

**Engineering Evaluation  
UCSF/Hunters Point  
75 Crisp Road  
San Francisco, CA 94124  
Plant No. 16319  
Application No. 694869**

**Project Description: Emergency Standby Generator Installation**

**BACKGROUND**

University of California San Francisco is applying for Authority to Construct (AC) and Permit to Operate (PO) for the following equipment:

**S-2 Emergency Standby Engine Generator Set: Diesel Engine; Make John Deere, Model 6135HFG06, Model Year 2022, Rated 634 bhp**

The stationary emergency diesel engine-generator set will be located at UCSF/Hunters Point, 75 Crisp Road, San Francisco, CA 94124. The engine, replacing the existing engine S-1 (568 bhp diesel engine, LOE, A/N 10506), will provide support to facility operations during emergencies as defined by Regulation 9-8-231. The engine will be able to operate without restriction during emergency use events. However, the engine’s annual maintenance and testing hours will be limited in accordance with the California Air Resources Board (CARB) “*Air Toxic Control Measure for Stationary Compression Ignition Engines*” (ATCM) and District regulation 9-8-330.3.

The applicant has submitted supporting documents, which include manufacturer specifications. Table 1 provides a summary of the information provided by the applicant.

<b>Table 1. Engines Specifications and Certified Emission Factors for S-2</b>		
<b>Engine Manufacturer</b>	John Deere	
<b>Model</b>	6135HFG06	
<b>Model Year</b>	2022	
<b>Family Name</b>	NJDXL13.5314	
<b>Engine Power Rating, hp (kW)</b>	634 (473)	
<b>Fuel Consumption, gal/hr</b>	30.6	
<b>Displacement, L (cu. in.)</b>	13.5 (824)	
<b>Emissions</b>	<b>EPA Cert. Data*</b>	
	g/bhp-hr	g/kW-hr
<b>Non-Methane Hydrocarbons (NMHC)</b>	0.04	0.06
<b>NO<sub>x</sub></b>	0.03	0.04
<b>CO</b>	0.04	0.05
<b>PM</b>	0.01	0.02
<b>Ammonia Slip</b>	10 ppmv@15%O <sub>2</sub>	

\*Notes:

1. The presented EPA certification data is from Engine Family GJDXL13.5314 because Engine Family NJDXL13.5314 is a carryover from Engine Family GJDXL13.5314.

2. EPA’s certification test result for CO is shown as 0 g/kW-hr due to the rounding procedures in 40 CFR §1065.20. The zero value implies that the result is no more than 0.05 g/kW-hr. Therefore, 0.05 g/kW-hr is presented as a not-to-exceed value.

**EMISSION CALCULATIONS**

The criteria pollutants are nitrogen oxides (NOx), carbon monoxide (CO), precursor organic compounds (POC) from unburned diesel fuel, sulfur dioxide (SO<sub>2</sub>) and particulate matter (PM<sub>10</sub>/PM<sub>2.5</sub>). These five pollutants are briefly discussed on the Air District’s website at [www.baaqmd.gov](http://www.baaqmd.gov).

S-2 meets the Environmental Protection Agency and California Air Resources Board (EPA/CARB) Tier 4 Off-road standard. The engines will burn commercially available California low sulfur diesel fuel. The sulfur content of the diesel fuel will not exceed 0.0015% by weight.

This evaluation report will discuss compliance of the proposed project with all applicable rules and regulations.

The permitted criteria pollutant emissions are summarized below:

Table 2. Source Permitted Emissions						
Pollutant	Emission Rate	Maximum Daily Operating Hours <sup>1</sup>	Maximum Daily Emissions	Permitted Annual Operation <sup>2</sup>	Permitted Annual Emissions	Permitted Annual Emissions
	(g/bhp-hr)	(hr/day)	(lb/day)	(hr/yr)	(lb/yr)	(ton/yr)
POC <sup>3</sup>	0.04	24	1.50	50	3.127	0.002
NO <sub>x</sub>	0.03	24	1.00	50	2.085	0.001
CO	0.04	24	1.25	50	2.606	0.001
PM <sub>10</sub> /PM <sub>2.5</sub> <sup>4</sup>	0.01	24	0.50	50	1.042	0.001
SO <sub>2</sub> <sup>5</sup>	0.0055	24	0.19	50	0.385	0.000

<sup>1</sup> Maximum daily operation is assumed to be 24 hours.

