

**DRAFT- ENGINEERING EVALUATION**

**Facility ID No. 203843  
E&P Yamane  
201 Yamane Drive, Gilroy, CA 95020  
Application No. 721059**

**Background**

E&P Yamane is applying for an Authority to Construct for the following equipment:

**S-1 Emergency Standby Diesel Fire Pump (Direct-Drive)**

**Make: John Deere, Model: 4045HF280G**

**Year: 2024, 86 bhp, 4.5 gal/hr, 0.62 MMBtu/hr**

The criteria pollutants are nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), precursor organic compounds (POC) from unburned diesel fuel, sulfur dioxide (SO<sub>2</sub>) and particulate matter (PM<sub>10</sub>). All of these pollutants are briefly discussed on the Air District's website at [www.baaqmd.gov](http://www.baaqmd.gov).

S-1 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 project includes a direct drive John Deere engine, model 4045HF280G, that complies with National Fire Protection Association (NFPA) 20 (Standard for the Installation of Stationary Pumps for Fire Protection) and will comply with NFPA 25 (Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems), powered by a 125 bhp diesel engine. Diesel will be stored in a 119-gallon steel tank (105 usable gallons) with a double wall constructed and labeled in accordance with UL-142, which may be eligible for the exemption of Air District Regulation 2-1-123.1, provided a permit is not required per Section 2-1-319. However, the applicant confirmed via email on September 8, 2025, that they did not apply for a permit or a Certificate of Exemption for the diesel fuel tank. Therefore, the diesel fuel tank was not evaluated as part of this application. The applicant is aware that the burden of proof for demonstrating compliance with Section 2-1-123.1 and Section 2-1-319 rests with them per Section 2-1-502.

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

**Emissions**

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

<b>Pollutant</b>	<b>Emission Factor (g/bhp-hr)</b>	<b>Max Daily Emissions (lb/day)</b>	<b>Annual Emissions (lbs/yr)</b>	<b>Annual Emissions (tons/yr)</b>
NO <sub>x</sub>	3.06	13.9	20	0.010

Pollutant	Emission Factor (g/bhp-hr)	Max Daily Emissions (lb/day)	Annual Emissions (lbs/yr)	Annual Emissions (tons/yr)
POC	0.19	0.9	1	0.001
CO	0.45	2.0	3	0.001
PM <sub>10</sub> /PM <sub>2.5</sub> <sup>1</sup>	0.17	0.8	1	0.001
SO <sub>2</sub>	N/A <sup>2</sup>	0.0	0	0.000

**Basis:**

- Annual emissions: Reliability-related activity 34 hours.
- Max daily emissions: 24-hour operation
- EPA Engine Family RJDXL04.5141, but emissions are from Carryover EPA Engine Family CJDXL04.5141, for S-1
- <sup>1</sup> Conservative Assumption: All PM emissions are PM<sub>2.5</sub>
- <sup>2</sup> SO<sub>2</sub> emission factor from AP-42 Table 3.4-1, SO<sub>2</sub> (15 ppm) = 0.00809\*0.0015 lb SO<sub>2</sub>/bhp-hr
- Fuel Consumption 4.5 gallons per hour.

**Plant Cumulative Increase**

For emergency engines cumulative increase is calculated considering 34 hours of operation for maintenance and reliability per year for each engine pursuant to Air District Regulation 9-8-330.3.

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

Pollutant	Existing Emissions Post 4/5/91 (tons/yr)	Application Emissions (tons/yr)	Cumulative Emissions (tons/yr)
NO <sub>x</sub>	0.000	0.010	0.010
POC	0.000	0.001	0.001
CO	0.000	0.001	0.001
PM <sub>10</sub> /PM <sub>2.5</sub>	0.000	0.001	0.001
SO <sub>2</sub>	0.000	0.000	0.000

**Health Risk Assessment (HRA)**

All PM<sub>10</sub> emissions are considered diesel particulate emissions. The PM<sub>10</sub> emissions from this application are summarized in Table 1. There were no other related projects permitted in the last five years. Since the diesel particulate emissions from the project are greater than the toxic trigger level of 0.26 lb/year, a Health Risk Assessment is required. This application did not qualify for HRA streamlining.

