ENGINEERING EVALUATION -Draft

Facility ID No. 18931
Verizon Wireless – ECR Trousdale
1801 Murchison Dr., Burlingame, CA 94010
Application No. 474348

Background

Verizon Wireless – ECR Trousdale is applying for an Authority to Construct/Permit to Operate for the following equipment:

S-2 Emergency Standby Diesel Generator Set
Make: Iveco/FPT, Model: F4GE9485A*J, Model Year: 2018
131 bhp, 0.94 MMBtu/hr
Permit Condition Nos. 100072 and 100073

The proposed project will remove S-1 and replace it with S-2.

The criteria pollutants are nitrogen oxides (NOx), carbon monoxide (CO), precursor organic compounds (POC) from unburned diesel fuel, sulfur dioxide (SO_2) and particulate matter (PM_{10}). All of these pollutants are briefly discussed on the District's web site at www.baaqmd.gov.

S-2 meets the Environmental Protection Agency and California Air Resources Board (EPA/CARB) Tier 3 Off-road standard. 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.

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

Emissions

Table 1. Annual and Daily Emissions from EPA/CARB Certified Data for S-2

Pollutant	Emission Factor[1] (g/bhp-hr)	Max Daily Emissions (lb/day)	Annual Emissions (lb/yr)	Annual Emissions (tons/yr)
NOx	2.70	18.7	39.0	0.019
POC	0.12	0.8	1.7	0.001
CO	0.60	4.2	8.7	0.004
PM_{10}	0.12	0.8	1.7	0.001
SO_2	N/A[2]	0.0	0.1	0.000

Basis:

- Annual emissions: Reliability-related activity 50 hours for S-2
- Max daily emissions: 24-hour operation
- [1]Emission factors provided the EPA, document "NRCI Certification Data (Model Years: 2011 – Present)" under engine family JFPXL06.7DGB
- [2]SO_2 emission factor from AP-42 Table 3.4-1, SO_2 (15 ppm) = 0.00809*0.0015 lb SO_2/bhp-hr

Cumulative Increase

Table 2 summarizes the cumulative increase in criteria pollutant emissions that will result from this application. This facility is currently operating a permitted source (S-1).

Table 2. Cumulative Emissions Increase, Post 4/5/91

Pollutant	Existing Emissions Post 4/5/91 (tons/yr)	Application Emissions (tons/yr)	Cumulative Emissions (tons/yr)
NOx	0.023	0.019	0.042
POC	0.001	0.001	0.002
CO	0.003	0.004	0.007
PM_{10}	0.000	0.001	0.001
SO_2	0.000	0.000	0.000

Health Risk Assessment (HRA)

At a maximum rate of 1.7 lbs/year, the diesel particulate emissions from the project are greater than the toxic trigger level of 0.26 lbs/year. All PM_{10} emissions are considered diesel particulate emissions. There were no other related projects permitted in the last three years.

Based on 50 hours/year of operation, this project passed the HRA conducted on 10/25/2018 by the District's Permitting, Title V & Toxics Section. Results from the HRA indicate that the maximum project cancer risk is estimated at 0.35 in a million and the maximum project chronic hazard index is estimated at 0.00027. In accordance with the District's Regulation 2, Rule 5, this source is incompliance with the TBACT and project risk requirements.

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, NOx, CO, SO_2, or PM_{10}.

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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 7. dated 12/22/2010. For NOx, CO, POC and PM_{10}, BACT(2) is the CARB ATCM standard for the respective pollutant at the applicable horsepower rating. For SO_2, BACT(2) is using fuel with sulfur content not to exceed 0.0015%, or 15 ppm. The more restrictive BACT(1) standards are not applicable to this engine because it will be limited to operation as an emergency standby engine.

S-2 satisfies the current BACT(2) standards for the following pollutants which exceed 10 lb/day in Table 1:

Pollutant	**Emission Factor**	**BACT(2) Standard**
NO_X	2.70 g/bhp-hr	2.85 g/bhp-hr

Offsets

Since the facility permitted levels are below the offset triggers levels specified in Regulation 2-2, offsets are not required.

Statement of Compliance

The owner/operator is expected to comply with all applicable requirements. Key requirements are listed below:

Airborne Toxic Control Measure for Stationary Compression Ignition Engines
ATCM, 5/19/2011, section 93115, title 17, CA Code of Regulations

District Rules
Regulation 6-1-303 (*Ringelmann No. 2 Limitation*)
Regulation 9-1-301 (*Limitations on Ground Level Concentrations of SO_2*)
Regulation 9-8 (*NOx and CO from Stationary Internal Combustion Engines*)
- Section 9-8-110.5 – Limited exemption for emergency standby engines
- Section 9-8-330 – Hours of operation for emergency standby engines
- Section 9-8-502 – Recordkeeping

California Environmental Quality Act (CEQA)
This project is ministerial under the District Regulation 2-1-311 (Permit Handbook Chapter 2.3), and is therefore not subject to CEQA review.

New Source Performance Standards (NSPS)
40 CFR 60, Subpart IIII (*Stationary Compression Ignition Internal Combustion Engines*)

National Emissions Standards for Hazardous Air Pollutants (NESHAP)

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40 CFR 63, Subpart ZZZZ (*Stationary Reciprocating Internal Combustion Engines (RICE)*)

Prevention of Significant Deterioration (PSD)
This application is not part of a PSD project as defined in Regulation 2-2.

School Notification (Regulation 2-1-412)

Because this equipment will be located within 1,000 feet of Mills High School and Spring Valley Elementary School, the project is subject to the public notification requirements of Regulation 2-1-412 due to the increase in emissions from the project. A public notice will be prepared and sent to all addresses within 1,000 feet of the engine, and to parents and guardians of students attending Mills High School and Spring Valley Elementary School.

Permit Conditions

Permit Condition #100072 for S-2

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.

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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]

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.

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Grounds" includes any building or structure, 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 for S-2

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].

End of Conditions

Recommendation

The District has reviewed the material contained in the permit application for the proposed project and has made a preliminary determination that the project is expected to comply with all applicable requirements of District, state, and federal air quality-related regulations. The preliminary recommendation is to issue an Authority to Construct/Permit to Operate for the equipment listed below. However, the proposed source will be located within 1,000 feet of a school, which triggers the public notification requirements of District Regulation 2-1-412. After the comments are received and reviewed, the District will make a final determination on the permit.

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Prepared by: Huiting Gao, Air Quality Engineer I

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