<sup>2</sup> Maximum annual operation is assumed to be 50 hours, per Regulation 9-8-330. Maximum annual operation will only include reliability-related activities as defined in Regulation 9-8-232.

<sup>3</sup> NMHC is assumed to be in the form of POC.

<sup>4</sup> PM is assumed to be in the form of particulate matter with a diameter of less than 10 μm (PM<sub>10</sub>).

<sup>5</sup> SO<sub>2</sub> emissions are based upon the Permit Handbook. The Permit Handbook suggests the use of EPA AP-42, Table 3.4-1. Assuming a sulfur content of 0.0015% (15 ppm), pursuant to the fuel requirements of CARB, the emission factor will be calculated as follows.

$$\text{SO}_2: 8.09\text{E-}3 \times (\% \text{ S in the fuel}) = 8.09\text{E-}3 \times (0.0015) \times (453.6 \text{ g/lb}) = 0.0055 \text{ g/hp-hr}$$

**Cumulative Increase**

The District tracks cumulative increase in emission from each facility. Table 3 summarizes the cumulative increase in criteria pollutant emissions that will result from this application assuming S-2 will operate 50 hours/year for reliability-related testing

<b>Table 3. Facility Cumulative Emission Increase Review</b>			
<b>Pollutant</b>	<b>Existing (ton/yr)</b>	<b>New (ton/yr)</b>	<b>Total (ton/yr)</b>
POC	0.000	0.005	0.000
NO <sub>x</sub>	0.000	0.010	0.000
CO	0.000	0.091	0.091
PM <sub>10</sub> /PM <sub>2.5</sub>	0.000	0.000	0.000
SO <sub>2</sub>	0.000	0.000	0.000

**Grain Loading Rate**

The grain loading rate calculation is required for determining the compliance of this application with BAAQMD Regulation 6, Rule 1 (refer to “Statement of Compliance” section, below).

Assumptions:

- PM Emission: 0.01 lb PM/hr
- 7000 grain/lb standard conversion factor (AP-42 Appendix A, Page A-19)
- Per Specs Sheet, exhaust flow is 2,119 cfm at 981°F dry.
- Actual P = 14.7 psi, Bwo = 0 (fraction of water vapor)

$$DSCFM = ACFM \times [(460^\circ R + 70^\circ F) / (460^\circ R + \text{temp})] \times (\text{Actual P} / 14.7 \text{ psi}) \times (1 - Bwo)$$

$$= 779 \text{ DSCFM}$$

$$[0.01 \text{ lb PM/hr} \times 7000 \text{ grain/lb}] / [60 \text{ min/hr} \times 779 \text{ DSCFM}] = 0.002 \text{ grain/dscf}$$

**STATEMENT OF COMPLIANCE**

**Regulation 2, Rule 1**

**CEQA (Section 2-1-311):** This permit application is not subject to the California Environmental Quality Act (CEQA) because the Air District’s evaluation is a ministerial action (Public Resources Code Section 21080(b)(1) and CEQA Guidelines Section 15268(a)) conducted using the fixed standards and objective measurements in the Air District’s rules and regulations.

**Public Notice, Schools (Section 2-1-412):** A new or modified source located within 1,000 feet of the outer boundary of a K-12 school site, or within an Overburdened Community as defined in Section 2-1-243, which results in the increase in emissions of a toxic air contaminant in Table 2-5-1 of *Regulation 2, Rule 5 New Source Review of Toxic Air Contaminants* shall prepare and distribute a public notice in accordance with subsections 412.1 and 412.2 of *Regulation 2, Rule 1 General Requirements*.

This application proposes a new source of TACs and is located within an Overburdened Community, as defined in Section 2-1-243. Therefore, public notification pursuant to Reg. 2-1-412 is triggered.

