit BACT Applicability				
Pollutant	AIPE for unit -X-X (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	0.0	> 2.0	n/a	Yes/No
SO _x	0.0	> 2.0	n/a	Yes/No
PM ₁₀	0.0	> 2.0	n/a	Yes/No
CO	0.0	> 2.0 and SSPE2 ≥ 200,000 lb/yr	XX	Yes/No
VOC	0.0	> 2.0	n/a	Yes/No

Thus BACT will be triggered for NO_x, SO_x, PM₁₀, CO, and VOC emissions from the engine for this project.

d. Major Modification

{For a project not triggering a Major Modification, use the following.}

As discussed previously in Section VII.C.7, this project does not constitute a Major Modification. Therefore, BACT is not triggered for a Major Modification.

{For a project triggering a Major Modification, use the following. Note: The example is for NO_x only, modify the statement accordingly.}

As discussed in Section VII.C.7 previously, this project does constitute a Major Modification for NO_x emissions; therefore BACT is triggered for NO_x for all emissions units associated with this stationary source project.

2. BACT Guideline

Note: For all units which trigger BACT for any pollutant, use one of the appropriate paragraphs.

{For engines < 175 bhp:}

BACT Guideline 3.1.1, XX quarter 200X, which appears in Appendix A of this report, covers diesel-fired emergency IC engines of less than 175 brake horsepower.

{For engines ≥ 175 bhp and < 400 bhp:}

BACT Guideline 3.1.2, XX quarter 200X, which appears in Appendix A of this report, covers diesel-fired emergency IC engines of greater than or equal to 175 brake horsepower and less than 400 brake horsepower.

{For engines ≥ 400 bhp:}

BACT Guideline 3.1.3, XX quarter 200X, which appears in Appendix A of this report, covers diesel-fired emergency IC engines of greater than or equal to 400 brake horsepower.

3. Top Down BACT Analysis

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

Pursuant to the attached Top-Down BACT Analysis, which appears in [Appendix A](#) of this report, BACT is satisfied with:

{Note: Delete the pollutants listed that do not trigger BACT.}

- NO_x: Certified NO_x emissions of 6.9 g/bhp-hr or less
- SO_x: The use of very low-sulfur diesel (0.0015% by weight)
- VOC: Positive crankcase ventilation (or 90% efficient control device)
- PM₁₀: PM₁₀ emissions of 0.1 g/bhp-hr or less (*Note: If T-BACT is triggered.*)
PM₁₀ emissions of 0.4 g/bhp-hr or less (*Note: If T-BACT is not triggered.*)
- CO: 90% CO control efficiency catalyst (oxidation catalyst or equal) or CO emissions of 0.6, 1.4, or 2.0 g/bhp-hr or less

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

- *{edited 3485}* Emissions from this IC engine shall not exceed any of the following limits: X.XX g-NO_x/bhp-hr, X.XX g-CO/bhp-hr, or X.XX g-VOC/bhp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]

{Use the following condition if BACT for SO_x is triggered:}

- *{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]

{Use the following conditions if BACT for PM₁₀ is triggered:}

- *{edited 3486}* Emissions from this IC engine shall not exceed X.XX g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

{Use the following condition if BACT for CO is triggered and a CO catalyst is required by BACT:}

- *{3397}* This IC engine shall be equipped with a 90% CO control efficiency catalyst (oxidation catalyst or equal). [District Rule 2201]

{Use the following condition if BACT for VOC is triggered:}

- {1897} This engine shall be equipped with either a positive crankcase ventilation (PCV) system which recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]

B. Offsets

Since emergency IC engines are exempt from the offset requirements of Rule 2201, per Section 4.6.2, offsets are not required for this engine, and no offset calculations are required.

C. Public Notification

1. Applicability

Public noticing is required for:

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

a. New Major Source

{For a new facility – non Major Source, use the following:}

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

{For an existing facility becoming or not becoming a Major Source, use the following:}

A New Major Source is a new facility, which is also a major source. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

b. Major Modification

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

c. PE > 100 lb/day

{For a project not including a installation of any new emissions units with a PE >100 lb/day, use the following:}

As discussed previously in Section I, for this project there is no installation of a new emissions unit with a PE > 100 lb/day for any criteria pollutant; therefore public noticing for new emissions unit with a Potential to Emit greater than 100 lb/day for any one pollutant is not required.

{For a new engine installation, use the following:}

The Daily PE for **this new emissions unit** is compared to the daily PE Public Notice Thresholds in the following table:

PE > 100 lb/day Public Notice Thresholds			
Pollutant	Daily PE for unit -X-X (lb/day)	Public Notice Threshold (lb/day)	Public Notice Triggered?
NO _x	0.0	100	Yes/No
SO _x	0.0	100	Yes/No
PM ₁₀	0.0	100	Yes/No
CO	0.0	100	Yes/No
VOC	0.0	100	Yes/No

Note: Repeat table for any other engines involved with this project, as necessary.

As detailed in the preceding table, [there were no 100 lb/day thresholds/the NO_x 100 lb/day threshold was] surpassed with this project. Therefore, public noticing [is/is not] required for daily emissions greater than 100 lb/day for a new emissions unit.

d. Offset Threshold

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

Offset Threshold				
Pollutant	SSPE1 (lb/yr)	SSPE2 (lb/yr)	Offset Threshold (lb/yr)	Public Notice Required?
NO _x	0	0	20,000	Yes/No
SO _x	0	0	54,750	Yes/No
PM ₁₀	0	0	29,200	Yes/No
CO	0	0	200,000	Yes/No
VOC	0	0	20,000	Yes/No

As detailed in the preceding table, [there were no offset thresholds/the NO_x offset threshold was] surpassed with this project. Therefore, public noticing [is/is not] required for this project for surpassing the SSPE2 offset thresholds.

e. 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:

Note: The following table subtracts column 3 from 2 with the result presented in column 4. After entering the data in columns 2 and 3, highlight column 4 and press F9.

SSIPE Public Notice Threshold					
Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)	SSIPE Threshold (lb/yr)	Public Notice Required?
NO _x	0	0	0	20,000	Yes/No
SO _x	0	0	0	20,000	Yes/No
PM ₁₀	0	0	0	20,000	Yes/No
CO	0	0	0	20,000	Yes/No
VOC	0	0	0	20,000	Yes/No

As detailed in the preceding table, [there were no SSIPE thresholds/the SSIPE threshold was] surpassed with this project. Therefore, public noticing [is/is not] required for exceeding the SSIPE thresholds.

2. Public Notice Action

{For a project not requiring public notification, use the following:}

As discussed above, this project will not result in emissions, for any criteria pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

{For a project requiring public notification, use the following:}

As discussed above, public noticing is required for this project for surpassing the [PE > 100 lb/day for a new emissions unit / offsets / or the SSIPE] threshold for [name the criteria pollutant(s)] emissions. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be electronically published on the District's website prior to the issuance of the ATC for this equipment.

{For ATC w/ COC, use the following:}

In addition, this facility is a Title V facility and has requested that the ATC issued as a result of this project be issued with a COC (as discussed previously in Section I). Therefore, COC notice documents will be submitted to the Environmental Protection Agency (EPA) 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 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, the DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT. For this emergency IC

engine, the DELs are stated in the form of emission factors, the maximum engine horsepower rating, and the maximum operational time of [24 or less if required by the HRA] hours per day. Therefore, the following conditions (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- {edited 3485} Emissions from this IC engine shall not exceed any of the following limits: X.XX g-NO_x/bhp-hr, X.XX g-CO/bhp-hr, or X.XX g-VOC/bhp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]
- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

In addition, the DEL for SO_x is established by the sulfur content of the fuel being combusted in the engine. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {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]

{For an engine that is limited to less than 24 hrs/day of operation, use the following:}

In addition, the AAQA (see Appendix B) limits operation of the engine to XX hours per day. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {new} Operation of this engine for all purposes combined shall not exceed XX hours in any rolling 24 hr period. [District Rules 2201 and 4102]

Note: Edit the following paragraph to explain which pollutants are affected and what type(s) of control device(s) is/are installed on the engine involved with this project.

{If the following requirement has not already been stated in the preceding BACT section, use the following special case DEL condition as required:}

In addition, the DEL for CO emissions is established by having an oxidation catalyst installed on the engine. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {3397} This IC engine shall be equipped with a 90% CO control efficiency catalyst (oxidation catalyst or equal). [District Rule 2201]

E. Compliance Assurance

1. Source Testing

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

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification, and daily emission limit requirements of Rule 2201. As required by District Rule 4702, *Stationary Internal Combustion Engines - Phase 2*, [this IC engine](#) is subject to recordkeeping requirements. Recordkeeping requirements, in accordance with District Rule 4702, will be discussed in Section VIII, *District Rule 4702*, of this evaluation.

4. Reporting

No reporting is required to ensure compliance with Rule 2201.

F. Ambient Air Quality Analysis (AAQA)

(Note: Applicable only when public notice is triggered, otherwise delete this section.)

(Note: If there is an exceedance of the Ambient Air Quality Standards, this project no longer qualifies as a GEAR. Talk to a supervisor.)

An AAQA is conducted by the Technical Services group for any project with an increase in emissions and triggers public notice. Discuss the AAQA results as follows:

For example:

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

The proposed location is in an attainment area for NO_x, CO, and SO_x. As shown by the AAQA summary sheet the proposed equipment will not cause a violation of an air quality standard for NO_x, CO, or SO_x.

