



Understanding RICE Regulations

Due to their combustion exhaust gas containing criteria and hazardous air pollutants (HAPs), Reciprocating Internal Combustion Engines (RICE) are subject to two Federal Regulations depending on the type and date of engine construction: New Source Performance Standards (NSPS) for stationary Compression Engines (CI) and Spark Ignition (SI) Engines and National Emission Standards for Hazardous Air Pollutants (NESHAP) for stationary RICE. The primary difference between NSPS and NESHAP RICE regulations are the pollutants covered. NESHAP regulates HAP emissions at both major and area sources of these pollutants and encompasses all engine sizes, both new and existing. NSPS RICE standards regulate new, modified, and reconstructed criteria pollutant sources. Some engines will be subject to both the NESHAP and NSPS rules depending on the date of construction. The EPA has worked to harmonize NSPS and NESHAP RICE regulations. The best way to understand and comply with RICE regulations is to know the type of engine (CI or SI), size, and date of construction.

What Qualifies a RICE as Mobile vs. Stationary?

A mobile RICE is used in road vehicles or nonroad mobile applications, such as a bulldozer, while a stationary RICE remains in a fixed location. Some engines may be difficult to categorize such as one mounted onto a mobile platform. Such an engine would be considered a mobile RICE unless it remained in a single location for a full year or season after which time it would be considered a stationary RICE. RICE regulations only apply to stationary engines.

Major vs Area Source?

The applicability of RICE regulations are dependent on whether the facility is classified as a major or area source under the NSPS or NESHAP. For example, a major source under NESHAP regulations is an entity that has the potential to emit greater than 10 tons/year of any single HAP or 25 tons/year of any combined HAPs. If the potential emission values are less than these values, the entity is considered an area source. It is important to note that the potential maximum emission values for RICE are based on physical and operation design and are calculated from engine manufacturer data, typically based on engine class testing, or if this data is not available, emissions factors such as found in EPA's AP-42 Compilation of Emission Factors. They may not be the actual individual engine emission values determined from testing (which can vary as much as 17%). Restricting engine use time (resulting in lower emissions) may be used in order to change classification from a major to area source.

New vs Existing?

Whether a RICE is classified as new or existing is reliant on the date that the engine was installed or later reconstructed. Under the NESHAP, an engine greater than 500 horsepower and located within a major source is considered an existing RICE if it was installed or contracted/constructed before December 19, 2002, and a new RICE if installed on or after that

date. Engines less than or equal to 500 horsepower located at a major source and all horsepower engines located at an area source are considered existing under the NSPS if they were installed or contracted/constructed before June 12, 2006, and new if they were installed on or after that date.

Emergency Use RICE

The EPA defines the appropriate time to use an emergency engine as, “. . . operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment . . . when electric power from the local utility . . . is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.” Under the NESHAP, emergency engines have no use limitations placed on them when used in emergency situations. However, they may only be used for up to 100 hours/year for non-emergency situations. This 100-hour limit includes use for maintenance checks, readiness testing, and emergency demand response (EDR) when Energy Emergency Alert Level 2 has been declared by the Reliability Coordinator. Up to 50 of the 100 hours may be used for non-emergency and local reliability situations. Non-resettable hour meters are required to track the use of emergency engines in order to ensure that runtime limitations are met. Without proper meter records, the RICE is classified as non-emergency and therefore subject to emissions controls.

The compliance requirements for stationary engines can be found at <https://www.epa.gov/stationary-engines/compliance-requirements-stationary-engines>.

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