ENGINEERING EVALUATION
Vallejo Sanitation & Flood Control District
Plant: 20249
Application: 21997

Mare Island, Vallejo, CA 94592

BACKGROUND

Vallejo Sanitation & Flood Control District has applied to obtain an Authority to Construct (AC) and/or a Permit to Operate (PO) for the following equipment:

S-1 Emergency Standby Diesel Generator Set
John Deere, Model 4024TF281B, 49 BHP, 0.26MMBTU [Exempt per Regulation 2-1-114.2]
S-2 Emergency Standby Diesel Generator Set
John Deere, Model 4024HF285B, 81 BHP, 0.47MMBTU
S-3 Emergency Standby Diesel Generator Set
John Deere, Model 5030HF285G, 97 BHP, 0.69 MMBTU
S-4 Emergency Standby Diesel Generator Set
John Deere, Model 4045HF285H, 133 BHP, 0.95 MMBTU
S-5 Emergency Standby Diesel Generator Set
John Deere, Model 4024TF281B, 49 BHP, 0.26MMBTU [Exempt per Regulation 2-1-114.2]

All engines are located at the north side of the Mare Island, Vallejo, CA 94592
The following the coordinates of the engines

Sources # (Map location)	Latitude	Longitude
S-1 (DOM-3)	38°6'30.96" N	122°16'39.46"W
S-2 (DOM-5)	38°6'18.53" N	122°16'26.14"W
S-3 (DOM-6)	38°6'2.84" N	122°16'12.10"W
S-4 (DOM-7)	38°5'48.98" N	122°16'11.84"W
S-5 (DOM-8)	38°5'26.32" N	122°15'40.71"W
"DOM" means Domestic Pump Designation, refer to the attached map		

S-1 and S-5 are 2010 model engines and have a rated horsepower of less than 50 BHP, which are exempt from the District Regulation and the State ATCM requirements since permits are required only for engines rated at 50 BHP or higher. However, Toxic Risk Screening is required if any of those sources triggers Health Risk Screening Analysis.

The Emergency Diesel Engine Generator Sets (S-1 Thru S-5) are equipped with the best available control technology (BACT) for minimizing the release of air borne criteria pollutants and harmful air toxins due to fuel combustion. The criteria pollutants are nitrogen oxides (NOx), carbon monoxide (CO), precursor organic compounds (POC) from unburned diesel fuel, sulfur dioxide (SO2) and particulate matter (PM10). POC from a combustion source is denoted as non-methane hydrocarbons (NMHC). All of these pollutants are briefly discussed on the District's website at www.baaqmd.gov.

The engine will burn commercially available California low sulfur diesel fuel. The sulfur content of the diesel fuel will not exceed 0.0015% by weight.

EMISSIONS

S-1 and **S-5** are 2010 model engines and have a rated horse power of less than 50 BHP. **S-1** and **S-5** are exempt per Regulation 2-1-114.2 since the horsepower is less than 50HP. However, Toxic Risk Screening will be required if one of the sources trigger a risk screening.

Basis for S-1 and S-5:
49 hp output rating
50 hr/yr operation for testing and maintenance
1.9 gallons/hr max fuel use rate

NMHC + NOx, CO and PM10 emission factors are from CARB Executive Order U-R-004-0380
POC is assumed to be 5% of NMHC + NOx
NOx is assumed to be 95% of NMHC + NOx
SO2 emissions are quantified based on the full conversion of 0.0015 wt% (~ 15 ppm) sulfur in the ULS diesel fuel. The SO2 emission factor was derived from EPA AP-42, Table 3.4-1.