The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds. As shown by the AAQA summary sheet the

proposed equipment will not cause a violation of an air quality standard for PM₁₀ and PM_{2.5}.

(Note: Special permit conditions may be required as a result of the AAQA.)

Rule 2520 Federally Mandated Operating Permits

{For a Non-Major Source, use the following:}

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.

{If becoming a Major Source, use the following:}

Since this facility's emissions **will now** exceed the major source thresholds of Rule 2201, this facility is a major source. Pursuant to Rule 2520 Section 5.1, and as required by permit condition, the facility will have up to 12 months from the date of commencing operation of this engine to either submit a Title V Application or comply with District Rule 2530 *Federally Enforceable Potential to Emit*. **Therefore, the following condition will be listed on the ATC to ensure compliance:**

- {3487} This facility will have up to 12 months from the date of this Authority to Construct (ATC) issuance to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]

{For an existing Major Source which has not requested ATC w/ COC, use the following:}

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule. As discussed previously in the proposal section, the facility **has not** applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with **a minor modification**, prior to operating with the proposed modifications. Continued compliance with this rule is expected. **Therefore, the following condition will be listed on the ATC to ensure compliance:**

- {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520]

{For an existing Major Source which has requested ATC w/ COC, use the following:}

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule. As discussed previously in the proposal section, the facility **has** applied for a Certificate of Conformity (COC). **Therefore, the following conditions will be listed on the ATC to ensure compliance:**

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]
- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

In addition, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected.

Rule 4001 New Source Performance Standards (NSPS)

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

§60.4200 - Applicability

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

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

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

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

Rule 4101 Visible Emissions

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

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

Rule 4102 Nuisance

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

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

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 - Risk Management Policy for Permitting New and Modified Sources (dated 3/2/01) specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

{If the total facility Prioritization score including this project is ≤ 1.0, use the following statement:}

District policy APR 1905 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. A Health Risk Assessment (HRA) is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (see Appendix B), the total facility prioritization score including this project was **less than or equal to one**. **Therefore, no further analysis is required to determine the impact from this project.**

{If the total facility Prioritization score including this project > 1.0, use the following statement:}

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

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

Note: Expand table as necessary to include extra units.

HRA Results				
Unit	Acute Hazard Index	Chronic Hazard Index	Cancer Risk	T-BACT Required?
X-XXXX-XX-XX	N/A	N/A	X.X in a million	Yes/No

{For a project where T-BACT not triggered, use the following:}

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

{For a project where T-BACT is triggered, use the following:}

As demonstrated previously, T-BACT is required for this project because the HRA indicates that the risk is above the District's thresholds for triggering T-BACT requirements.

For this project T-BACT is triggered for PM₁₀. T-BACT is satisfied with BACT for PM₁₀, as discussed in [Appendix A](#), which is PM₁₀ emissions from this engine of 0.1 g/bhp-hr or less. The engine involved with this project has a PM₁₀ emissions factor of X.XX g/bhp-hr, as presented previously in Section VII.B. (Note: Include the following sentence if the PM₁₀ emissions factor for the engine being installed is from 0.101 to 0.149 g/bhp-hr.) Any engine model included in the ARB or EPA diesel engine certification lists and identified as having a PM₁₀ emission rate of 0.149 grams/bhp-hr or less, based on ISO 8178 test procedure, shall be deemed to meet the 0.1 grams/bhp-hr requirement. 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 20 in a million). As outlined by the HRA Summary in [Appendix B](#) of this report, the emissions increases for this project was determined to be less than significant.

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

Note: Delete the following if not applicable. Include any extra HRA conditions as necessary.

- {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]
- {3396} This engine shall be equipped with a catalytic particulate filter. [District Rules 2201 and 4102]
- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

Rule 4201 Particulate Matter Concentration

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

Note: Adjust the following equation for the specific PM₁₀ emission factor for the engine(s) involved with this project. Add more calculations for multiple engines.

$$0.1 \frac{g - PM_{10}}{bhp - hr} \times \frac{1g - PM}{0.96g - PM_{10}} \times \frac{1bhp - hr}{2,542.5 Btu} \times \frac{10^6 Btu}{9,051 dscf} \times \frac{0.35 Btu_{out}}{1 Btu_{in}} \times \frac{15.43 grain}{g} = 0.0244 \frac{grain - PM}{dscf}$$

Since 0.0244 grain-PM/dscf is ≤ to 0.1 grain per dscf, compliance with Rule 4201 is expected.

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

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

Rule 4701 Internal Combustion Engines – Phase 1

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

Rule 4702 Internal Combustion Engines – Phase 2

The purpose of this rule is to limit the emissions of nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) from internal combustion engines.

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

Pursuant to Section 4.3, except for the requirements of Section 6.2.3, the requirements of this rule shall not apply to an internal combustion engine that meets the following conditions:

- 1) The engine is operated exclusively to preserve or protect property, human life, or public health during a disaster or state of emergency, such as a fire or flood, and
- 2) Except for operations associated with Section 4.3.1.1, the engine is limited to operate no more than 100 hours per calendar year as determined by an operational nonresettable elapsed operating time meter, for periodic maintenance, periodic readiness testing, and readiness testing during and after repair work of the engine, and
- 3) The engine is operated with a nonresettable elapsed operating time meter. In lieu of installing a nonresettable time meter, the owner of an engine may use an

alternative device, method, or technique, in determining operating time provided that the alternative is approved by the APCO. The owner of the engine shall properly maintain and operate the time meter or alternative device in accordance with the manufacturer's instructions.

Therefore, the **emergency IC engine** involved with this project will only have to meet the requirements of Section 6.2.3 of this Rule.

Section 6.2.3 requires that an owner claiming an exemption under Section 4.2 or Section 4.3 shall maintain annual operating records. This information shall be retained for at least five years, shall be readily available, and submitted to the APCO upon request and at the end of each calendar year in a manner and form approved by the APCO. **Therefore, the following conditions will be listed on the ATC to ensure compliance:**

{Use one of the following four conditions for the appropriate hours of operation limitation and delete the other three conditions:}

- {3809} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
- {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
- {3811} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 30 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

- {3813} 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]

{Use the following two conditions:}

- {3489} 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, and the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.). For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
- {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

{If the engine is located in a remote location, use the following condition in place of the condition above:}

- {3476} 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. For units at unstaffed sites or operated remotely, records may be maintained and retained at a District-approved off-site location. [District Rule 4702 and 17 CCR 93115]

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

- {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]
- {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]

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

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

n = moles SO₂

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

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

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

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

- {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]

California Health & Safety Code 42301.6 (School Notice)

Reference project location and its proximity to a school and state whether or not school notice is required for this project.

Example (a): (For a Non-School Notice project - > 1,000 feet.)

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.

Example (b): (For a Non-School Notice project – no increase in emissions)

The District has verified that this site is located within 1,000 feet of a school. However, pursuant to California Health and Safety Code 42301.6, since this project will not result in an increase in emissions, a school notice is not required.

Example (c): (For a School Notice project.)

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

School Name: [Name]
Address: [Address]

Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is required.

Prior to the issuance of the ATC for this equipment, notices will be provided to the parents/guardians of all students of the affected school, and will be sent to all residents within 1,000 ft of the site.

[If there is no school w/in ¼ mile of the emissions increase, include the following discussion, otherwise delete]:

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

[If there is a school w/in ¼ mile of the emissions increase, include the following discussion, otherwise delete]:

Since a school notice has been triggered (due to the above-listed school within 1,000 of the emission source), notices will also be provided to the parents/guardians of all students from all school sites within ¼ mile of the emission source. The following schools(s) are within ¼ mile of the emission source:

School Name: [Name]
Address: [Address]
(add additional schools if necessary)

(Note: Refer to FYI - 71 for guidance on how to process a School Notice project.)

{For new engines, engines installed without first getting an ATC from the District, and in-use engines installing a PM₁₀ control device to meet the ATCM requirements, use the following section. Note: Delete the first two examples and include the rest of the discussion:}

Title 13 California Code of Regulations (CCR), Section 2423 – Exhaust Emission Standards and Test Procedures, Off-Road Compression-Ignition Engines and Equipment (Required by Title 17 CCR, Section 93115 for New Emergency Diesel IC Engines)

{For existing engines that were required to get an ATC (but are only now getting permitted) and that were manufactured before the applicable Tier requirements kicked in, use the following paragraph and delete the rest of the discussion:}

This application does not involve a new engine, an engine that was manufactured after XXXX *{Note: use the earliest applicable year of manufacture (1996 or 2000) for the bhp range from one of the following tables. If the engine was manufactured after one of the applicable dates, then the following sections have to be included.}* but was installed without first getting an ATC from the District, or an in-use engine being retrofitted with a PM₁₀ control device to meet the ATCM requirements. Therefore, the engine involved with this application is not required to meet the requirements of Title 13 California Code of Regulations (CCR), Section 2423 and no further discussion is required.

{For existing engines, which are already permitted by the District, and in-use engines that are not installing a PM₁₀ control device to meet the ATCM requirements, use the following paragraph and delete the rest of the discussion:}

This application does not involve a new engine, an engine that was installed without first getting an ATC from the District, or an in-use engine being retrofitted with a PM₁₀ control device to meet the ATCM requirements. Therefore, the engine involved with this application is not required to meet the requirements of Title 13 California Code of Regulations (CCR), Section 2423 and no further discussion is required.