A public notice will be prepared and sent to all addresses within 1000 feet of the emergency diesel engine.

**Regulation 2 – Permits, Rule 2 – New Source Review**

In accordance with the Air District Policy<sup>1</sup>, the potential to emit for emergency engines is based on 150 hr/yr operation (50 hr/yr non-emergency, plus 100 hr/yr emergency purposes).

The assumption of 100 hours per year of emergency operation is used to determine the applicability of certain District permitting regulations, such as New Source Review and Title V Major Facility Review. The District Policy is not used to determine the quantity of emission offsets required for a project that triggers New Source Review or for PSD. It is also not applicable to the Toxics New Source Review requirements of District Reg. 2-5 (per Regulation 2-5-111).

**Best Available Control Technology (BACT):** In accordance with Regulation 2-2-301, BACT is triggered for any new or modified source with the potential to emit 10 pounds or more per highest day of POC, NPOC, NO<sub>x</sub>, CO, SO<sub>2</sub>, or PM<sub>10</sub>.

Based on the emission calculations in Table 2, BACT is not triggered because the maximum daily emissions for each pollutant do not exceed 10 lbs/day.

**Offsets Requirements for POC and NO<sub>x</sub>:** Pursuant to Regulation 2-2-302, offsets must be provided for any new or modified source at a facility that emits or has potential to emit more than 10 tons per year of POC or NO<sub>x</sub>. If a facility has potential to emit more than 10 tons per year but less than 35 tons per year of POC or NO<sub>x</sub> after the new or modified source is constructed, offsets must be provided at a 1:1 ratio for any un-offset cumulative increase in emissions at the facility. These emissions will be provided by the District's Small Facility Bank Account, unless applicant owns offset pursuant to Regulation 2-2-302.1.2. If a facility emits or will be permitted to emit 35 tons per year or more, the facility must provide the offsets at a 1.15 to 1.0 ratio.

Potential to emit POC or NO<sub>x</sub>, each, at this facility being below 10 ton/yr, this application is not subject to the offset requirements of Regulation 2-2-302.

**Offset Requirements for PM<sub>2.5</sub>/PM<sub>10</sub> or SO<sub>2</sub>:** Pursuant to Regulation 2-2-303, offsets must be provided for any new or modified source with a cumulative increase that exceeds 100 tons per year of PM<sub>2.5</sub>/PM<sub>10</sub> or SO<sub>2</sub>. Potential to emit PM<sub>2.5</sub>/PM<sub>10</sub> or SO<sub>2</sub> at this facility, each being below 100 ton/yr, this application is not subject to the offset requirements of Regulation 2-2-303.

**NAAQS Protection Requirement (2-2-308):** Per Regulation 2-2-308, if a project will result in a significant net increase in emissions of CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, or lead, the applicant must demonstrate that the emissions will not cause or contribute to any exceedance of the National Ambient Air Quality Standards for these pollutants.

This project will not involve any significant net emissions increases, as defined in Regulation 2-2-227.2.

**Publication of Notice and Opportunity for Public Comment (2-2-404):** If an application involves a major facility, a PSD project, or an increase in CO, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, or lead in an amount that is significant as defined in Regulation 2-2-227.2, the BAAQMD must prepare and distribute a public notice and provide an opportunity for public comment in accordance with Regulation 2-2-404 (Publication of Notice and Opportunity for Public Comment).

This application does not involve a major facility or PSD project, and it will not increase emissions above any of the significance levels defined in Regulation 2-2-227.2.

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<sup>1</sup> BAAQMD Policy: Calculating Potential to Emit for Emergency Backup Power Generators. Approval date June 3, 2019. (Referred to as "District Policy" in this engineering evaluation).

**Regulation 2-Permits, Rule 5-Air Toxic Pollutants (Health Risk Assessment)**

The proposed engine meets the EPA Tier 4 emission standards with a PM emission factor of 0.01 g/bhp-hr. Using this PM emission factor for the engine of S-2, a 50-hour per year limit for reliability-related activities, results in an estimated annual particulate matter emission of 0.699 lbs/yr, which is greater than the chronic toxic trigger level of diesel PM (0.26 pounds/year) in Regulation 2, Rule 5. Additionally, this engine has been certified with an integrated diesel oxidation catalyst and selective catalytic reduction abatement system for particulate and NO by EPA.