**Health Risk Assessment (HRA) Results**

This analysis estimates the incremental health risk resulting from toxic air contaminant (TAC) emissions from non-emergency operation of a standby diesel engine at this facility. Results from this HRA indicate that the project cancer risk is estimated at 0.40 in a million, and the project chronic hazard index (HI) is estimated at 0.00031. In accordance with the Air 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 hazard index of 0.20.

Receptor	Cancer Risk (chances in a million)	Non-cancer Hazard Index
Resident	0.30	0.000080
Worker	0.40	0.00031

Best Available Control Technology for Toxics (TBACT)

In accordance with the Air District’s Regulation 2-5-301, S-1 does not require TBACT because the estimated source cancer risk is less than 1.0 in a million.

Project Risk Limits

Since the proposed engine, operating at 34 hours/year for reliability-related testing does not trigger TBACT, and the estimated project cancer risk does not exceed 10 in a million and the chronic hazard index does not exceed 1.0, this project complies with the Air District’s Regulation 2-5-302 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, NO<sub>x</sub>, CO, SO<sub>2</sub>, or PM<sub>10</sub>.

As shown in Table 1, NO<sub>x</sub> emissions exceed 10 pounds per day and thus trigger BACT requirements.

Per Section 2-2-202, BACT is defined as an emission limitation, control device, or control technique applied at a source that is the most stringent of:

- the most effective device or technique successfully utilized,
- the most stringent emission limitation achieved by an emission control device or technique for the type of equipment comprising such a source,
- the most effective emission control limitation for the type of equipment comprising such a source that is contained in an approved implementation plan of any state, or
- the most effective control device or technique or most stringent emission limitation that is technologically feasible, taking into consideration cost-effectiveness, any ancillary health and environmental impacts, and energy requirements.

These requirements are generally categorized as either technologically feasible and cost-effective (termed “BACT 1”) or achieved-in-practice (termed “BACT 2”). BACT 2 is either equal to or less stringent than BACT 1. Because achieved-in-practice is required regardless of cost and BACT 1 is more stringent than BACT 2, an evaluation for what has been achieved-in-practice is first conducted.

*Technologically Feasible and Cost-Effective.*

The following control technologies and mitigation measures have been found technically feasible for abating NO<sub>x</sub> emissions from internal combustion engines<sup>1</sup>:

- Engine ignition timing retard (achievable NO<sub>x</sub> reduction 20 to 30 percent), and
- Selective catalytic reduction (achievable NO<sub>x</sub> reduction of 90 percent)

Although Regulation 2-2 does not include a definition for cost-effectiveness, Section 2-2-414 requires the Air District to publish and periodically update a BACT Workbook, and that BACT will be determined using the workbook as a guidance document.

Section 1 of the BACT Workbook includes a maximum cost guideline for NO<sub>x</sub> emissions of \$17,500 per ton of emissions reduced.

Using these maximum cost-effectiveness values and assuming that 90 percent of the emissions in Table 1 could be abated, maximum annualized costs for NO<sub>x</sub> controls could not exceed \$156 to be deemed cost-effective.

All NO<sub>x</sub> controls are expected to exceed maximum annualized costs. Therefore, requiring more stringent controls than meeting achieved-in-practice requirements is deemed not cost-effective.

*Achieved-in-Practice.*

In Application No. 727145, Appendix A (approved in June 2025), Achieved in Practice BACT for direct-drive diesel-powered fire pumps was determined to be in compliance with the EPA Tier 3 emissions standard for NO<sub>x</sub> for the respective horsepower range.

Rather than individual NO<sub>x</sub> emission limits, the EPA Tier 3 emissions standards list combined NO<sub>x</sub> and Non-Methane Hydrocarbon (NMHC) limits for different horsepower ranges. The EPA Tier 3 standard for the 37 ≤ kW < 75 (50 ≤ hp < 100) range (the applicable range to S-1) is 3.5 g/bhp-hour for NO<sub>x</sub> + NMHC.