S-2, S-3, and **S-4** are diesel engines with 50 hp or larger, so they are subject to the District and the State ATCM requirements

Basis for S-2:
81 hp output rating
37 hr/yr operation for testing and maintenance
3.4 gallons/hr max fuel use rate
NMHC + NOx and CO emission factors are provided by CARB Executive Order U-R-004-0384
PM10 emission factors are from the CARB Diesel Agricultural Engines: Engine Information. (http://www.arb.ca.gov/diesel/ag/agengtables.htm)
POC is assumed to be 5% of NMHC + NOx
NOx is assumed to be 95% of NMHC + NOx
SO2 emissions are quantified based on the full conversion of 0.0015 wt% (~ 15 ppm) sulfur in the ULS diesel fuel. The SO2 emission factor was derived from EPA AP-42, Table 3.4-1.

Basis for S-3:
97 Hp output rating
37 hr/yr operation for testing and maintenance
5.0 gallons/hr max fuel use rate
NMHC + NOx and CO emission factors are provided by CARB Executive Order U-R-004-0384
PM10 emission factors are from the CARB Diesel Agricultural Engines: Engine Information. (http://www.arb.ca.gov/diesel/ag/agengtables.htm)
POC is assumed to be 5% of NMHC + NOx
NOx is assumed to be 95% of NMHC + NOx
SO2 emissions are quantified based on the full conversion of 0.0015 wt% (~ 15 ppm) sulfur in the ULS diesel fuel. The SO2 emission factor was derived from EPA AP-42, Table 3.4-1.

Basis for S-4:
133 hp output rating
37 hr/yr operation for testing and maintenance
6.9 gallons/hr max fuel use rate
NMHC + NOx, CO and PM10 emission factors are provided by CARB Executive Order U-R-004-0391
POC is assumed to be 5% of NMHC + NOx
NOx is assumed to be 95% of NMHC + NOx
SO2 emissions are quantified based on the full conversion of 0.0015 wt% (~ 15 ppm) sulfur in the ULS diesel fuel. The SO2 emission factor was derived from EPA AP-42, Table 3.4-1.

Annual Emissions:
Annual emissions are calculated based on the number of hours per year of operation for testing and maintenance.

Daily Emissions:
Daily emissions are calculated to establish whether a source triggers the requirement for BACT (10 lb/highest day total source emissions for any class of pollutants). 24-hr/day of operation will be assumed since no daily limits are imposed on intermittent and unexpected operations.

Table 1- Emissions for Source 1

Pollutant	Emission Factor (g/kw-hr)	Emission Factor (g/hp-hr)	Annual Emissions (lb/yr)	Annual Emissions (TPY)	Max. Daily (lb/day)
NMHC+NOx	6.6	4.92			
NOx	6.27	4.68	25.24	0.0126	12.12
POC	0.33	0.25	1.33	0.0007	0.64
CO	2.7	2.01	10.87	0.0054	5.22
PM10	0.3	0.22	1.21	0.0006	0.58
SO2		0.001515 *lb SO2/MMBTU	0.02	0.00001	0.01

Table 2- Emissions for Source 2

Pollutant	Emission Factor (g/kw-hr)	Emission Factor (g/hp-hr)	Annual Emissions (lb/yr)	Annual Emissions (TPY)	Max. Daily (lb/day)
NMHC+NOx	4.1	3.06			
NOx	3.90	2.91	19.18	0.0096	12.44
POC	0.21	0.15	1.01	0.0005	0.65
CO	1.7	1.27	8.37	0.0042	5.43
PM10	0.16	0.12	0.79	0.0004	0.51
SO2		0.001515 *lb SO2/MMBTU	0.03	0.00001	0.02

Table 3- Emissions for Source 3

Pollutant	Emission Factor (g/kw-hr)	Emission Factor (g/hp-hr)	Annual Emissions (lb/yr)	Annual Emissions (TPY)	Max. Daily (lb/day)
NMHC+NOx	4.1	3.06			
NOx	3.90	2.91	22.97	0.0115	14.90
POC	0.21	0.15	1.21	0.0006	0.78
CO	1.7	1.27	10.03	0.0050	6.50
PM10	0.13	0.10	0.77	0.0004	0.50
SO2		0.001515 *lb SO2/MMBTU	0.04	0.00002	0.02