NO<sub>x</sub> emissions will be abated by Selective Catalytic Reduction (SCR) system. Ammonia reacts with NO<sub>x</sub> in the presence of a catalyst in SCR to produce Nitrogen and water. A fraction of the injected ammonia passes through the SCR unreacted, though. Ammonia slip is an industry term used for this unreacted reactant, which can be traced in the flue gas downstream of a SCR. Ammonia being a TAC, ammonia slip emissions from S-2 were estimated by assuming an ammonia slip of 10 ppmvd@15% O<sub>2</sub>.

Calculation of the Incremental Increase in Ammonia:

Hourly Emission (lb/hr) = Concentration × Q<sub>ds</sub> × (Molar Volume) × (Molecular Weight) × (60 min/hr)

Parameters	Value	Unit	Basis
Molar Volume, P/(RT) =	0.002584888	lb-mol/scf	
P =	14.7	psia	Standard atmospheric pressure
T =	70	degree F	Standard Temperature
R =	10.73	scf × psia/lb-mol × R	Ideal gas constant
Report Exhaust Flow Rate =	2,119	acfm	From ICE Form
responding Exhaust Temperature =	981	deg. F	From ICE Form
Correspond Exhaust % water =	10	%	<b>From Spec.</b>
Q <sub>ds</sub> , Exhaust Flow Rate =	701	dscfm	Corrected to dry basis and standard temperature.
Corresponding Exhaust % O <sub>2</sub> =	10	%	<b>Assumed</b>
Annual Operating Hours:	50	Hours/Year	Permit limit
Number of Engines:	1		

Table 4 summarizes TAC emissions for this project. This application did not have any related application during the last five years.

Pollutant	Emission Factor (g/bhp-hr)	Hourly Emission (lb/hr)	Acute Toxic Trigger Level (lb/hr)	Annual Emissions <sup>1</sup> (lb/yr)	Chronic Toxic Trigger Level (lb/yr)	HRA Triggered? (Y/N)
Diesel PM	0.01	0.014	N/A	0.699	0.26	Y
Ammonia		0.034	1.4	1.708	7,700	N

<sup>1</sup> Based on 50 hours per year, annual operation for maintenance

Pursuant to Regulation 2-5-110, the application is subject to the provisions of this rule since the increase in diesel exhaust PM emissions from the project is above the trigger level listed in Table 2-5-1 of this regulation. Regulation 2-5 requires that the cumulative impacts from all related projects permitted within the last five years be included in the risk screening analysis.

A health risk assessment (HRA) was completed for this project. This analysis estimates the incremental health risk resulting from toxic air contaminant (TAC) emissions from non-emergency operation of a new standby generator diesel engine (S-2) at this facility. Results from this HRA indicate that the project cancer risk is estimated at 0.16 in a million, the project chronic hazard index (HI) is estimated at 0.00013, and the project acute HI is estimated at 0.0010. In accordance with the District's Regulation 2-5-301, this source does not require TBACT because the estimated source risk does not exceed a cancer risk of 1.0 in a million, and/or chronic HI of 0.20. Since the estimated project cancer risk does not exceed 6.0 in a million, and project chronic HI does not exceed 1.0, this project complies with the District's Regulation 2-5-302 project risk requirements, for projects located in an Overburdened Community, as defined in Regulation 2-1-243. Since this new engine (S-2) will be replacing an existing engine (S-1), this HRA represents an analysis of all sources of TACs at this facility. Therefore, these project HRA results also represent site-wide HRA results for purposes of the Air Toxics "Hot Spots" Act (AB 2588).