Particulate Matter and VOC + NO_x, and CO Exhaust Emissions Standards:

This regulation stipulates that off-road compression-ignition engines shall not exceed the following applicable emissions standards.

Note: Depending on the engine's bhp rating, use one of the following sections:

{Example 1: For 49.6 to 100.5 bhp engines manufactured in 2000 and later, use the following section:}

Title 13 CCR, Section 2423 lists a diesel particulate emission standard of 0.30 g/bhp-hr (with 1.341 bhp/kW, equivalent to 0.40 g/kW-hr) for 2004 - 2007 model year engines with maximum power ratings of 49.6 - 100.5 bhp (equivalent to 37 - 75 kW). The PM standards given in Title 13 CCR, Section 2423 are less stringent than the PM standards given in Title 17 CCR, Section 93115 (Air Toxic Control Measures for Diesel Engines), thus the ATCM standards are the required standards and will be discussed in the following section.

Title 17 CCR, Section 93115, (e)(2)(A)(3)(b) stipulates that new stationary emergency diesel-fueled CI engines (> 50 bhp) must meet the VOC + NO_x, and CO standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression-Ignition Engine Standards (Title 13 CCR, Section 2423) or the Tier 1 standards for an off-road engine if no standards have been established for an off-road engine of the same model year and maximum rated power.

The engine involved with this project is a certified 200X model engine. The following table compares the requirements of Title 13 CCR, Section 2423 to the emissions factors for the XXX bhp make model #XXXX diesel-fired emergency IC engine as given by the manufacturer (for NO_x + VOC and PM emissions) and CARB/EPA certification (Engine Family XXXXXXX) (for CO emissions). *{Note: The family certification is only required if the manufacturer does not supply a specific emissions factor for this engine. In this case, the CO emissions factor.}*

Requirements of Title 13 CCR, Section 2423

Source	Maximum Rated Power	Model Year	NO _x	VOC	NO _x + VOC	CO	PM
Title 13 CCR, §2423	49.6 – 100.5 bhp (37 - 75 kW)	2000-2003 (Tier 1)	6.9 g/bhp-hr (9.2 g/kW-hr)	--	--	--	--
Title 13 CCR, §2423	49.6 – 100.5 bhp (37 - 75 kW)	2004-2007 (Tier 2)	--	--	5.6 g/bhp-hr (7.5 g/kW-hr)	3.7 g/bhp-hr (5.0 g/kW-hr)	0.30 g/bhp-hr (0.40 g/kW-hr)
Title 13 CCR, §2423	49.6 – 100.5 bhp (37 - 75 kW)	2008 and later (Tier 3)	--	--	3.5 g/bhp-hr (4.7 g/kW-hr)	3.7 g/bhp-hr (5.0 g/kW-hr)	0.30 g/bhp-hr (0.40 g/kW-hr)
Make, Model #	XX bhp	200X	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.XX g/bhp-hr (X.XX g/kW-hr)
Meets Standard?			Yes/No or N/A	Yes/No or N/A	Yes/No or N/A	Yes/No or N/A	Yes/No or N/A

Note: If the engine does not meet the standards above, discuss with your lead for further guidance:

As presented in the table above, the proposed engine will satisfy the requirements of this section and compliance is expected.

{Example 2: For 100.6 to 174.2 bhp engines manufactured in 2000 and later, use the following section:}

Title 13 CCR, Section 2423 lists a diesel particulate emission standard of 0.22 g/bhp-hr (with 1.341 bhp/kW, equivalent to 0.30 g/kW-hr) for 2003 - 2006 model year engines with maximum power ratings of 100.6 - 174.2 bhp (equivalent to 75 - 130 kW). The PM standards given in Title 13 CCR, Section 2423 are less stringent than the PM standards given in Title 17 CCR, Section 93115 (ATCM), thus the ATCM standards are the required standards and will be discussed in the following section.

Title 17 CCR, Section 93115, (e)(2)(A)(3)(b) stipulates that new stationary emergency diesel-fueled CI engines (> 50 bhp) must meet the VOC + NO_x, and CO standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression-Ignition Engine Standards (Title 13 CCR, Section 2423) or the Tier 1 standards for an off-road engine if no standards have been established for an off-road engine of the same model year and maximum rated power.

The engine involved with this project is a certified 200X model engine. The following table compares the requirements of Title 13 CCR, Section 2423 to the emissions factors for the XXX bhp make model #XXXX diesel-fired emergency IC engine as given by the manufacturer (for NO_x + VOC and PM emissions) and CARB/EPA certification (Engine Family XXXXXXX) (for CO emissions). *{Note: The family certification is only required if the manufacturer does not supply a specific emissions factor for this engine. In this case, the CO emissions factor.}*

Requirements of Title 13 CCR, Section 2423							
Source	Maximum Rated Power	Model Year	NO _x	VOC	NO _x + VOC	CO	PM
Title 13 CCR, §2423	100.6 – 174.2 bhp (75 - 130 kW)	2000-2002 (Tier 1)	6.9 g/bhp-hr (9.2 g/kW-hr)	--	--	--	--
Title 13 CCR, §2423	100.6 – 174.2 bhp (75 - 130 kW)	2003-2006 (Tier 2)	--	--	4.9 g/bhp-hr (6.6 g/kW-hr)	3.7 g/bhp-hr (5.0 g/kW-hr)	0.22 g/bhp-hr (0.30 g/kW-hr)
Title 13 CCR, §2423	100.6 – 174.2 bhp (75 - 130 kW)	2007 and later (Tier 3)	--	--	3.0 g/bhp-hr (4.0 g/kW-hr)	3.7 g/bhp-hr (5.0 g/kW-hr)	0.22 g/bhp-hr (0.30 g/kW-hr)
Make, Model #	XX bhp	200X	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.XX g/bhp-hr (X.XX g/kW-hr)
Meets Standard?			Yes/No or N/A	Yes/No or N/A	Yes/No or N/A	Yes/No or N/A	Yes/No or N/A

Note: If the engine does not meet the standards above, discuss with your lead for further guidance:

As presented in the table above, the proposed engine will satisfy the requirements of this section and compliance is expected.

{Example 3: For 174.3 to 301.6 bhp engines manufactured in 1996 and later, use the following section:}

[Title 13 CCR, Section 2423 lists a diesel particulate emission standard of 0.15 g/bhp-hr (with 1.341 bhp/kW, equivalent to 0.20 g/kW-hr) for 2003 - 2005 model year engines with maximum power ratings of 174.3 - 301.6 bhp (equivalent to 130 - 225 kW). or Title 13 CCR, Section 2423 lists no diesel particulate emission standard for 2006 and later model year engines with maximum power ratings of 174.3 - 301.6 bhp (equivalent to 130 - 225 kW).] The PM standards given in Title 13 CCR, Section 2423 are less stringent than the PM standards given in Title 17 CCR, Section 93115 (ATCM), thus the ATCM standards are the required standards and will be discussed in the following section.

Title 17 CCR, Section 93115, (e)(2)(A)(3)(b) stipulates that new stationary emergency diesel-fueled CI engines (> 50 bhp) must meet the VOC + NO_x, and CO standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression-Ignition Engine Standards (Title 13 CCR, Section 2423) or the Tier 1 standards for an off-road engine if no standards have been established for an off-road engine of the same model year and maximum rated power.

The engine involved with this project is a certified 200X model engine. The following table compares the requirements of Title 13 CCR, Section 2423 to the emissions factors for the XXX bhp make model #XXXX diesel-fired emergency IC engine as given by the manufacturer (for NO_x + VOC and PM emissions) and CARB/EPA certification (Engine Family XXXXXXX) (for CO emissions). *{Note: The family certification is only required if the manufacturer does not supply a specific emissions factor for this engine. In this case, the CO emissions factor.}*

Requirements of Title 13 CCR, Section 2423

Source	Maximum Rated Power	Model Year	NO _x	VOC	NO _x + VOC	CO	PM
Title 13 CCR, §2423	174.3 – 301.6 bhp (130 - 225 kW)	1996-2002 (Tier 1)	6.9 g/bhp-hr (9.2 g/kW-hr)	1.0 g/bhp-hr (1.3 g/kW-hr)	--	8.5 g/bhp-hr (11.4 g/kW-hr)	0.40 g/bhp-hr (0.54 g/kW-hr)
Title 13 CCR, §2423	174.3 – 301.6 bhp (130 - 225 kW)	2003-2005 (Tier 2)	--	--	4.9 g/bhp-hr (6.6 g/kW-hr)	2.6 g/bhp-hr (3.5 g/kW-hr)	0.15 g/bhp-hr (0.20 g/kW-hr)
Title 13 CCR, §2423	174.3 – 301.6 bhp (130 - 225 kW)	2006 and later (Tier 3)	--	--	3.0 g/bhp-hr (4.0 g/kW-hr)	2.6 g/bhp-hr (3.5 g/kW-hr)	0.15 g/bhp-hr (0.20 g/kW-hr)
Make, Model #	XX bhp	200X	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.XX g/bhp-hr (X.XX g/kW-hr)
Meets Standard?			Yes/No or N/A	Yes/No or N/A	Yes/No or N/A	Yes/No	Yes/No

Note: If the engine does not meet the standards above, discuss with your lead for further guidance:

As presented in the table above, the proposed engine will satisfy the requirements of this section and compliance is expected.