Table 4 - Emission for Source 4

Pollutant	Emission Factor (g/kw-hr)	Emission Factor (g/hp-hr)	Annual Emissions (lb/yr)	Annual Emissions (TPY)	Max. Daily (lb/day)
NMHC+NOx	3.5	2.61			
NOx	3.33	2.48	26.89	0.0134	17.44
POC	0.18	0.13	1.42	0.0007	0.92
CO	1.6	1.19	12.94	0.0065	8.39
PM10	0.2	0.15	1.62	0.0008	1.05
SO2		0.001515 *lb SO2/MMBTU	0.05	0.00003	0.03

Table 5 - Emission for Source 5

Pollutant	Emission Factor (g/kw-hr)	Emission Factor (g/hp-hr)	Annual Emissions (lb/yr)	Annual Emissions (TPY)	Max. Daily (lb/day)
NMHC+NOx	6.6	4.92			
NOx	6.27	4.68	25.24	0.0126	12.12
POC	0.33	0.25	1.33	0.0007	0.64
CO	2.7	2.01	10.87	0.0054	5.22
PM10	0.3	0.22	1.21	0.0006	0.58
SO2		0.001515 *lb SO2/MMBTU	0.02	0.00001	0.01

PLANT CUMULATIVE INCREASE

Table 6 summarizes the cumulative increase in criteria pollutant emissions that will result from the operation of S-2, S-3 and S-4.

S-1 and S-5 are exempt from the Cumulative Increase requirements.

Table 6

Pollutant	**Current plant emissions (TPY)**	**Increase in plant emissions associated with this application (TPY)**	**Cumulative emissions (Current + Increase) (TPY)**
NOx	0	0.035	0.035
POC	0	0.002	0.002
CO	0	0.016	0.016
PM10	0	0.002	0.002
SO2	0	0.000	0.000

TOXIC RISK SCREENING ANALYSIS

This application required a Toxics Risk Screen because the diesel particulate emissions are greater than the toxic trigger level.

Table 7

Toxic Pollutant Emitted	**Emission Rate (lb/yr)**	**Risk Screening Trigger (lb/yr)**
PM10 (Diesel Particulate) for S-1	1.21	0.34
PM10 (Diesel Particulate) for S-2	0.79	0.34
PM10 (Diesel Particulate) for S-3	0.77	0.34
PM10 (Diesel Particulate) for S-4	1.62	0.34
PM10 (Diesel Particulate) for S-5	1.21	0.34

The engines (S-2 thru S-4) meets Best Available Control Technology for toxics (TBACT) since the diesel particulate emissions are less than 0.15 g/bhp-hr. For an engine that meets the TBACT requirement, it must also pass the toxic risk screening level of less than ten in a million. Estimates of residential risk assume exposure to annual average toxic air contaminant concentrations occur 24 hours per day, 350 days per year, for a 70-year lifetime. Risk estimates for offsite workers assume exposure occurs 8 hours per day, 245 days per year, for 40 years. Risk estimates for students assume a higher breathing rate, and exposure is assumed to occur 10 hours per day, 36 weeks per year, for 9 years.

The health risk screening analysis was conducted with S-1, S-2, S-3, S-4, and S-5.Based on 37 hours per year of operation of each of S-2 thru S-4, the emergency generator passed the Health Risk Screening Analysis (HRSA)

conducted on Sept 21st, 2010 by the District's Toxic Evaluation Section. The sources pose no significant toxic risk, since the increased cancer risk to the maximally exposed receptor (worker) is 10 in a million with a hazard index for of 0.0074. The increased cancer risk to residents is 6.2 in a million with a hazard index of 0.0022. The increased cancer risk to students from Mare Island Elementary School is 1.1 in a million with a hazard index of 0.00086. In accordance with the District's Regulation 2, Rule 5, this risk level is considered acceptable, as it has been determined that S-2, S-3, and S-4 meet the current TBACT standards.