### **Regulation 2 – Permits, Rule 6 – Major Facility Review**

Regulation 2 Rule 6 implements the operating permit requirements of Title V of the federal Clean Air Act as amended in 1990. The rule applies to major facilities, Phase II acid rain facilities, subject solid waste incinerator facilities and any facility in a source category designated by the Administrator of the EPA in a rulemaking as requiring a Title V permit. The rule also provides means by which facilities can avoid Title V or other requirements by limiting their potential to emit. A major facility is defined in Section 2-6-212 as one that has the potential to emit 100 tons per year of any regulation air pollutant as defined in Section 2-6-222, or that has the potential to emit 10 tons per year of a single hazardous air pollutant (HAP) or 25 tons per year or more of a combination of hazardous air pollutants. The facility with a single source is not a major facility and therefore not subject to this rule.

The facility is not a Phase II Acid Rain Facility (2-6-217) or a subject solid waste incinerator facility (Section 2-6-229), or a facility defined in a source category defined by EPA requiring a Title V permit. Therefore, Title V requirements, as implemented by Regulation 2, Rule 6, are not triggered.

### **Regulation 6 – Particulate Matter, Rule 1 – General Requirements**

**Ringelmann No. 1 Limitation (6-1-301):** Except as provided in Sections 6-1-303, 6-1-304 and 6-1-306, a person shall not emit from any source for a period or periods aggregating more than three minutes in any hour, a visible emission which is as dark or darker than No. 1 on the Ringelmann Chart, or of such opacity as to obscure an observer's view to an equivalent or greater degree.

Source S-2 being an EPA-certified engine is expected to emit a low amount of PM<sub>10</sub>, complying with *Regulation 6-1-301* pending a regular inspection.

**Opacity Limitation (6-1-302):** Except as provided in Sections 6-1-303, 6-1-304 and 6-1-306, a person shall not emit from any source for a period or periods aggregating more than three minutes in any hour an emission equal to or greater than 20% opacity as perceived by an opacity-sensing device, where such device is required by BAAQMD regulations.

Source S-2 being an EPA-certified engine is expected to emit low amount of PM<sub>10</sub>, it is expected to comply with Regulation 6-1-302 pending a regular inspection.

**Visible Particles (Section 6-1-305):** A person shall not emit particles which are large enough to be visible as individual particles at the emission point or of such size and nature as to be visible individually as incandescent particles.

Source S-2 being an EPA-certified engine is expected to emit low amounts of PM<sub>10</sub>, it is not expected to produce visible emissions or fallout in violation of this regulation and will be assumed to comply with Regulation 6-1-305 pending a regular inspection.

**Particulate Weight Limitation (Section 6-1-310):** A person shall not emit from any source particulate matter in excess of 0.15 grains/dscf of exhaust gas volume <sup>2</sup>.

The PM emission rate from engine S-2 is 0.01 grams/bhp-hr, which results in an outlet grain loading of about 0.002 grains/dscf based on the engine specifications (634 bhp, 2,119 acfm exhaust flow, and 981° F emissions stack temperature). Grain loading for the project is much less than the 0.15 grains/dscf limit, complying with Regulation 6-1-310.1. Note that the TSP concentration limits set forth in Regulation 6-1-301.2 do not apply because the PTE for PM per source is below the 1000 kg per year applicability threshold.

#### **Regulation 9 – Inorganic Gaseous Pollutants, Rule 1: Sulfur Dioxide**

Source S-2 is subject to the following sections of Regulation 9, Rule 1 and will comply with all sections by burning Ultra Low Sulfur Diesel with a sulfur content of 15 ppm, which results in less than 1 ppmv of SO<sub>2</sub> in the exhaust gas.

**Limitations on Ground Level Concentrations (Section 9-1-301):** Sulfur Dioxide emissions shall not result in ground level concentrations more than 0.5 ppm continuously for 3 consecutive minutes or 0.25 ppm averaged over 60 consecutive minutes, or 0.05 ppm averaged over 24 hours.

**General Emission Limitation (Section 9-1-302):** A gas stream containing Sulfur Dioxide shall not contain sulfur dioxide more than 300 ppm (dry).

