

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Best Available Control Technology (BACT) Guideline

Source Category

Source:	IC Engine - Compression Ignition: Stationary Emergency, non-Agricultural, non-direct drive fire pump	Revision:	9
		Document #:	96.1.3
Class:	> 50 BHP and < 1000 BHP Output	Date:	12/02/2024

Determination

Pollutant	BACT 1. Technologically Feasible/Cost Effective 2. Achieved in Practice 3. TBACT	TYPICAL TECHNOLOGY
POC	1. n/s ^(a) 2. U.S. EPA Final Tier 4 standard ^(b) for POC at applicable horsepower rating (see attached Table 1)	1. n/s ^(a) 2. Any engine certified or verified to achieve the applicable Tier 4 Final standard for POC
NOx	1. n/s ^(a) 2. U.S. EPA Final Tier 4 standard ^(b) for NO ^x at applicable horsepower rating (see attached Table 1)	1. n/s ^(a) 2. Any engine certified or verified to achieve the applicable Tier 4 Final standard for NO ^x
SO₂	1. n/s ^(a) 2. Fuel sulfur content not to exceed 0.0015% (wt) or 15 ppm (wt)	1. n/s ^(a) 2. CARB Diesel Fuel (Ultra Low Sulfur Diesel)
CO	1. n/s ^(a) 2. U.S. EPA Final Tier 4 standard for CO at applicable horsepower rating (see attached Table 1)	1. n/s ^(a) 2. Any engine certified or verified to achieve the applicable Tier 4 Final standard for CO
PM₁₀	1. n/s ^(a) 2. U.S. EPA Final Tier 4 standard for PM ^(c) at applicable horsepower rating (see attached Table 1) 3. U.S. EPA Final Tier 4 standard for PM ^(c) at applicable horsepower rating (see attached Table 1)	1. n/s ^(a) 2. Any engine certified or verified to achieve the applicable Tier 4 Final standard for PM 3. Any engine or technology demonstrated, certified, or verified to achieve the applicable standard.
PM_{2.5}	1. n/s ^(a) 2. Same as PM ₁₀	1. n/s ^(a) 2. Same as for PM ₁₀
NPOC	1. n/s ^(a) 2. n/s	1. n/s ^(a) 2. n/s

References

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| a. | Cost effectiveness analysis must be based on the lesser of reliability-related testing allowed per Regulation 9, Rule 8 (either 100 hours per year if facility is an essential public service as defined in Regulation 9, Rule 8 or 50 hours per year, otherwise) or as limited by an Air District health risk assessment. |
| b. | Where a standard is combined for non-methane hydrocarbon (NMHC) and NO _x (with no individual standards for NMHC or NO _x), the portions may be considered 5% NMHC and 95% NO _x . For the purposes of determining BACT NMHC = POC. Any engine which has been certified or demonstrated to meet the Tier 4 Final standard may be considered compliant with the certified emission standard for that pollutant. |
| c. | As measured by United States EPA Method 5 (filterable portion only). |

Table 1. Achieved-in-Practice BACT Emission Limits Based on U.S. EPA Final Tier 4 Standards

Maximum Engine Power	Emission Limits (g/bhp-hour)			
	NMHC ⁽¹⁾	NO _x	CO	PM ⁽²⁾
50 ≤ HP < 75	3.5		3.7	0.022
75 ≤ HP < 100	0.14	0.29	3.7	0.015
100 ≤ HP < 175	0.14	0.29	2.6	0.015
175 ≤ HP < 300	0.14	0.29	2.6	0.015
300 ≤ HP < 600	0.14	0.29	2.6	0.015
600 ≤ HP ≤ 750	0.14	0.29	2.6	0.015
750 < HP < 1000	0.14	0.49	2.6	0.022

Notes:

1. Non-methane hydrocarbons
2. As measured by United States EPA Method 5 (filterable portion only)