BACT

In accordance with Regulation 2, Rule 2, Section 301, BACT is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NOx, CO, SO_2 or PM_{10}. BACT is triggered for NOx by S-2, S-3 and S-4 since the maximum daily emissions of this pollutants exceeds 10 lb/day. Please refer to the discussion on "Daily Emissions" in page 1 of this evaluation. BACT for this source is presented in the current BAAQMD BACT/TBACT Workbook for IC Engine – Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump, Document # 96.1.3, Revision 6 dated 4/13/2009. For NOx, BACT(2) is the current off-road tier standard for the horsepower. BACT(1) has not been determined. S-2, S-3 and S-4 meet the current tier emissions standard based on their emission data.

Source Category

Source:	***IC Engine – Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump***	**Revision:**	***6***
		Document #:	***96.1.3***
Class:	***> 50 BHP Output***	**Date:**	***04/13/2009***

POLLUTANT	BACT 1. Technologically Feasible/ Cost Effective 2. Achieved in Practice 3. TBACT	TYPICAL TECHNOLOGY
POC	*1. n/s[d]* *2. Current tier[a,b] standard for POC at applicable horsepower rating.*	*1. n/s[d]* *2. Any engine certified or verified to achieve the applicable standard.[a,b]*
NOx	*1. n/s[d]* *2. Current tier[a,b] standard for NOx at applicable horsepower rating.*	*1. n/s[d]* *2. Any engine certified or verified to achieve the applicable standard.[a,b]*
SO_2	*1. n/s[d]* *2. Fuel sulfur content not to exceed 0.0015% (wt) or 15 ppm.*	*1. n/s[d]* *2. CARB Diesel Fuel (Ultra Low Sulfur Diesel).*
CO	*1. n/s[d]* *2. The more stringent of either 2.75 g/bhp-hr [319 ppmvd @ 15% O_2][c] or the current Tier[a,b] standard.*	*1. n/s[d]* *2. Any engine certified or verified to achieve the applicable standard.*
PM_{10}	*1. n/s[d]* *2. More stringent of either 0.15 g/bhp-hr or the current Tier standard.*	*1. n/s[d]* *2. Any engine or technology demonstrated, certified or verified to achieve the applicable standard.* *3. Any engine or technology demonstrated, certified*

	3. TBACT: The more stringent of either 0.15 g/bhp-hr or the current Tier standard.	*or verified to achieve the applicable standard.*
NPOC	*1. n/s* *2. n/s*	*1. n/s* *2. n/s*

References

a. Current tier standard (listed on http://www.baaqmd.gov/pmt/bactworkbook/96-1-2.pdf): The current CARB or EPA off-road tier standard for the pollutant of concern within the appropriate horsepower range. Where NMHC + NOx is listed (with no individual standards for NOx or NMHC) as the standard, the portions may be considered 95% NOx and 5% NMHC. For the purposes of determining BACT NMHC = POC. Any engine which has been certified or demonstrated to meet the current year tier standard may be considered a current certified engine for that pollutant.

b. For pollutants NOx, POC and CO, an engine which does not meet the current EPA or CARB off-road tier standard may represent BACT2, providing 1) the engine met the most stringent EPA Tier Standard in effect at the time of installation (Tier 1 minimum) or 2) the engine met the most stringent EPA Tier Standard in effect prior to the Tier change for that horsepower rating with the permit application submitted within 6 months of the effective date of the Tier change. [Source: California Health & Safety Code Section 93116.3(b)(7)]

c. Previous BACT determination dated 01/11/02.

d. Cost effectiveness analysis must be based on lesser of 50 hr/yr or as limited by toxic risk screen.

From the table below, S-2, S-3 and S-4 satisfy the current BACT(2) standards.