**Fuel Burning (Section 9-1-304):** The sulfur content of liquid fuel burned shall not exceed 0.5% by weight.

#### **Regulation 9 – Inorganic Gaseous Pollutants, Rule 8: NO<sub>x</sub> and CO from Stationary Internal Combustion Engines**

**Exemptions (Section 9-8-110):** Section 110.5 exempts emergency standby engines from the requirements of Sections 9-8-301 through 305, 501 and 503.

**Emergency Standby Engines, Hours of Operation (Section 9-8-330):** S-2 is subject to the requirements of Regulation 9-8-330 which limits the reliability related operation of the engines to 50 hours per year per engine.

Permit Condition for S-2 will include an operating limit that complies with this standard.

**Monitoring and Records (Section 9-8-500):** S-2 is subject to the reporting requirements of Sections 502 and 530

Permit Conditions for S-2 will include reporting requirements that meet this standard.

#### **Regulation 10 – Standards of Performance for New Stationary Source**

**New Sources Performance Standards (NSPS):** According to §60.4200(a)(2)(i), the engine is subject to the requirements of 40 CFR Part 60 Subpart III, “Standards of Performance of Stationary Compression Ignition Internal Combustion Engines.”

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<sup>2</sup> This number changes with DSCFM, according to Regulation 6-1 (Table 6-1-310.2):  
<https://www.baaqmd.gov/~media/dotgov/files/rules/archive-2018-regulation-6-rule-1/documents/rg0601-pdf.pdf?la=en>

In accordance with §60.4202(a)(2), the emission standards must meet those established in 40 CFR 89.112 and 40 CFR 89.113.

Using the conversion factor of 1.341 hp per 1 kW, the rated power for the proposed 634 BHP engine in metric units becomes 473 kW.

Pursuant to 40 CFR 89.112, Tier 3 Interim engines with a rated power at or greater than 450 kW or less than 560 kW must meet the emission standards of Table 5.

<b>Table 5. Standards/Review for Engines with Rated Power <math>\geq</math> 450 kW and <math>&lt;</math> 560 kW</b>		
<b>Pollutant</b>	<b>NSPS Emission Standard (g/kW-hr)</b>	<b>EPA Certified Emission Rate (g/kW-hr)</b>
NO <sub>x</sub> + NMHC	4.0	0.10
CO	3.5	0.05
PM	0.20	0.02

Table 5 demonstrates that the engine will meet the emission standards of 40 CFR 89.112. In addition, the engine is expected to meet the opacity standards of Table 6, identified in 40 CFR 89.113.

<b>Table 6. 40 CFR 89.113 Opacity Standards</b>	
<b>Mode</b>	<b>Opacity (%)</b>
Acceleration	20
Lugging	15
Peak (During acceleration or lugging modes)	50

40 CFR §60.4207(b) requires diesel fuel consumed after October 1, 2010 to meet the requirements of 40 CFR 80.510(b), which is a maximum sulfur content of 15 parts per million (ppm). The fuel consumed is expected to meet this requirement.

40 CFR §60.4209(a) requires the installation of a non-resettable hour meter. This will be included as a permit requirement.

40 CFR §60.4211(a) requires the owner or operator to maintain and operate the engine according to the manufacturer’s written instructions or owner/operator developed procedures approved by the manufacturer for the entire life of the engine. The engine is expected to be maintained and operated in accordance with the requirements of §60.4206 and §60.4211(a).

The engine is certified to the requirements of 40 CFR Part 89 and expected to comply with §60.4211(c).

According to 40 CFR §60.4211(f), the engine will be allowed to operate unrestricted during emergencies. In addition, the engine will be limited to less than 50 hours per calendar year per engine for maintenance and testing.

**Regulation 11 – National Emission Standards for Hazardous Air Pollutants (NESHAP)**

Pursuant to §63.6585, engines located at an area source are subject to the requirements of 40 CFR Part 63 Subpart ZZZZ, *“National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.”* However, according to §63.6590(a)(1)(iii) & §63.6590(c)(1), diesel engines that commenced construction on June 12, 2006 or later and that operate at a facility that emits or has the potential to emit any single hazardous air pollutant (HAP) at a rate of less than 10 tons per year or any combination of HAPs



at a rate of less than 25 tons per year, must comply instead with 40 CFR Part 60 Subpart III, “Standards of Performance of Stationary Compression Ignition Internal Combustion Engines.” The engine is expected to meet the requirements of this subpart by meeting the standards of 40 CFR Part 60 Subpart III, “Standards of Performance of Stationary Compression Ignition Internal Combustion Engines.”