{Example 4: For 301.7 to 603.4 bhp engines manufactured in 1996 and later, use the following section:}

[Title 13 CCR, Section 2423 lists a diesel particulate emission standard of 0.15 g/bhp-hr (with 1.341 bhp/kW, equivalent to 0.20 g/kW-hr) for 2001 - 2005 model year engines with maximum power ratings of 301.7 - 603.4 bhp (equivalent to bhp 225 - 450 kW). or Title 13 CCR, Section 2423 lists no diesel particulate emission standard for 2006 and later model year engines with maximum power ratings of 301.7 - 603.4 bhp (equivalent to bhp 225 - 450 kW).] The PM standards given in Title 13 CCR, Section 2423 are less stringent than the PM standards given in Title 17 CCR, Section 93115 (ATCM), thus the ATCM standards are the required standards and will be discussed in the following section.

Title 17 CCR, Section 93115, (e)(2)(A)(3)(b) stipulates that new stationary emergency diesel-fueled CI engines (> 50 bhp) must meet the VOC + NO_x, and CO standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression-Ignition Engine Standards (Title 13 CCR, Section 2423) or the Tier 1 standards for an off-road engine if no standards have been established for an off-road engine of the same model year and maximum rated power.

The engine involved with this project is a certified 200X model engine. The following table compares the requirements of Title 13 CCR, Section 2423 to the emissions factors for the XXX bhp make model #XXXX diesel-fired emergency IC engine as given by the manufacturer (for NO_x + VOC and PM emissions) and CARB/EPA certification (Engine Family XXXXXXX) (for CO emissions). *{Note: The family certification is only*

required if the manufacturer does not supply a specific emissions factor for this engine. In this case, the CO emissions factor.}

Requirements of Title 13 CCR, Section 2423							
Source	Maximum Rated Power	Model Year	NO _x	VOC	NO _x + VOC	CO	PM
Title 13 CCR, §2423	301.7 – 603.4 bhp (225 - 450 kW)	1996-2001 (Tier 1)	6.9 g/bhp-hr (9.2 g/kW-hr)	1.0 g/bhp-hr (1.3 g/kW-hr)	--	8.5 g/bhp-hr (11.4 g/kW-hr)	0.40 g/bhp-hr (0.54 g/kW-hr)
Title 13 CCR, §2423	301.7 – 603.4 bhp (225 - 450 kW)	2001-2005 (Tier 2)	--	--	4.8 g/bhp-hr (6.4 g/kW-hr)	2.6 g/bhp-hr (3.5 g/kW-hr)	0.15 g/bhp-hr (0.20 g/kW-hr)
Title 13 CCR, §2423	301.7 – 603.4 bhp (225 - 450 kW)	2006 and later (Tier 3)	--	--	3.0 g/bhp-hr (4.0 g/kW-hr)	2.6 g/bhp-hr (3.5 g/kW-hr)	0.15 g/bhp-hr (0.20 g/kW-hr)
Make, Model #	XX bhp	200X	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.XX g/bhp-hr (X.XX g/kW-hr)
Meets Standard?			Yes/No or N/A	Yes/No or N/A	Yes/No or N/A	Yes/No	Yes/No

Note: If the engine does not meet the standards above, discuss with your lead for further guidance:

As presented in the table above, the proposed engine will satisfy the requirements of this section and compliance is expected.

{Example 5: For 603.5 to 751.0 bhp engines manufactured in 2000 and later, use the following section:}

[Title 13 CCR, Section 2423 lists a diesel particulate emission standard of 0.15 g/bhp-hr (with 1.341 bhp/kW, equivalent to 0.20 g/kW-hr) for 2002 - 2005 model year engines with maximum power ratings of 603.5 – 751.0 bhp (equivalent to 450 - 560 kW). or Title 13 CCR, Section 2423 lists no diesel particulate emission standard for 2006 and later model year engines with maximum power ratings of 603.5 – 751.0 bhp (equivalent to 450 - 560 kW).] Therefore, the PM standards given in Title 13 CCR, Section 2423 are less stringent than ATCM, and thus the ATCM standards are the required standards and will be discussed in the following section.

Title 17 CCR, Section 93115, (e)(2)(A)(3)(b) stipulates that new stationary emergency diesel-fueled CI engines (> 50 bhp) must meet the VOC + NO_x, and CO standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression-Ignition Engine Standards (Title 13 CCR, Section 2423) or the Tier 1 standards for an off-road engine if no standards have been established for an off-road engine of the same model year and maximum rated power.

The engine involved with this project is a certified 200X model engine. The following table compares the requirements of Title 13 CCR, Section 2423 to the emissions factors for the XXX bhp make model #XXXX diesel-fired emergency IC engine as given by the manufacturer (for NO_x + VOC and PM emissions) and CARB/EPA certification (Engine Family XXXXXXX) (for CO emissions). {Note: The family certification is only

required if the manufacturer does not supply a specific emissions factor for this engine. In this case, the CO emissions factor.}

Requirements of Title 13 CCR, Section 2423

Source	Maximum Rated Power	Model Year	NO _x	VOC	NO _x + VOC	CO	PM
Title 13 CCR, §2423	603.5 – 751.0 bhp (450 - 560 kW)	1996-2001 (Tier 1)	6.9 g/bhp-hr (9.2 g/kW-hr)	1.0 g/bhp-hr (1.3 g/kW-hr)	--	8.5 g/bhp-hr (11.4 g/kW-hr)	0.40 g/bhp-hr (0.54 g/kW-hr)
Title 13 CCR, §2423	603.5 – 751.0 bhp (450 - 560 kW)	2002-2005 (Tier 2)	--	--	4.8 g/bhp-hr (6.4 g/kW-hr)	2.6 g/bhp-hr (3.5 g/kW-hr)	0.15 g/bhp-hr (0.20 g/kW-hr)
Title 13 CCR, §2423	603.5 – 751.0 bhp (450 - 560 kW)	2006 and later (Tier 3)	--	--	3.0 g/bhp-hr (4.0 g/kW-hr)	2.6 g/bhp-hr (3.5 g/kW-hr)	0.15 g/bhp-hr (0.20 g/kW-hr)
Make, Model #	XX bhp	200X	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.XX g/bhp-hr (X.XX g/kW-hr)
Meets Standard?			Yes/No or N/A	Yes/No or N/A	Yes/No or N/A	Yes/No	Yes/No

Note: If the engine does not meet the standards above, discuss with your lead for further guidance:

As presented in the table above, the proposed engine will satisfy the requirements of this section and compliance is expected.

{Example 6: For ≥ 751.1 bhp engines manufactured in 2000 and later, use the following section:}

[Title 13 CCR, Section 2423 lists a diesel particulate emission standard of 0.40 g/bhp-hr (with 1.341 bhp/kW, equivalent to 0.54 g/kW-hr) for 2000 - 2005 model year engines with maximum power ratings of ≥ 751.1 bhp (equivalent to ≥ 560 kW). or Title 13 CCR, Section 2423 lists a diesel particulate emission standard of 0.15 g/bhp-hr (with 1.341 bhp/kW, equivalent to 0.20 g/kW-hr) for 2006 and later model year engines with maximum power ratings of ≥ 751.1 bhp (equivalent to ≥ 560 kW).] Therefore, the PM standards given in Title 13 CCR, Section 2423 are less stringent than ATCM, and thus the ATCM standards are the required standards and will be discussed in the following section.

Title 17 CCR, Section 93115, (e)(2)(A)(3)(b) stipulates that new stationary emergency diesel-fueled CI engines (> 50 bhp) must meet the VOC + NO_x, and CO standards for off-road engines of the same model year and maximum rated power as specified in the Off-Road Compression-Ignition Engine Standards (Title 13 CCR, Section 2423) or the Tier 1 standards for an off-road engine if no standards have been established for an off-road engine of the same model year and maximum rated power.

The engine involved with this project is a certified 200X model engine. The following table compares the requirements of Title 13 CCR, Section 2423 to the emissions factors for the XXX bhp make model #XXXX diesel-fired emergency IC engine as given by the manufacturer (for NO_x + VOC and PM emissions) and CARB/EPA certification

(Engine Family **XXXXXXX**) (for CO emissions). *{Note: The family certification is only required if the manufacturer does not supply a specific emissions factor for this engine. In this case, the CO emissions factor.}*

Requirements of Title 13 CCR, Section 2423							
Source	Maximum Rated Power	Model Year	NO _x	VOC	NO _x + VOC	CO	PM
Title 13 CCR, §2423	≥ 751.0 bhp (≥ 560 kW)	2000-2005 (Tier 1)	6.9 g/bhp-hr (9.2 g/kW-hr)	1.0 g/bhp-hr (1.3 g/kW-hr)	--	8.5 g/bhp-hr (11.4 g/kW-hr)	0.40 g/bhp-hr (0.54 g/kW-hr)
Title 13 CCR, §2423	≥ 751.0 bhp (≥ 560 kW)	2006 and later (Tier 2)	--	--	4.8 g/bhp-hr (6.4 g/kW-hr)	2.6 g/bhp-hr (3.5 g/kW-hr)	0.15 g/bhp-hr (0.20 g/kW-hr)
Make, Model #	XX bhp	200X	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.X g/bhp-hr (X.X g/kW-hr)	X.XX g/bhp-hr (X.XX g/kW-hr)
Meets Standard?			Yes/No or N/A	Yes/No or N/A	Yes/No or N/A	Yes/No	Yes/No

Note: If the engine does not meet the standards above, discuss with your lead for further guidance:

As presented in the table above, the proposed engine will satisfy the requirements of this section and compliance is expected.

