



# **CLARIFICATION OF PERMIT REQUIREMENTS FOR STATIONARY NON-AGRICULTURAL DIESEL ENGINES SERVING ELECTRICAL GENERATORS, COMPRESSORS, WATER PUMPS & DIRECT-DRIVE FIRE PUMPS**

## **Equipment Applicability**

This advisory contains clarifications of the permit requirements for diesel internal combustion (IC) engines serving generators, compressors and water pumps to be operated within the Monterey, Santa Cruz and San Benito Counties.

For information on registering diesel engines utilized in agricultural operations, click [here](#).

## **Definition of Emergency Diesel Engines Serving Generators & Water Pumps**

Standby engines are defined as emergency when serving electrical generators and water pumps only when used in the event that normal utility powerline service fails or in the event of an involuntary power interruption or unforeseen disruption in utility service planned by the local utility. The engines have limits on the number of hours the units are allowed to operate for maintenance & testing purposes. The hour limits are based on the engine's emissions profile and are imposed by the California Code of Regulations Title 17 Section 93115 – Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines, and as outlined in District Rule 1010, *ATCM for Stationary Compression Ignition Engines*.

## **Definition of Emergency Diesel Engines Serving Direct-Drive Fire Pumps**

Direct-drive standby fire pump engines are defined as emergency when exclusively used in water-based fire protection systems. The engines have limits on the number of hours necessary to comply with the testing requirements of National Fire Protection (NFPA) 25, *Standards for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*.

## **Permit Requirements**

Any diesel engine with a rating of 50 horsepower (Hp) or greater requires a District Permit (emergency and non-emergency). Portable engines that are registered under California Code of Regulations Title 13, Article 5, Sections 2450 through 2465 (Portable Equipment Registration Program - PERP) may be exempt from District permits unless the engine is used with stationary equipment that requires a District permit, remains at one location for more than one year, or does not meet the requirements specified in the District [PERP Eligibility Policy at Stationary Sources](#).

## **Engine Requirements**

Emergency-Standby Engines:

All new emergency-use engines shall be a certified engine that emits diesel PM at a rate less than or equal to 0.15 g/bhp-hr. In addition, engines rated  $50 \leq \text{HP} < 750$  must be certified to meet the CARB or EPA Off-Road Tier 3 standards for NMHC + NO<sub>x</sub>, and CO, and engines rated  $\geq 750$  HP must be certified to meet the CARB or EPA Tier 2 standards for NMHC + NO<sub>x</sub>, and CO.

**Direct-Drive Emergency-Standby Fire Pump Engines:**

New direct-drive emergency-standby fire pump engines rated  $50 \leq \text{HP} < 100$  shall be a certified engine that emits diesel PM at a rate less than or equal to 0.30 g/bhp-hr. New emergency-use engines rated  $100 \leq \text{HP} < 175$  shall be a certified engine that emits diesel PM at a rate less than or equal to 0.22 g/bhp-hr. New emergency-use engines rated  $\geq 175$  HP shall be a certified engine that emits diesel PM at a rate less than or equal to 0.15 g/bhp-hr. In addition, engines rated  $50 \leq \text{HP} < 750$  must be certified to meet the CARB or EPA Off-Road Tier 3 standards for NMHC + NO<sub>x</sub>, and CO, and engines rated  $\geq 750$  HP must be certified to meet the CARB or EPA Tier 2 standards for NMHC + NO<sub>x</sub>, and CO.

**Prime-Use Engines:**

All new prime-use engines must meet the Tier 4 emission standards by one of the following two options:

Option 1 - Engine must be certified to the CARB or EPA Off-Road Tier 4 standards; or

Option 2 - Engine must be certified to the CARB or EPA Tier 2 or Tier 3 Off-Road standards, meeting 0.15 g PM/bhp-hr equipped with a CARB Level 3 Verified Diesel Emission Control Technology, and meeting Tier 4 emission standards for NO<sub>x</sub>, CO, and VOC with a CARB approved emission control technology. Source testing will be required for engines meeting standards via option 2.

**Best Available Control Technology (BACT)**

The District’s rules require that we calculate emissions in two ways: (1) each piece of equipment subject to permitting and (2) the entire facility, to determine whether Best Available Control Technology (BACT) is required. For example, each engine with a potential to emit of 25 lbs/day or greater of oxides of nitrogen (NO<sub>x</sub>), or Volatile Organic Compounds (VOC) is subject to BACT. Also, if the total emissions from all permit units at a stationary source has a potential to emit of 150 lbs/day or greater of NO<sub>x</sub>, then the source is subject to the BACT requirements. A complete list of stationary source BACT thresholds can be found in Table 4.1.1 of District Rule 207, Review of New or Modified Sources, <https://www.arb.ca.gov/drdb/mbu/curhtml/R207.PDF>.

The District has set BACT requirements for the following IC engine applications: a) Stationary – Emergency engines, b) Stationary – Emergency Direct-Drive Fire Pump Engines, and c) Stationary – Non-emergency engines. The BACT emission standards for each category are provided in the following Tables 1 - 3.