**Other Regulations**

The BAAQMD is charged with enforcing the requirements of California’s Air Toxic Control Measure for Stationary Compression Ignition Engines *Title 17, California Code of Regulations, Section 93115* for the purpose of reducing diesel particulate matter (PM) and criteria pollutant emissions from stationary diesel-fueled compression ignition (CI) engines.

**CARB Airborne Toxic Control Measure for Stationary Compression Ignition Engines:**

§93115.2 requires any person who purchases a stationary compression ignition engine to meet the requirements of the ATCM.

As of January 1, 2006, owners and operators of new engines are required to consume CARB diesel fuel in accordance with §93115.5.

According to §93115.6(a)(1), an engine located within 500 feet of school grounds shall not operate for non-emergency use between 7:30 A.M. and 3:30 P.M. on days when school is in session. However, it was determined that there is no school within 500 feet of the proposed engines.

Pursuant to §93115.6(a)(3), a new engine must meet the following requirements as of January 1, 2005.

- ATCM “Table 1 Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines” for same model year and maximum engine power, which is shown in Table 7.

Maximum Engine Power	Model Year	PM (g/kW-hr)	NMHC+NO <sub>x</sub> (g/kW-hr)	CO (g/kW-hr)
450 kW ≤ x < 560 kW	2008+	0.20	4.0	3.5

<sup>1</sup> <https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/finalreg2011.pdf>

- After December 31, 2008, be certified to the new non-road compression-ignition engine emission standard for all pollutants for 2007 and later model year engines as specified in 40 CFR, Part 60, Subpart III; and,
- Not operate more than 50 hours per year for maintenance and testing purposes, except as provided in §93115.6(a)(3)(A)(2). This regulation does not limit engine operation for emergency use and for emission testing to show compliance with §93115.6(a)(3).

The engine is expected to meet the aforementioned emission requirements and will be limited, through permit condition, to operate unrestricted only for emergencies and a maximum of 50 hours per year per engine for maintenance and testing purposes.

Pursuant to §93115.10(d) (1) a non-resettable hour meter with a minimum display capability of 9,999 hours shall be installed upon engine installation. The owner/operator of the engine shall

keep monthly records of the following for 36 months, with the prior 24 months readily accessible at the site and the prior 25 to 36 months available to the District within 5 working days from the request.

- Emergency use hours of operation;
- Maintenance and testing hours of operation;
- Hours of operation for emission testing to show compliance with §933115.6(a)(3) and §93115.6(b)(3);
- Initial start-up testing hours;
- Hours of operation for all uses other than those specified in §93115.10(g)(1)(A) through (D);
- The fuel used.

### **PERMIT CONDITIONS**

#### **Permit Condition #100072**

1. The owner or 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: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]
2. 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: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]
3. 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: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]
4. 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 or 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: Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]

### **Permit Condition #100073**

The owner/operator shall not exceed the following limits per year per engine for reliability-related activities:

50 Hours of Diesel fuel (Diesel fuel)

[Basis: Cumulative Increase; Regulation 2-5; Title 17, California Code of Regulations, section 93115, ATCM for Stationary CI Engines]

### **RECOMMENDATION**

The Air District has reviewed the material contained in the permit application for the proposed source and has determined that, with the imposition of the proposed permit conditions above, the source will be expected to comply with all applicable requirements of District, state, and federal air-quality-related regulations. The Air District will not take final action to issue the Authority to Construct until after the end of the public comment period and consideration of any public comments received.

**S-2 Emergency Standby Engine Generator Set: Diesel Engine; Make John Deere, Model 6135HFG06, Model Year 2022, Rated 634 bhp**

Prepared by: Sadegh Sadeghipour, Air Quality Engineer

Date: 9/20/2024.