	NOx emission (g/hp-hr)	**BACT requirements (g/hp-hr)**
S-2	**2.91**	**3.33**
S-3	**2.91**	**3.33**
S-4	**2.48**	**2.85**

OFFSETS

Offsets must be provided for any new or modified source at a facility that emits more than 10 tons/yr of POC or NOx per Regulation 2-2-302. Table 3 summarizes the increase in criteria pollutant emissions that will result from the operation of S-2, S-3, and S-4. S-1 and S-5 are exempt from the Offsets requirements.

Table 8

Pollutant	**Current plant emissions (TPY)**	**Increase in plant emissions associated with this application (TPY)**	**Cumulative emissions (Current + Increase) (TPY)**	**Regulation 2-2-302 and 2-2-303 Offset Triggers (TPY)**
NOx	0	0.035	0.035	> 10; < 35
POC	0	0.002	0.002	> 10; < 35
CO	0	0.016	0.016	NA
PM10	0	0.002	0.002	> 1*
SO2	0	0.000	0.000	> 1*

*Applies to major facilities with a cumulative increase, minus contemporaneous emission reduction credits, in excess of 1 ton/year since April 5, 1991.

It can be seen from Table 3 above that S-1 does not trigger any offset. Therefore, offsets are not warranted for any emission.

NSPS

The engine is subject to 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines because it was manufactured after April 1, 2006, as required by Section 60.4200(a)(2)(i).

Table 9

	Displacement	Number of cylinders
S-1	2.4	4
S-2	2.4	4
S-3	3.0	5
S-4	4.5	4
S-5	2.4	4

All engines have a displacement volume of less than 10 liters per cylinder. The engines are all 2010 model year engines and are not fire pumps. Section 60.4205(b) requires these engines to comply with the emission standards in Section 60.4202, which refers to 40CFR89.112 and 40CFR89.113 for all pollutants.

For engines greater than 25hp and less than 50 hp, these standards are:
NMHC+NOx: 7.5 g/hp-hr
CO: 5.5 g/hp-hr
PM: 0.6 g/hp-hr
20% opacity during acceleration mode
15% opacity during lugging mode
50% opacity during peaks in acceleration or lugging mode
According to the CARB Executive Order U-R-004-0380, S-1 and S-5 will comply with the standards

For engines greater than 50hp and less than 100 hp, these standards are:
NMHC+NOx: 4.7 g/hp-hr
CO: 5.0 g/hp-hr
PM: 0.4 g/hp-hr
20% opacity during acceleration mode
15% opacity during lugging mode
50% opacity during peaks in acceleration or lugging mode
According to CARB Executive Order U-R-004-0384, the engines S-2 and S-3 will comply with the standards.

For engines greater than 100hp and less than 175 hp, these standards are:
NMHC+NOx: 4.0 g/hp-hr
CO: 5.0 g/hp-hr
PM: 0.3 g/hp-hr
20% opacity during acceleration mode
15% opacity during lugging mode
50% opacity during peaks in acceleration or lugging mode
According to CARB Executive Order U-R-004-0391, S-4 will comply with the standards.

Sections 60.4206 and 60.4211(a) require that the owner/operator operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. The owner/operator is expected to comply with this requirement.

Section 60.4207(a) requires that by October 1, 2007, the owner/operator must use fuel that complies with 40 CFR 80.510(a). This means that the fuel must have a sulfur content of 500 parts per million (ppm) maximum, a cetane

index of 40 or a maximum aromatic content of 35 volume percent. The owner/operator is expected to comply with this requirement because CARB diesel is required to be used in California.

Section 60.4207(b) requires that by October 1, 2010, the owner/operator must use fuel that complies with 40 CFR 80.510(b). This means that the fuel must have a sulfur content of 15 parts per million (ppm) maximum, and the same cetane index or aromatic content as above. The owner/operator is expected to comply with this requirement because CARB diesel is required to be used in California.

Section 60.4209(a) requires a non-resettable hour meter. This requirement is already in the standard permit conditions.