{For all engines (EFs as applicable for the standard), use the following:}

The engine manufacturer's data and/or CARB/EPA engine certification for this engine lists a NO_x emissions factor of 0.XX g/bhp-hr, a VOC emissions factor of 0.XX g/bhp-hr, a NO_x + VOC emission factor of X.XX g/bhp-hr, a CO emission factor of X.XX g/bhp-hr, and a PM₁₀ emissions factor of 0.XX g/bhp-hr, all of which satisfy the requirements of 13 CCR, Section 2423. Therefore, the following conditions (previously proposed in this engineering evaluation) will be listed on the ATC to ensure compliance:

- {edited 3485} Emissions from this IC engine shall not exceed any of the following limits: X.XX g-NO_x/bhp-hr, X.XX g-CO/bhp-hr, or X.XX g-VOC/bhp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]
- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

Right of the District to Establish More Stringent Standards:

This regulation also stipulates that the District:

1. May establish more stringent diesel PM, NO_x + VOC, VOC, NO_x, and CO emission rate standards; and
2. May establish more stringent limits on hours of maintenance and testing on a site-specific basis; and

3. Shall determine an appropriate limit on the number of hours of operation for demonstrating compliance with other District rules and initial start-up testing

The District has not established more stringent standards at this time. Therefore, the standards previously established in this Section will be utilized.

{For all engines use the following section:}

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

Emergency Operating Requirements:

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

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

Fuel and Fuel Additive Requirements:

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

Since [the engine involved with this project](#) is a new or in-use stationary diesel-fueled CI emergency standby engine, these fuel requirements are applicable. [Therefore, the following condition \(previously proposed in this engineering evaluation\) will be listed on the ATC to ensure compliance:](#)

- [{3395} Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. \[District Rules 2201 and 4801 and 17 CCR 93115\]](#)

At-School and Near-School Provisions:

This regulation stipulates that no owner or operator shall operate a new stationary emergency diesel-fueled CI engine, with a PM₁₀ emissions factor > than 0.01 g/bhp-hr, for non-emergency use, including maintenance and testing, during the following periods:

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

{Example 1: If the engine is not located within 500 ft of the outermost boundary of a K-12 school, use the following:}

The District has verified that the engine **is not** located within 500 feet of a K-12 school. Therefore, conditions prohibiting non-emergency usage of the engine during school hours will **not** be placed on the permit.

*{Example 2: If the engine **is** located within 500 ft of the outermost boundary of a K-12 school or **at** a K-12 school and the PM₁₀ emissions factor for the engine is ≤ 0.01 g/bhp-hr, use the following:}*

The District has verified that the engine (Note: Specify where the engine is located.) (is located within 500 feet of a K-12 school or **is** located **at** K-12 school). However, the PM₁₀ emissions factor for this engine is ≤ 0.01 g/bhp-hr (see emissions factor table in Section VII.B). Therefore, conditions prohibiting non-emergency usage of the engine during school hours will **not** be placed on the permit.

*{Example 3: If the engine **is** located within 500 ft of the outermost boundary of a K-12 school and the PM₁₀ emissions factor for the engine is > 0.01 g/bhp-hr, use the following:}*

The District has verified that the engine **is** located within 500 feet of a K-12 school and that the PM₁₀ emissions factor for the engine is > 0.01 g/bhp-hr. Therefore, the following condition will be listed on the ATC to ensure compliance:

- {3392} This engine shall not be operated for maintenance and testing purposes between 7:30 a.m. and 3:30 p.m. on days when school is in session. [17 CCR 93115]

*{Example 4: If the engine **is** located **at** a K-12 school and the PM₁₀ emissions factor for the engine is > 0.01 g/bhp-hr, use the following statement:}*

The District has verified that the engine **is** located at a K-12 school and that the PM₁₀ emissions factor for the engine is > 0.01 g/bhp-hr. Therefore, the following conditions will be listed on the ATC to ensure compliance:

- {3392} This engine shall not be operated for maintenance and testing purposes between 7:30 a.m. and 3:30 p.m. on days when school is in session. [17 CCR 93115]
- {3394} This engine shall not be operated for maintenance and testing purposes whenever there is a school sponsored activity. [17 CCR 93115]

{For all engines, use the following:}

Recordkeeping Requirements:

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

- a. Emergency use hours of operation;
- b. Maintenance and testing hours of operation;
- c. Hours of operation for emission testing;
- d. Initial start-up hours; and
- e. If applicable, hours of operation to comply with the testing requirements of National Fire Protection Association (NFPA) 25 — “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,” 1998 edition;
- f. Hours of operation for all uses other than those specified in sections ‘a’ through ‘d’ above; and
- g. For in-use emergency diesel-fueled engines, the fuel used. The owner or operator shall document fuel use through the retention of fuel purchase records that account for all fuel used in the engine and all fuel purchased for use in the engine, and, at a minimum, contain the following information for each individual fuel purchase transaction:
 - I. Identification of the fuel purchased as either CARB Diesel, or an alternative diesel fuel that meets the requirements of the Verification Procedure, or an alternative fuel, or CARB Diesel fuel used with additives that meet the requirements of the Verification Procedure, or any combination of the above;
 - II. Amount of fuel purchased;
 - III. Date when the fuel was purchased;
 - IV. Signature of owner or operator or representative of owner or operator who received the fuel; and
 - V. Signature of fuel provider indicating fuel was delivered.

[For all engines use the following conditions:]

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

- {3489} 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, and the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.). For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]
- {3475} All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

{If the engine is located in a remote location, use the following condition in place of the condition above:}

- {3476} 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. For units at unstaffed sites or operated remotely, records may be maintained and retained at a District-approved off-site location. [District Rule 4702 and 17 CCR 93115]

*{If this project is a modification to an **in-use** engine (in-use is defined as the facility purchased the engine or signed a purchase agreement for the engine before January 1, 2005), include the following:}*

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

- {3415} 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]

Note: Use one or more of the following scenarios, 1a through 7d, based upon the specifics of the engine(s) being installed as a result of this project.

*{Scenario 1a: If the engine is **new** (new is defined as the facility purchased the engine or signed a purchase agreement for the engine on or after January 1, 2005) and the PM_{10} emissions factor for the engine is > 0.01 g/bhp-hr and ≤ 0.15 g/bhp-hr, use the following section:}*

PM Emissions and Hours of Operation Requirements for New Diesel Engines:

This regulation stipulates that as of January 1, 2005, no person shall operate any new stationary emergency diesel-fueled CI engine that has a rated brake horsepower greater than 50, unless it meets all of the following applicable emission standards and operating requirements.

1. Emits diesel PM at a rate greater than 0.01 g/bhp-hr or less than or equal to 0.15 g/bhp-hr; or
2. Meets the current model year diesel PM standard specified in the Off-Road Compression Ignition Engine Standards for off-road engines with the same maximum rated power (Title 13 CCR, Section 2423), whichever is more stringent; and
3. Does not operate more than 50 hours per year for maintenance and testing purposes. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

{Scenario 1b: If the engine is new (new is defined as the facility purchased the engine or signed a purchase agreement for the engine on or after January 1, 2005) and the PM₁₀ emissions factor for the engine is ≤ 0.01 g/bhp-hr, use the following section:}

PM Emissions and Hours of Operation Requirements for New Diesel Engines:

This regulation stipulates that as of January 1, 2005, no person shall operate any new stationary emergency diesel-fueled CI engine that has a rated brake horsepower greater than 50 unless it meets all of the following applicable emission standards and operating requirements.

1. Emits diesel PM at a rate less than or equal to 0.01 g/bhp-hr; or
2. Meets the current model year diesel PM standard specified in the Off-Road Compression Ignition Engine Standards for off-road engines with the same maximum rated power (Title 13 CCR, Section 2423), whichever is more stringent; and
3. Does not operate more than 51 to 100 hours per year (upon approval by the District) for maintenance and testing purposes. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3809} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

*{Scenario 2: If the engine is **in-use** (in-use is defined as the facility purchased the engine or signed a purchase agreement for the engine before January 1, 2005), there are three or fewer engines owned by the permittee (Note: This applies to all engines owned by the permittee within the District), the engine is being modified to comply (e.g. adding a particulate filter to allow more hours of operation), and the engine was manufactured from pre-1989 to 1989, use the following:}*

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

{If applicable use the following paragraph, otherwise delete:}

Engines that have a signed purchase agreement prior to January 1, 2005 are considered to be “in-use” engines per the ATCM. The engine involved with this project has a signed purchase agreement dated Month Day, 2004 and will be considered “in-use” engines for compliance with the ATCM.

This regulation stipulates that as of January 1, 2006, no person that owns three or fewer in-use engines shall operate any in-use stationary emergency diesel-fueled CI engine that has a rated brake horsepower greater than 50, is being physically modified, and that was manufactured from pre-1989 to 1989, unless it meets the following applicable emission standards and operating requirements.