**Table 1. BACT GUIDELINES FOR STATIONARY, EMERGENCY ENGINES.**

Engine Rating/Size	PM	NO <sub>x</sub> + NMHC	CO
$50 \leq \text{HP} < 100$	0.15 g/bhp-hr, or 0.20 g/kW-hr	3.5 g/bhp-hr, or 4.7 g/kW-hr	3.7 g/bph-hr, or 5.0 g/kW-hr
$100 \leq \text{HP} < 175$	0.15 g/bhp-hr, or 0.20 g/kW-hr	3.0 g/bhp-hr, or 4.0 g/kW-hr	3.7 g/bph-hr, or 5.0 g/kW-hr
$175 \leq \text{HP} < 750$	0.15 g/bhp-hr, or 0.20 g/kW-hr	3.0 g/bhp-hr, or 4.0 g/kW-hr	2.6 g/bph-hr, or 3.5 g/kW-hr
$\geq 750$	0.15 g/bhp-hr, or 0.20 g/kW-hr	4.8 g/bhp-hr, or 6.4 g/kW-hr	2.6 g/bph-hr, or 3.5 g/kW-hr

**Table 2. BACT GUIDELINES FOR STATIONARY, EMERGENCY DIRECT-DRIVE FIRE PUMP ENGINES.**

Engine Rating/Size	PM	NO <sub>x</sub> + NMHC	CO
50 ≤ HP < 100	0.30 g/bhp-hr, or 0.40 g/kW-hr	3.5 g/bhp-hr, or 4.7 g/kW-hr	3.7 g/bph-hr, or 5.0 g/kW-hr
100 ≤ HP < 175	0.22 g/bhp-hr, or 0.30 g/kW-hr	3.0 g/bhp-hr, or 4.0 g/kW-hr	3.7 g/bph-hr, or 5.0 g/kW-hr
175 ≤ HP < 750	0.15 g/bhp-hr, or 0.20 g/kW-hr	3.0 g/bhp-hr, or 4.0 g/kW-hr	2.6 g/bph-hr, or 3.5 g/kW-hr
≥750	0.15 g/bhp-hr, or 0.20 g/kW-hr	4.8 g/bhp-hr, or 6.4 g/kW-hr	2.6 g/bph-hr, or 3.5 g/kW-hr

**Table 3. BACT GUIDELINES FOR STATIONARY, NON-EMERGENCY ENGINES.**

Engine Rating/Size	PM	NO <sub>x</sub>	NO <sub>x</sub> + NMHC	NMHC	CO
50 ≤ HP < 75	0.02 g/bhp-hr, 0.03 g/kW-hr		3.5 g/bhp-hr, 4.7 g/kW-hr		3.7 g/bhp-hr, 5.0 g/kW-hr
75 ≤ HP < 100	0.01 g/bhp-hr, 0.02 g/kW-hr	0.30 g/bhp-hr, 0.40 g/kW-hr		0.14 g/bhp-hr, 0.19 g/kW-hr	3.7 g/bhp-hr, 5.0 g/kW-hr
100 ≤ HP < 175	0.01 g/bhp-hr, 0.02 g/kW-hr	0.30 g/bhp-hr, 0.40 g/kW-hr		0.14 g/bhp-hr, 0.19 g/kW-hr	3.7 g/bhp-hr, 5.0 g/kW-hr
175 ≤ HP < 750	0.01 g/bhp-hr, 0.02 g/kW-hr	0.30 g/bhp-hr, 0.40 g/kW-hr		0.14 g/bhp-hr, 0.19 g/kW-hr	2.6 g/bhp-hr, 3.5 g/kW-hr
HP ≥750 Non-Generators	0.03 g/bhp-hr 0.04 g/kW-hr	2.6 g/bph-hr, 3.5 g/kW-hr		0.14 g/bhp-hr, 0.19 g/kW-hr	2.6 g/bhp-hr, 3.5 g/kW-hr
750 < HP ≤ 1,207 Generators	0.02 g/bhp-hr, 0.03 g/kW-hr	0.50 g/bhp-hr, 0.67 g/kW-hr		0.14 g/bhp-hr, 0.19 g/kW-hr	2.6 g/bhp-hr, 3.5 g/kW-hr
HP > 1,207 Generators	0.02 g/bhp-hr, 0.03 g/kW-hr	0.50 g/bhp-hr, 0.67 g/kW-hr		0.14 g/bhp-hr, 0.19 g/kW-hr	2.6 g/bhp-hr, 3.5 g/kW-hr

BACT for SO<sub>x</sub> for all categories is the exclusive use of CARB diesel fuel.

**Offsets**

Stationary sources may also be subject to District offset requirements. Offsets are an emissions reduction necessary to mitigate an emissions increase of an affected pollutant and are required from a new or modified stationary source that has the potential to emit greater than or equal to the 137 lbs/day of NO<sub>x</sub> or VOCs. A stationary source may be exempt from offsets if the facility’s actual emissions are less 10 tons/year. Emergency engines are exempt from the offsetting requirements.

**Federal Standards for Stationary Reciprocating Internal Combustion Engines**

In addition to the above requirements, facilities must also comply with the USEPA’s requirements for compression ignition internal combustion engines (RICE). The District implements and enforces these Federal rules in conjunction with other State and local regulations. The Federal rules that apply to new compression ignition engines include:

- New Source Performance Standards (NSPS). Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion (IC) Engines, NSPS - Subpart IIII.

**Additional Information**

Should you have any questions regarding the permit applicability for your engine-driven generators, compressors and water pumps, please contact the District's Engineering Division at (831) 647-9411. The Engineering Division can also provide you with permit application forms and permit application fee sheets to commence the permitting process for your proposed facility.

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