The EPA Tier standard is expressed as NMHC+NO<sub>x</sub> (3.5 g/bhp-hr). NO<sub>x</sub> is estimated to be 95% of the combined standard (3.5 × 0.95 = 3.3 g/bhp-hr).

Consequently, S-1 is expected to comply with the following Achieved in Practice BACT:

S-1	<b>Pollutant</b> *NO <sub>x</sub>	<b>Emission Factor</b> 3.06 g/bhp-hr	<b>BACT (2) Standard</b> 3.33 g/bhp-hr
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**Offsets**

Offset must be provided for any new or modified source at a facility that will have the potential to emit more than 10 tons per year of NO<sub>x</sub> or POC, as specified in Regulation 2-2-302; 100 tons per year or more of PM<sub>2.5</sub>, PM<sub>10</sub> or sulfur dioxide, as specified in Regulation 2-2-303.

Per Air District Regulation 9-8-330.1 emergency operation for diesel engines is not limited, therefore, 100 hours is a reasonable worst-case assumption of the longest a facility may need to operate on backup power in any given year in the event of a major power outage. This presumption of 100 hours per year of emergency operation is consistent with EPA's approach to calculating the Potential to Emit (PTE) of such engines.

**Table 3. Potential to Emit for FID 203843**

<b>Pollutant</b>	<b>Existing Annual Emissions (TPY)</b>	<b>Application Annual Emissions* (TPY)</b>	<b>PTE (TPY)</b>	<b>Offset Limit (TPY)</b>	<b>Offset Required</b>
NO <sub>x</sub>	0.000	0.039	0.039	>10	No
POC	0.000	0.002	0.002	>10	No
CO	0.000	0.006	0.006	N/A	N/A
PM <sub>10</sub> /PM <sub>2.5</sub> <sup>1</sup>	0.000	0.002	0.002	≥100	No

Pollutant	Existing Annual Emissions (TPY)	Application Annual Emissions* (TPY)	PTE (TPY)	Offset Limit (TPY)	Offset Required
SO <sub>2</sub>	0.000	0.000	0.000	≥100	No

Since the facility's potential to emit is below the offsets trigger 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

**Air District Rules**

Regulation 6-1-303 (*Ringelmann No. 2 Limitation*)  
 Regulation 6-1-310 (*Total Suspended Particulate (TSP)*)

Section 6-1-310 (Total Suspended Particulate (TSP))

Concentration Limits:

Section 6-1-310.1 No person shall emit TSP from any source in excess of 343 mg per dscm [0.15 grains per dry, standard cubic foot (dscf)] of exhaust gas volume.

Section 6-1-310.2 Effective July 1, 2020, Table 6-1-310.2 emission limits shall apply to any source with a Potential to Emit TSP (as defined in Regulation 2-1-217) greater than 1,000 kg per year. No applicable source shall emit TSP at a concentration in excess of the limit indicated for the source's Exhaust Gas Rate in Table 6-1-310.2.

The engine emits 2 kg/yr. Therefore, only section 6-1-310.1 applies to this project.

TSP Concentration can be calculated using the formula below:

$$\frac{\left( \text{Engine PM}_{10} \text{ Hourly Emissions} \left( \frac{\text{gr}}{\text{hr}} \right) \right)}{\text{Dry Engine Maximum Exhaust Flow Rate} \left( \frac{\text{dscf}}{\text{hr}} \right)} = \text{TSP Concentration} \left( \frac{\text{gr}}{\text{dscf}} \right)$$

Engine Maximum Exhaust Flow Rate: 461 acfm =9569 dscf/hr

Engine Maximum Exhaust Temperature: 927 °F

Water (H<sub>2</sub>O) Content (%): 12.5%

PM<sub>10</sub> abatement for Engine: Not Applicable

Engine PM<sub>10</sub> emissions: 888.4 gr/hour

TSP Concentration for Engine:

0.09 gr/dscf

The TSP Concentration is below the allowable limit of 0.15 gr/dscf for the only source in the project.