{Scenario 2a: If the PM₁₀ emissions factor for the engine will be > 0.4 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.40 g/bhp-hr; and
2. Does not operate more than 20 hours per year for maintenance and testing purposes after January 1, 2006. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

- {3813} 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]

{Scenario 2b: If the PM₁₀ emissions factor for the engine will be > 0.15 g/bhp-hr and ≤ 0.40 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.15 g/bhp-hr or less than or equal to 0.40 g/bhp-hr; and
2. Does not operate more than 21 to 30 hours per year for maintenance and testing purposes after January 1, 2006. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3811} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 30 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

{Scenario 2c: If the PM₁₀ emissions factor for the engine will be > 0.01 g/bhp-hr and ≤ 0.15 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.01 g/bhp-hr or less than or equal to 0.15 g/bhp-hr; and
2. Does not operate more than 31 to 50 hours per year for maintenance and testing purposes after January 1, 2006. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

- {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

{Scenario 2d: If the PM₁₀ emissions factor for the engine will be ≤ 0.01 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate less than or equal to 0.01 g/bhp-hr; and
2. Does not operate more than 51 to 100 hours per year for maintenance and testing purposes after January 1, 2006. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3809} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

*{Scenario 3: If the engine is **in-use** (in-use is defined as the facility purchased the engine or signed a purchase agreement for the engine before January 1, 2005), there are three or fewer engines owned by the permittee (Note: This applies to all engines owned by the permittee within the District), the engine is being modified to comply (e.g. adding a particulate filter to allow more hours of operation), and the engine was manufactured from 1990 to 1995, use the following:}*

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

{If applicable use the following paragraph, otherwise delete:}

Engines that have a signed purchase agreement prior to January 1, 2005 are considered to be “in-use” engines per the ATCM. The engine involved with this project has a signed purchase agreement dated Month Day, 2004 and will be considered “in-use” engines for compliance with the ATCM.

This regulation stipulates that as of January 1, 2007, no person that owns three or fewer in-use engines shall operate any in-use stationary emergency diesel-fueled CI

engine that has a rated brake horsepower greater than 50, is being physically modified, and that was manufactured from 1990 to 1995, unless it meets the following applicable emission standards and operating requirements.

{Scenario 3a: If the PM₁₀ emissions factor for the engine will be > 0.4 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.40 g/bhp-hr; and
2. Does not operate more than 20 hours per year for maintenance and testing purposes after January 1, 2007. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3813} 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]

{Scenario 3b: If the PM₁₀ emissions factor for the engine will be > 0.15 g/bhp-hr and ≤ 0.40 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.15 g/bhp-hr or less than or equal to 0.40 g/bhp-hr; and
2. Does not operate more than 21 to 30 hours per year for maintenance and testing purposes after January 1, 2007. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

- {3811} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 30 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

{Scenario 3c: If the PM₁₀ emissions factor for the engine will be > 0.01 g/bhp-hr and ≤ 0.15 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.01 g/bhp-hr or less than or equal to 0.15 g/bhp-hr; and
2. Does not operate more than 31 to 50 hours per year for maintenance and testing purposes after January 1, 2007. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

{Scenario 3d: If the PM₁₀ emissions factor for the engine will be ≤ 0.01 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate less than or equal to 0.01 g/bhp-hr; and
2. Does not operate more than 51 to 100 hours per year for maintenance and testing purposes after January 1, 2007. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

- {3809} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

*{Scenario 4: If the engine is **in-use** (in-use is defined as the facility purchased the engine or signed a purchase agreement for the engine before January 1, 2005), there are three or fewer engines owned by the permittee (Note: This applies to all engines owned by the permittee within the District), the engine is being modified to comply (e.g. adding a particulate filter to allow more hours of operation), and the engine was manufactured from 1996 to current, use the following:}*

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

{If applicable use the following paragraph, otherwise delete:}

Engines that have a signed purchase agreement prior to January 1, 2005 are considered to be “in-use” engines per the ATCM. The engine involved with this project has a signed purchase agreement dated **Month Day, 2004** and will be considered “in-use” engines for compliance with the ATCM.

This regulation stipulates that as of **January 1, 2008**, no person that owns **three or fewer in-use engines** shall operate any in-use stationary emergency diesel-fueled CI engine that has a rated brake horsepower greater than 50, **is being physically modified, and that was manufactured from 1995 to current**, unless it meets the following applicable emission standards and operating requirements.

{Scenario 4a: If the PM_{10} emissions factor for the engine will be > 0.4 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than **0.40** g/bhp-hr; and
2. Does not operate more than **20** hours per year for maintenance and testing purposes **after January 1, 2008**. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed **X.XX** g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3813} 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]

{Scenario 4b: If the PM₁₀ emissions factor for the engine will be > 0.15 g/bhp-hr and ≤ 0.40 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.15 g/bhp-hr or less than or equal to 0.40 g/bhp-hr; and
2. Does not operate more than 21 to 30 hours per year for maintenance and testing purposes after January 1, 2008. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3811} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 30 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

{Scenario 4c: If the PM₁₀ emissions factor for the engine will be > 0.01 g/bhp-hr and ≤ 0.15 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.01 g/bhp-hr or less than or equal to 0.15 g/bhp-hr; and
2. Does not operate more than 31 to 50 hours per year for maintenance and testing purposes after January 1, 2008. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

{Scenario 4d: If the PM₁₀ emissions factor for the engine will be ≤ 0.01 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate less than or equal to 0.01 g/bhp-hr; and
2. Does not operate more than 51 to 100 hours per year for maintenance and testing purposes after January 1, 2008. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3809} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

*{Scenario 5: If the engine is **in-use** (in-use is defined as the facility purchased the engine or signed a purchase agreement for the engine before January 1, 2005), there are four or more engines owned by the permittee (Note: This applies to all engines owned by the permittee within the District), and the engine is being modified to comply (e.g. adding a particulate filter to allow more hours of operation, use the following:}*

Compliance Schedule and Hours of Operation Requirements for Modified “In-Use” Diesel Engines:

{If applicable use the following paragraph, otherwise delete:}

Engines that have a signed purchase agreement prior to January 1, 2005 are considered to be “in-use” engines per the ATCM. The engine involved with this project has a signed purchase agreement dated Month Day, 2004 and will be considered “in-use” engines for compliance with the ATCM.

This regulation stipulates that a person that owns four or more in-use engines shall bring into compliance any in-use stationary emergency diesel-fueled CI engine that has a rated brake horsepower greater than 50 and is being physically modified, according to the following compliance schedules:

Compliance Schedule for Pre-1989 Through 1989 Model Year Engines	
Percentage of Engines	Compliance Date
50%	January 1, 2007
75%	January 1, 2008
100%	January 1, 2009

Compliance Schedule for 1990 Through 1995 Model Year Engines	
Percentage of Engines	Compliance Date
30%	January 1, 2007
60%	January 1, 2008
100%	January 1, 2009

Compliance Schedule for 1996 and Later Model Year Engines	
Percentage of Engines	Compliance Date
50%	January 1, 2008
100%	January 1, 2009

The owner of the engine involved with this project **owns four or more engines that are located within the District.** Therefore, using the compliance schedules, the engines owned by this **company** must be brought into compliance as presented in the following table:

Note: The following table multiplies column 1 by the percentage in column 2 with the results presented in column 4. After entering the data in column 1, highlight column 4 and press F9. Be sure to enter the appropriate number of engines in the correct year of manufacture range.

Compliance Schedule for the Engines Owned by this Company Within the SJVAPCD			
Quantity of Engines	Percentage of Engines	Compliance Date	Number of Engines for Compliance
Pre-1989 through 1989 Engines			
X	50%	January 1, 2007	0
	75%	January 1, 2008	0
	100%	January 1, 2009	0
1990 through 1995 Engines			
X	30%	January 1, 2007	0
	60%	January 1, 2008	0
	100%	January 1, 2009	0
1996 and Later Engines			
X	50%	January 1, 2008	0
	100%	January 1, 2009	0

For this project, the **new engine/modified engine** is a **19XX or 200X** model. The applicant has proposed that the **engine** involved with this project be part of the **XX%** owned by the **company** that have to be in compliance by January 1, **200X**. Therefore, the **engine** involved with this project shall be in compliance with the following applicable emission standards and operating requirements by January 1, **200X**.

Note: For scenarios 5a through 5d, determine the compliance date from the table above, and then use that date in the following statements and conditions.

{Scenario 5a: If the PM_{10} emissions factor for the engine will be > 0.4 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than **0.40 g/bhp-hr**; and
2. Does not operate more than **20** hours per year for maintenance and testing purposes **after January 1, 200X**. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- **{edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]**

- {3813} 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]

{Scenario 5b: If the PM₁₀ emissions factor for the engine will be > 0.15 g/bhp-hr and ≤ 0.40 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.15 g/bhp-hr or less than or equal to 0.40 g/bhp-hr; and
2. Does not operate more than 21 to 30 hours per year for maintenance and testing purposes after January 1, 200X. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3811} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 30 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

{Scenario 5c: If the PM₁₀ emissions factor for the engine will be > 0.01 g/bhp-hr and ≤ 0.15 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate greater than 0.01 g/bhp-hr or less than or equal to 0.15 g/bhp-hr; and
2. Does not operate more than 31 to 50 hours per year for maintenance and testing purposes after January 1, 200X. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

- {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

{Scenario 5d: If the PM₁₀ emissions factor for the engine will be ≤ 0.01 g/bhp-hr, use the following:}

1. Emits diesel PM at a rate less than or equal to 0.01 g/bhp-hr; and
2. Does not operate more than 51 to 100 hours per year for maintenance and testing purposes after January 1, 200X. Engine operation is not limited during emergency use and during emissions source testing to show compliance with the ATCM.