The engine will comply with the requirements of Section 60.4211(c) because it has been certified in accordance with 40 CFR Part 89.

The engine will comply with the requirement in Section 60.4211(e) to run for less than 100 hours per year for maintenance checks and readiness testing, and the prohibition of running for any reason other than emergency operation, maintenance, and testing because they are limited by permit condition to 50 hours per year for reliability testing and otherwise may only operate for emergencies.

The owner/operator is not required to perform tests in accordance with Section 60.4212 or 60.4213.

Section 60.4214 states that owner/operators do not have to submit an initial notification to EPA for emergency engines.

Because the engine does not have a diesel particulate filter, the owner/operator is not subject to Section 60.4214(c).

The owner/operator is required to comply with certain sections of 40 CFR 60, Subpart A, General Provisions. The owner/operator is expected to comply with this requirement.

NESHAP

This engines are not subject to the emission or operating limitations in 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, because it is an emergency stationary reciprocating internal combustion engine (40 CFR 63.6600(c)).

CARB STATIONARY DIESEL ENGINE ATCM

The State Office of Administrative Law approved the Airborne Toxic Control Measure (ATCM) on November 8, 2004. State law requires the local Air Districts to implement and enforce the requirements of the ATCM. Effective January 1, 2005, there is a prohibition on the operation of new diesel emergency standby engines greater than 50 bhp unless the following operating requirements and emission standards are met:

"Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations.

Diesel PM – General Requirements

1. Meet 0.15 g/bhp-hr PM standard
2. Operate 50 hours per year, or less, for maintenance and testing (except emergency use and emissions testing)

or

1. Meet 0.01 g/bhp-hr PM standard
2. Operate up to 100 hours per year for maintenance and testing (except emergency use and emissions testing), upon approval by the District.

HC,NOx, NMHC+NOx, CO

1. Meet standards for off-road engines of the same model year and horsepower rating as specified in the OFF-Road Compression Ignition Engine Standards;
   or if no standards have been established
2. Meet the Tier 3 standards for an off-road engine for the same maximum rated power.

S-1 and S-5 are exempted from this regulation since they are less than 50hp.
These emergency standby diesel engines (S-2, S-3, and S-4) are in compliance with the above ATCM requirements. The diesel engine will operate for no more than 50 hours per year for maintenance and reliability testing. This engine is subject to the Tier 3 or Tier 4 Interim off-road CI engine standards for HC, NOx, NMHC+NOx and CO. As shown in the Table 10, the engine meets these requirements.

Table 10 ATCM Tier 3/Tier 4 Interim Compliance

	S-2 CARB Executive Order U-R-004-0384	S-3 CARB Executive Order U-R-004-0384	S-4 CARB Executive Order U-R-004-0391	ACTM Tier 3 requirements for S-2 & S-3 g/bhp-hr	ATCM Tier 3 requirements for S-4 g/bhp-hr
NMHC+NOx	3.06	3.06	2.61	3.5	3.0
NOx	2.91	2.91	2.48	N/A	N/A
NMHC (POC)	0.15	0.15	0.13	N/A	N/A
CO	1.27	1.27	1.19	3.7	3.7
PM	0.12	0.10	0.15	0.30	0.22