Regulation 9-1-301 (*Limitations on Ground Level Concentrations of SO<sub>2</sub>*)

Regulation 9-8 (*NO<sub>x</sub> 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)**

The City of Gilroy (City) is the lead agency under CEQA and issued a Notice of Exemption on October 10, 2023, for the Yamane Warehouse Project (201 and 221 Yamane Drive, Gilroy, CA 95020).

The City has determined that this project is exempt from CEQA under CEQA Guidelines Section 15268 and Section 15183 as described below.

On June 25, 2020, the City of Gilroy approved the Gilroy 2040 General Plan EIR (State Clearinghouse No. 2015082014). The 2035 General Plan is the City's primary land-use regulatory tool, guiding land development and conservation through 2035 and containing policies for locating and designing new development, improving the local economy, conserving resources, enhancing public services and safety, among other objectives.

The City of Gilroy based this decision on CEQA Guidelines Section 15168, which states that no additional environmental document is required if the lead agency finds a later activity to be within the scope of the Program EIR (Gilroy 2040 General Plan EIR).

Separately and independently from the streamlining procedure in Section 15168, CEQA Guidelines Section 15183 mandates that projects that are consistent with the development density established by existing zoning, community plan or general plan policies for which a Final EIR was certified (in this case, the Gilroy 2040 General Plan EIR) shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site.

The City's above evaluation concludes that the proposed project is consistent with the development density established in the General Plan and is within the scope of the General Plan and the General Plan EIR, and that no further CEQA documentation is required under both Section 15168 and 15183, separately and independently. The City determined that further environmental analysis of the proposed project is not required.

The project applicant, E&P Properties proposed to demolish and remove the two existing, vacant industrial buildings, as well as some on-site utility infrastructure, and project fencing and construct an approximately 163,400-square-foot large-scale warehouse/distribution building. The building would be 40 feet in height; allowable

building height per zoning is 35 feet. The proposed project would also develop approximately 140 parking stalls, approximately 37 trailer parking stalls, and approximately 20 truck docks. Two points of access would be provided along the eastern side of the parcel. So, the City's CEQA review covered the Yamane Warehouse Project. This would establish the CEQA baseline for the facility.

The Air District has reviewed and considered the City's determination and has determined that this permit application is categorically exempt from the California Environmental Quality Act (CEQA). CEQA Guidelines, Section 15301 exempts projects that involve negligible or no expansion of use. The emergency diesel fire pump will not expand the facility's normal operation and will result in no increase or only a negligible increase in use of the facility. Further, based on the review of the permit application materials, including Appendix H, environmental information form, the project will not have any significant environmental impacts, and cumulative impacts from successive projects of the same type in the same place will not result in significant environmental impacts.

**New Source Performance Standards (NSPS)**

40 CFR 60, Subpart IIII (*Stationary Compression Ignition Internal Combustion Engines*)

**National Emissions Standards for Hazardous Air Pollutants (NESHAP)**

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

**Prevention of Significant Deterioration (PSD)**

This application is not part of a PSD project as defined in Regulation 2-2.

**California Health & Safety Code §42301.6 and Regulation 2-1-412 (Public Notice, Schools & Overburdened Communities (OBC))**

Prior to approving an application for an authority to construct or permit to operate, a public notice, fully describing the potential emissions, shall be prepared for the following cases:

- (i) A new or modified source located within 1000 feet of the outer boundary of a K-12 school site and which results in the increase in emissions of any substance into the ambient air which has been identified by the California Air Resources Board or the APCO as a toxic air contaminant or a hazardous air contaminant or which is on the list required to be prepared pursuant to subdivision (a) of Section 25532 or Section 44321 subsections(a) to (f) inclusive of the Health and Safety Code.
- (ii) A new or modified source is located within an OBC as defined in Section 2-1-243 and for which a Health Risk Assessment is required pursuant to Section 2-5-401

For this project, the proposed source is not located within 1,000 feet of any K-12 school with more than 12 students. However, because the source is located within an Overburdened Community and required a Health Risk Assessment, it meets the criteria outlined in item (ii) above. Therefore, a Public Notice is required.