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

- {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]
- {3809} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702 and 17 CCR 93115]

California Environmental Quality Act (CEQA)

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

The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the

governmental agency finds the changes to be feasible.

- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

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

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit are based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

As described above, the project requires only ministerial approval, and is exempt from the provisions of CEQA. As such, an Indemnification Agreement or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Note: Recommend that the project will be approved or denied and reference the attached Authority(s) to Construct.

{For a project where noticing (public, school, or EPA) is not required, use the following:}

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct X-XXXX-X-X subject to the permit conditions on the attached draft Authority to Construct in Appendix E.

{For a project where public noticing is triggered, use the following:}

Pending a successful NSR Public Noticing period, issue Authority to Construct X-XXXX-X-X subject to the permit conditions on the attached draft Authority to Construct in Appendix E.

{For a project where EPA noticing is triggered, use the following:}

Pending a successful EPA 45-day COC comment period, issue Authority to Construct X-XXXX-X-X subject to the permit conditions on the attached draft Authority to Construct in Appendix E.

{For a project where school noticing is triggered, use the following:}

Pending a successful School Noticing period, issue Authority to Construct X-XXXX-X-X subject to the permit conditions on the attached draft Authority to Construct in Appendix E.

X. Billing Information

Note: Expand the following table as necessary to include extra units.

Billing Schedule			
Permit Number	Fee Schedule	Fee Description	Fee Amount
X-XXXX-XX-XX	3020-10-X	XXX bhp IC engine	\$XXX.00

Appendixes

Note: Adjust the following appendixes as necessary.

- A. BACT Guideline and BACT Analysis
- B. HRA Summary and AAQA
- C. SSPE1 Calculations
- D. QNEC Calculations
- E. Draft ATC and Emissions Profile *{Note: For public notice projects, the emissions profile is not included as a part of the Engineering Evaluation package.}*

Appendix A

BACT Guideline and BACT Analysis

[Select only the appropriate BACT Analyses]

[For all BACT Guidelines:]

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

Oxides of nitrogen (NO_x) are generated from the high temperature combustion of the diesel fuel. A majority of the NO_x emissions are formed from the high temperature reaction of nitrogen and oxygen in the inlet air. The rest of the NO_x emissions are formed from the reaction of fuel-bound nitrogen with oxygen in the inlet air.

1. BACT Analysis for NO_x Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse [guideline 3.1.X](#), X quarter 200X, identifies achieved in practice BACT for NO_x emissions from [emergency diesel IC engines \(< 175 bhp or ≥ 175 or less than 400 bhp or ≥ 400 bhp\)](#) as follows:

- 1) [Certified emissions of 6.9 g-NO_x/bhp-hr or less](#)

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 the applicant [has proposed](#) the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is [not](#) required.

e. Step 5 - Select BACT

BACT for NO_x emissions from this [emergency diesel IC engine \(< 175 bhp or ≥ 175 or less than 400 bhp or ≥ 400 bhp\)](#) is having [certified emissions of 6.9 g-NO_x/bhp-hr or less](#). The applicant has proposed to install a [XXX bhp emergency diesel IC engine with certified emissions of 6.9 g-NO_x/bhp-hr or less](#); therefore BACT for NO_x emissions is satisfied.

[For all BACT Guidelines:]

2. BACT Analysis for SO_x Emissions:

Oxides of sulfur (SO_x) emissions occur from the combustion of the sulfur which is present in the diesel fuel.

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse [guideline 3.1.X](#), X quarter 200X, identifies achieved in practice BACT for [SO_x emissions from emergency diesel IC engines \(< 175 bhp or ≥ 175 or less than 400 bhp or ≥ 400 bhp\)](#) as follows:

- 1) [Low-sulfur diesel fuel \(0.05% by weight or less\) or very low-sulfur \(0.0015% by weight\), where available](#) Note: The District has determined very low sulfur diesel fuel to be available everywhere in the District.

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 the applicant [has proposed](#) the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is [not](#) required.

e. Step 5 - Select BACT

BACT for [SO_x emissions from this emergency diesel IC engine \(< 175 bhp or ≥ 175 or less than 400 bhp or ≥ 400 bhp\)](#) is using [very low-sulfur diesel fuel \(0.0015% by weight\)](#). The applicant has proposed to install a [XXX bhp emergency diesel IC engine using very low-sulfur diesel fuel \(0.0015% by weight\)](#); therefore BACT for [SO_x emissions](#) is satisfied.

[For all BACT Guidelines:]

3. BACT Analysis for PM₁₀ Emissions:

Particulate matter (PM₁₀) emissions occur from the reaction of various elements in the diesel fuel including fuel sulfur.

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 3.1.X, X quarter 200X, identifies achieved in practice BACT for PM₁₀ emissions from emergency diesel IC engines (< 175 bhp or ≥ 175 or less than 400 bhp or ≥ 400 bhp) as follows:

- 1) Certified emissions of (0.4 g-PM₁₀/bhp-hr since T-BACT is not triggered for this project) or (certified emissions of 0.1 g-PM₁₀/bhp-hr since T-BACT is triggered for this project) or less

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 the applicant has proposed the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

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

e. Step 5 - Select BACT

BACT for PM₁₀ emissions from this emergency diesel IC engine (< 175 bhp or ≥ 175 and less than 400 bhp or ≥ 400 bhp) is having certified emissions of (0.4 g-PM₁₀/bhp-hr or 0.1 g-PM₁₀/bhp-hr) or less. The applicant has proposed to install a XXX bhp emergency diesel IC engine with certified emissions of (0.4 g-PM₁₀/bhp-hr or 0.1 g-PM₁₀/bhp-hr) or less; therefore BACT for PM₁₀ emissions is satisfied.

{If applicable, include the following statement:}

Pursuant to the BACT Guideline, any engine model included in the ARB or EPA diesel engine certification lists and identified as having a PM₁₀ emission rate of 0.149

grams/bhp-hr or less, based on ISO 8178 test procedure, shall be deemed to meet the 0.1 grams/bhp-hr requirement

{Use the following section for engines < 175 bhp or ≥ 175 or less than 400 bhp:}

BACT Analysis for CO Emissions:

4. BACT Analysis for CO Emissions:

Carbon monoxide (CO) emissions are generated from the incomplete oxidation of carbon.

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse [guideline 3.1.X, X quarter 200X](#), identifies achieved in practice BACT for [CO emissions](#) from [emergency diesel IC engines \(< 175 bhp or ≥ 175 and less than 400 bhp\)](#) as follows:

- 1) [Certified emissions of 0.6 g-CO/bhp-hr or less](#)

In addition, the SJVUAPCD BACT Clearinghouse [guideline 3.1.X, X quarter 200X](#), identifies technologically feasible BACT for [CO emissions](#) from [emergency diesel IC engines \(< 175 bhp or ≥ 175 and less than 400 bhp\)](#) as follows:

- 1) [90% CO control efficiency catalyst \(oxidation catalyst or equal\)](#)

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

b. Step 2 - Eliminate technologically infeasible options

There are [no](#) technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

- 1) 90% CO control efficiency catalyst (oxidation catalyst or equal)
- 2) Certified emissions of 0.6 g-CO/bhp-hr or less

d. Step 4 - Cost Effectiveness Analysis

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

{If an oxidation catalyst with at least 90% control is proposed, use the following:}

The applicant is proposing an oxidation catalyst with at least 90% control. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

{If an oxidation catalyst with at least 90% control is not proposed and the facility is a small emitter, use the following:}

This facility is classified as a small emitter, per the District's BACT Policy (dated 11/9/99) Section III.D, as facility-wide emissions are less than [two tons per year of each affected pollutant or 40 lbs/day for NO_x, 220 lbs/day for CO, and 30 lbs/day each for VOC, PM₁₀, and SO_x]. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.E.1, technologically feasible BACT and a cost effective analysis is not required.

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

{If an oxidation catalyst with at least 90% control is not proposed and the facility is not a small emitter, use the following:}

[Insert Cost Effective Analysis. Please discuss with your lead engineer for further instruction.]

Based on the preceding cost-effective analysis, catalytic oxidation is/is not cost effective.

e. Step 5 - Select BACT

{If an oxidation catalyst with at least 90% control is proposed or if an oxidation catalyst is cost effective, use the following:}

BACT for CO emissions from this emergency diesel IC engine (< 175 bhp or ≥ 175 or less than 400 bhp) is using a 90% CO control efficiency catalyst (oxidation catalyst or equal). The applicant has proposed to install a XXX bhp emergency diesel IC engine

with a 90% CO control efficiency catalyst (oxidation catalyst or equal); therefore BACT for CO emissions is satisfied.

{If an oxidation catalyst with at least 90% control is not cost effective or the facility is a small emitter, use the following:}

BACT for CO emissions from this emergency diesel IC engine (< 175 bhp or ≥ 175 or less than 400 bhp) is having certified emissions of 0.6 g-CO/bhp-hr or less. The applicant has proposed to install a XXX bhp emergency diesel IC engine with certified emissions of 0.6 g-CO/bhp-hr or less; therefore BACT for CO emissions is satisfied.

{Use the following section for engines ≥ 400 bhp:}

BACT Analysis for CO Emissions:

4. BACT Analysis for CO Emissions:

Carbon monoxide (CO) emissions are generated from the incomplete oxidation of carbon.