STATEMENT OF COMPLIANCE

The engines S-1, S-2, S-3, S-4, and S-5 will be operated as emergency standby engines and therefore are not subject to the emission rate limits in Regulation 9, Rule 8 ("NOx and CO from Stationary Internal Combustion Engines"). The engines S-1 thru S-5 are exempt from the requirements of Sections 9-8-301 through 305, 501 and 503 per Reg. 9-8-110.5 (Emergency Standby Engines). S-2, S-3 and S-4 are subject to and expected to comply with 9-8-330 (Emergency Standby Engines, Hours of Operation) since non-emergency hours of operation will be limited in the permit conditions to 50 hours per year. S-2, S-3 and S-4 is also subject to and expected to comply with monitoring and record keeping requirements of Regulation 9-8-530 and the SO2 limitations of 9-1-301 (ground-level concentration) and 9-1-304 (0.5% by weight in fuel). Regulation 9-8-530 requirements are incorporated into the proposed permit conditions. Compliance with Regulation 9, Rule 1 is very likely since diesel fuel with a 0.0015% by weight sulfur is mandated for use in California. Like all combustion sources, S-1,S-2, S-3, S-4 and S-5 are subject to Regulation 6, Rule 1 ("Particulate Matter"). Regulation 6-1-303.1 limits opacity from internal combustion engines to Ringelmann 2. This engine is not expected to produce visible emissions or fallout in violation of this regulation and will be assumed to be in compliance with Regulation 6-1.

This application is considered to be ministerial under the District's Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 2.3.

S-4 is located within 1000 ft of any K-12 school, so public notice is triggered. S-2 and S-3 are located within Mare Island, but S-2 and S-3 are located more than 1000 ft from a K-12 school

A public notice was prepared and sent to:
All addresses within 1000 feet of the diesel generator set.
Parents and guardians of students of Mare Island Elementary School (K-5) at 400 Rickover Street, Vallejo, CA 94592

PSD is not triggered.

For S-2, S-3 and S-4
PERMIT CONDITIONS

COND# 22837 ----------

1. The owner/operator shall not exceed 37 hours per year per engine for reliability-related testing.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3)]
2. The owner/operator shall operate each emergency standby engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, State or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating while mitigating emergency conditions or while emission testing to show compliance with District, State or Federal emission limits is not limited.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3) or (e)(2)(B)(3)]
3. The owner/operator shall operate each emergency standby engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection(e)(4)(G)(1)]
4. Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 36 months from the date of entry (60 months if the facility has been issued a Title V Major Facility Review Permit or a Synthetic Minor Operating Permit). Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request.
   a. Hours of operation for reliability-related activities (maintenance and testing).
   b. Hours of operation for emission testing to show compliance with emission limits.
   c. Hours of operation (emergency).
   d. For each emergency, the nature of the emergency condition.
   e. Fuel usage for each engine(s).
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), (or, Regulation 2-6-501)]
5. At School and Near-School Operation:
If the emergency standby engine is located on school grounds or within 500 feet of any school grounds, the following requirements shall apply:
The owner/operator shall not operate each stationary emergency standby diesel-fueled engine for non-emergency use, including maintenance and testing, during the following periods:
   a. Whenever there is a school sponsored activity (if the engine is located on school grounds)
   b. Between 7:30 a.m. and 3:30 p.m. on days when school is in session. "School" or "School Grounds" means any public or private school used for the purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in a private home(s).
"School" or "School Grounds" includes any building or structure, playground, athletic field, or other areas of school property but does not include unimproved school property.
[Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(1)] or (e)(2)(B)(2)]

End of Condition

RECOMMENDATION

Grant an exemption status to Vallejo Sanitation & Flood Control District for:

S-1 Emergency Standby Diesel Generator Set
John Deere, Model 4024TF281B, 49 BHP, 0.26MMBTU
S-5 Emergency Standby Diesel Generator Set
John Deere, Model 4024TF281B, 49 BHP, 0.26MMBTU

Issue an Authority to Construct/Permit to Operate to Vallejo Sanitation & Flood Control District for:

S-2 Emergency Standby Diesel Generator Set
John Deere, Model 4024HF285B, 81 BHP, 0.47MMBTU
S-3 Emergency Standby Diesel Generator Set
John Deere, Model 5030HF285G, 97 BHP, 0.69 MMBTU
S-4 Emergency Standby Diesel Generator Set
John Deere, Model 4045HF285H, 133 BHP, 0.95 MMBTU

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Yu Zhang Liu
Air Quality Engineer Intern
Engineering Division