

EMA Initiative to Streamline Permitting for NSPS-Certified¹ Stationary Engines: An Effective Method for Control, Assured Compliance and Cost-Effective Emissions Management

Objectives:

- Harmonize and streamline the state and local permit-approval process for NSPS-certified engines.
- Provide a basis for various state and local air quality management districts (AQMDs) to accept NSPS-certified engines without additional emissions testing as a condition to permitting.

Background:

The United States Environmental Protection Agency (EPA) New Source Performance Standards (NSPS) for stationary engines² established the first U.S. standards applicable to stationary engines. Those standards apply to a large population of stationary engines used in a broad array of applications across the United States.

Recognizing that the NSPS regulation would impact very large numbers of operators that had never been subject to EPA air quality regulations or compliance requirements, and that the costs for operators to perform emissions tests to demonstrate compliance with the new standards could be prohibitive, EPA worked with engine manufacturers to implement a manufacturer engine testing and certification program to ensure that all new compression-ignition and select spark-ignition engines¹ sold or purchased in the United States would meet the new NSPS emission standards over the engines' useful life.

EPA placed primary responsibility for compliance with the standards on the certified engine manufacturer – and not the end-user or operator – by implementing an engine certification process that has worked successfully for engines used in mobile sources for many decades. Manufacturer-certified engines provide an effective method of emissions control, ensure that emissions meet applicable standards, and remove the burden and high costs of on-site performance testing from both end-users and the states.

States have the authority to regulate emissions levels at or below NSPS levels. However, many states are not taking full advantage of the substantial benefits of the EPA-certified stationary engine program. State regulations may require owners of stationary engines to meet additional permit requirements or to complete initial and frequent on-site emissions performance tests. Such practices are inconsistent with the intent of EPA's NSPS engine certification program, and burden owners and operators with high costs for on-site emissions testing.

EMA Recommendations:

EPA should offer written guidance and support for the following principles through EPA regional offices and other state and local authorities as appropriate. More specifically, in order to realize the full emissions and economic benefits of the NSPS approach to emissions reductions, EPA should recommend that state and local air regulatory agencies implement the following programs and policies:

1. Wherever possible, harmonize any state-specific emissions limits for stationary engines with the NSPS limits.
2. Wherever possible, SI and CI NSPS-manufacturer certified emergency (CI Tier 2/Tier 3) and non-emergency (CI Tier 4) products should be considered BACT for PSD (attainment areas) and LAER for NSR (non-attainment areas) permits.
3. Minimize and streamline permit requirements for sources using NSPS-certified engines.
4. Eliminate source testing of stationary engines that are NSPS-certified, instead utilizing manufacturer-supplied data (see Attachment 1) to estimate annual emissions (tons/year).
5. Accept owner/operator maintenance records as a demonstration of compliance.
6. Include a force majeure provision in State operating permits.

¹ Compression Ignition Engines \geq 30 liters/cylinder are not required to be certified by the manufacturer and SI owner operator site performance tested engines are not included in this initiative.

² US EPA 2006. New Source Performance Standards for Compression Ignition Engines. 40 CFR 60, Subpart IIII
US EPA 2009. New Source Performance Standards for Spark-Ignited Engines. 40 CFR 60, Subpart JJJJ.

Attachment I

Manufacturer Certified Engine Emissions Report

1. EPA cycle-weighted emission standard (g/kW-hr): **[Insert applicable standards]**
2. Manufacturer's certified cycle-weighted emission results (g/kW-hr): **[Insert mfr. cycle weighted results]**

Table 1: Permit Value (PV), in lb/hr, at 100% engine load and rpm, for calculating "Potential to Emit"

Permit Value (PV) (lb/hr)- Used to Calculate Potential to Emit (PTE) = lb/hr*engine hrs/year/2000= tons/year															
Load (%)	Units	NMHC	NMNEHC	VOC	CH ₂ O	NO _x (as NO ₂)	NO ₂	PM _{2.5}	NH ₃	CO	CO ₂	CH ₄	N ₂ O	SO ₂	O ₂ (%)
100	lb/hr														

Notes:

1. PV-The reported Permit Value (PV) emissions levels represent the certified engine's potential to emit at the 100% engine load factor required for permitting. These emission values do not align with the reported certification cycle-weighted emission test values because the certification test utilizes different load factors (e.g., 25, 50, 75, 100%) and different percentage weightings for those load factors to yield a cycle-weighted emissions value (g/kW-hr) that is different from the engine's maximum potential to emit.
2. PV emissions data are reported at ambient conditions of mfr. reference conditions.
3. NSPS-certified engines do not produce coarse particles (PM_{2.5} to PM₁₀) and all PM emissions should be deemed PM_{2.5}.
4. Certified engine emissions are measured using 40 CFR part 1065 methods.
5. Reported certified engine permit values (PVs) or site performance test values should not be used to set BACT. BACT should remain the NSPS limit values.
6. Emissions parameters are reported, as applicable, pursuant to the relevant regulations for SI and CI engines.