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 3.1.3, X quarter 200X, identifies achieved in practice BACT for CO emissions from emergency diesel IC engines ≥ 400 bhp as follows:

- 1) Certified emissions of 2.0 g-CO/bhp-hr or less

In addition, the SJVUAPCD BACT Clearinghouse guideline 3.1.3, X quarter 200X, identifies technologically feasible BACT for CO emissions from emergency diesel IC engines ≥ 400 bhp as follows:

- 1) Certified emissions of 1.4 g-CO/bhp-hr or less

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

b. Step 2 - Eliminate technologically infeasible options

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

c. Step 3 - Rank remaining options by control effectiveness

- 1) Certified emissions of 1.4 g-CO/bhp-hr or less
- 2) Certified emissions of 2.0 g-CO/bhp-hr or less

d. Step 4 - Cost Effectiveness Analysis

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

{If CO emissions of ≤ 1.4 g/bhp-hr is proposed, use the following:}

The applicant is proposing CO emissions of ≤ 1.4 g/bhp-hr. This is the highest ranking technologically feasible option, therefore a cost effective analysis will not be necessary.

{If CO emissions of ≤ 1.4 g/bhp-hr is not proposed and the facility is a small emitter, use the following:}

This facility is classified as a small emitter, per the District's BACT Policy (dated 11/9/99) Section III.D, as facility-wide emissions are less than [two tons per year of each affected pollutant or 40 lbs/day for NO_x, 220 lbs/day for CO, and 30 lbs/day each for VOC, PM₁₀, and SO_x]. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.E.1, technologically feasible BACT and a cost effective analysis is not required.

The only remaining control technology alternative in the ranking list from Step 3 has been achieved in practice. Therefore, per the District's BACT Policy (dated 11/9/99) Section IX.D.2, the cost effectiveness analysis is not required.

{If CO emissions of ≤ 1.4 g/bhp-hr is not proposed and the facility is not a small emitter, use the following:}

[Insert Cost Effective Analysis. Please discuss with your lead engineer for further instruction.]

Based on the preceding cost-effective analysis, certified emissions of 1.4 g-CO/bhp-hr or less is/is not cost effective.

{Use the following if emissions of ≤ 1.4 g/bhp-hr is not cost effective:}

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

e. Step 5 - Select BACT

{If emissions of ≤ 1.4 g/bhp is proposed or if emissions of ≤ 1.4 g/bhp is cost effective, use the following:}

BACT for CO emissions from this emergency diesel IC engine ≥ 400 bhp is having certified emissions of 1.4 g-CO/bhp-hr or less. The applicant has proposed to install a XXX bhp emergency diesel IC engine with certified emissions of 1.4 g-CO/bhp-hr or less; therefore BACT for CO emissions is satisfied.

{If emissions of ≤ 1.4 g/bhp is not cost effective or the facility is a small emitter, use the following:}

There is no control technology that is cost effective for BACT for CO emissions from this emergency diesel IC engine ≥ 400 . The applicant has proposed to install a XXX bhp emergency diesel IC engine with no control technology for CO emissions; therefore BACT for CO emissions is satisfied.

{Use the following section for engines < 175 bhp or ≥ 175 or ≥ 400 bhp:}

[For BACT Guidelines 3.1.1, 3.1.2, or 3.1.3:]

BACT Analysis for VOC Emissions:

5. BACT Analysis for VOC Emissions:

Volatile organic compounds (VOC) are emitted from the crankcase of the engine as a result of piston ring blow-by.

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 3.1.X, X quarter 200X, identifies achieved in practice BACT for VOC emissions from emergency diesel IC engines (< 175 bhp or ≥ 175 or less than 400 bhp or ≥ 400 bhp) as follows:

- 1) Positive crankcase ventilation (or 90% efficient control device)

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 the applicant has proposed the achieved in practice option.

d. Step 4 - Cost effectiveness analysis

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

e. Step 5 - Select BACT

BACT for VOC emissions from this emergency diesel IC engine (< 175 bhp or \geq 175 or less than 400 bhp or \geq 400 bhp) is having positive crankcase ventilation (or 90% efficient control device). The applicant has proposed to install a XXX bhp emergency diesel IC engine with positive crankcase ventilation (or 90% efficient control device); therefore BACT for VOC emissions is satisfied.

Appendix B HRA Summary and AAQA

Appendix C SSPE1 Calculations

[Attach SSPE1 Calculations if applicable.]

Appendix D QNEC Calculations

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - BE, where:

- QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
- PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
- BE = Baseline Emissions (per Rule 2201) for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, PE2_{quarterly} and BE_{quarterly} can be calculated as follows:

Note: The following table divides column 2 by 4 with the results presented in column 3. After entering the data in column 2, highlight column 3 and press F9:

Quarterly Post Project Emissions		
Pollutant	PE2 Total (lb/yr)	Quarterly PE2 (lb/qtr)
NO _x	0	0.0
SO _x	0	0.0
PM ₁₀	0	0.0
CO	0	0.0
VOC	0	0.0

{For new units, use the following:}

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

{For modified units, use the following:}

Note: The following table divides column 2 by 4 with the results presented in the column 3. After entering the data in column 2, highlight column 3 and press F9:

Quarterly Baseline Emissions		
Pollutant	BE Total (lb/yr)	Quarterly BE (lb/qtr)
NO _x	0	0.0
SO _x	0	0.0
PM ₁₀	0	0.0
CO	0	0.0
VOC	0	0.0

Note: The following table subtracts column 3 from column 2 with the results presented in column 4. After entering the data in columns 2 and 3, highlight column 4 and press F9:

QNEC			
Pollutant	Quarterly PE2 (lb/qtr)	Quarterly BE (lb/qtr)	QNEC (lb/qtr)
NO _x	0	0	0.0
SO _x	0	0	0.0
PM ₁₀	0	0	0.0
CO	0	0	0.0
VOC	0	0	0.0

Appendix E

Draft ATC and Emissions Profile

ATC Conditions

[For ATC w/ COC, use the following two conditions:]

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

[For ATC w/o COC, use the following condition:]

3. {1829} The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520]

[For all engines, use the following conditions:]

4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
7. {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]
8. {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]
9. {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]
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. {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]

[If the engine is located in a remote location, use the following condition in place of #11 above:]

12. {3476} 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. For units at unstaffed sites or operated remotely, records may be maintained and retained at a District-approved off-site location. [District Rule 4702 and 17 CCR 93115]

[If the engine is located within 500 ft of the outermost boundary of a K-12 school and the PM₁₀ emissions factor for the engine is > 0.01 g/bhp-hr, use the following condition:]

13. {3392} This engine shall not be operated for maintenance and testing purposes between 7:30 a.m. and 3:30 p.m. on days when school is in session. [17 CCR 93115]

[If the engine is located at a K-12 school and the PM₁₀ emissions factor for the engine is > 0.01 g/bhp-hr, use the following conditions:]

14. {3392} This engine shall not be operated for maintenance and testing purposes between 7:30 a.m. and 3:30 p.m. on days when school is in session. [17 CCR 93115]
15. {3394} This engine shall not be operated for maintenance and testing purposes whenever there is a school sponsored activity. [17 CCR 93115]

[If the engine is equipped with or required by BACT to be equipped with a catalytic particulate filter, use the following condition:]

16. {3396} This IC engine shall be equipped with a catalytic particulate filter. [District Rules 2201 and 4102]

[If the engine is equipped with or required by BACT to be equipped with a CO catalyst, use the following condition:]

17. {3397} This IC engine shall be equipped with a 90% CO control efficiency catalyst (oxidation catalyst or equal). [District Rule 2201]

[If the engine is equipped with or required by BACT to be equipped with a PCV system, use the following condition:]

18. {1897} This engine shall be equipped with either a positive crankcase ventilation (PCV) system which recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90% control efficiency. [District Rule 2201]

*[For all **new** engines, use the following condition:]*

19. {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]

[For an “emergency” engine being installed and operated exclusively to preserve or protect property, human life, or public health during a disaster or state of emergency, such as a fire or flood use the following condition:]

20. {3489} 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, and the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.). 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]

[For all engines, use one of the following four conditions (as applicable):]

21. {3809} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
22. {3810} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
23. {3811} This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 30 hours per calendar year. [District Rule 4702 and 17 CCR 93115]
24. {3813} 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]

*[If this project is a modification to an **in-use** engine (in-use is defined as the facility purchased the engine or signed a purchase agreement for the engine before January 1, 2005), include the following:]*

25. {3415} 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]

[If the engine is limited to operation of less than 24 hours/day, use the following condition:]

26. {new} Operation of this engine for all purposes combined shall not exceed XX hours in any rolling 24 hr period. [District Rules 2201 and 4102]

[For all engines, use the following two conditions:]

27. {edited 3485} Emissions from this IC engine shall not exceed any of the following limits: X.XX g-NOx/bhp-hr, X.XX g-CO/bhp-hr, or X.XX g-VOC/bhp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]

28. {edited 3486} Emissions from this IC engine shall not exceed X.XX g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

[If the facility is becoming a Major Source, use the following condition:]

29. {3487} This facility will have up to 12 months from the date of this Authority to Construct (ATC) issuance to either submit a Title V application or comply with District Rule 2530 - Federally Enforceable Potential to Emit. [District Rule 2520]