## **Permit Conditions**

### **Permit Condition #100072 for S-1**

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 for S-1**

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

- 34 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]

### **Permit Condition #100076 for S-1**

The owner/operator shall operate this emergency standby engine only when directly coupled to pump(s) exclusively used in water-based fire protection system(s).

*End of Conditions*

### **Recommendation**

The Air 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 Air District, State, and Federal air quality-related regulations. The preliminary recommendation is to issue an Authority to Construct for the equipment listed below. However, because the proposed source is located within an Overburdened Community, it is subject to a Health Risk Assessment, which in turn triggers the public notification requirements of Regulation 2-1-412. Once public comments are received and reviewed, the Air District will make a final determination on the permit.

I recommend that the Air District initiate a public notice and consider any comments received prior to taking final action on the issuance of an Authority to Construct and/or a Permit to Operate for the following equipment:

#### **S-1 Emergency Standby Diesel Fire Pump (Direct-Drive)**

**Make: John Deere, Model: 4045HF280G**

**Year: 2024, 86 bhp, 4.5 gal/hr, 0.62 MMBtu/hr**

**Condition No. 100072, 100073 and 100076**

Prepared by: Isis Virrueta,  
Air Quality Engineer II  
December 2025

**Attachment 1**

**Table taken from Appendix A, [Application No. 727145](#).**

**Table A-7. Most Stringent Achieved-In-Practice Determinations for Emergency Diesel Engines for Direct Drive Fire Pumps**

<b>Pollutant</b>	<b>Achieved-in-Practice Emission Limit (g/hp-hr)</b>	<b>Typical Technology</b>	<b>Source</b>														
NMHC+NO <sub>x</sub>	3.0 <sup>1</sup>	EPA/CARB Tier 3 non-road diesel engine emission standards for engines at the specified power output (hp) <sup>1</sup>	BAAQMD														
<p><b>Notes:</b></p> <p>1) The standard is expressed as NMHC+NO<sub>x</sub> (3.0 g/bhp-hr). NO<sub>x</sub> is estimated to be 95% of the combined standard (2.85 g/bhp-hr)</p> <p>2) EPA Tier 3 nonroad diesel engine emission standards, g/kWh (g/bhp-hr)</p> <table border="0"> <thead> <tr> <th><b>Engine Power</b></th> <th><b>NMHC+NO<sub>x</sub></b></th> </tr> </thead> <tbody> <tr> <td><b>37 ≤ kW &lt; 75 (50 ≤ hp &lt; 100)</b></td> <td><b>4.7 (3.5)</b></td> </tr> <tr> <td>75 ≤ kW &lt; 130 (100 ≤ hp &lt; 175)</td> <td>4.0 (3.0)</td> </tr> <tr> <td>130 ≤ kW &lt; 225 (175 ≤ hp &lt; 300)</td> <td>4.0 (3.0)</td> </tr> <tr> <td>225 ≤ kW &lt; 450 (300 ≤ hp &lt; 600)</td> <td>4.0 (3.0)</td> </tr> <tr> <td>450 ≤ kW &lt; 560 (600 ≤ hp &lt; 750)</td> <td>4.0 (3.0)</td> </tr> <tr> <td>kW ≥ 560 (hp ≥ 750)</td> <td>4.0 (3.0)</td> </tr> </tbody> </table>				<b>Engine Power</b>	<b>NMHC+NO<sub>x</sub></b>	<b>37 ≤ kW &lt; 75 (50 ≤ hp &lt; 100)</b>	<b>4.7 (3.5)</b>	75 ≤ kW < 130 (100 ≤ hp < 175)	4.0 (3.0)	130 ≤ kW < 225 (175 ≤ hp < 300)	4.0 (3.0)	225 ≤ kW < 450 (300 ≤ hp < 600)	4.0 (3.0)	450 ≤ kW < 560 (600 ≤ hp < 750)	4.0 (3.0)	kW ≥ 560 (hp ≥ 750)	4.0 (3.0)
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