

Proposed Amendments

40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)

Summary of Proposed Changes - May 22, 2012

APPLICABILITY:

- Applicability of rule is unaffected and applies to existing, new and reconstructed stationary RICE at major and area sources of hazardous air pollutants (HAP) emissions.
 - Revising requirements that apply to existing stationary diesel-fueled/compression ignition (CI) RICE and existing stationary gas-fired engines/spark ignition (SI) RICE.

EMISSIONS LIMITS AND MONITORING:

- Replacing emission limits with management practices for existing stationary four- stroke SI engines above 500 horsepower (HP) that are area sources of HAP where the engines are remote from human activity. The management practices include schedules for when to inspect and replace the engine oil and filter, spark plugs, hoses and belt.
 - In order to be considered remote, the stationary RICE must meet one of the following criteria:
 - (1) The engine is located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.
 - (2) The engine is located on a gas pipeline segment with 10 or fewer buildings intended for human occupancy within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy. The pipeline segment must not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least five days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.
 - (3) The engine is not located on a gas pipeline and has five or fewer buildings intended for human occupancy within a 0.25 mile radius around the engine.
- Replacing emission limits with an equipment standard (using HAP-reducing catalysts) for existing stationary 4-stroke SI engines above 500 HP at area sources that are not in remote areas.
 - Engines have to be tested to demonstrate compliance initially, the catalyst checked annually for activity, and either the catalyst inlet temperature has to be monitored continuously or a high temperature shutdown device must be in place on the engine to protect the catalyst.

- Specifying that any existing CI engine above 300 HP at an area source of HAP that was certified to meet the Tier 3 (Tier 2 for engines above 560 kW) emission standards in Table 1 of 40 CFR 89.112 and was installed before June 12, 2006, is in compliance with the NESHAP.
- Specifying that existing stationary Tier 1 and Tier 2 certified CI engines located at area sources of HAP that are subject to state and local requirements requiring replacement of the engine can meet management practices until January 1, 2015, or 12 years after installation date (whichever is later), but not later than June 1, 2018, after which time the CO emission standards in Table 2d of subpart ZZZZ apply.

COMPLIANCE:

- Adding alternative compliance demonstration option for stationary 4-stroke rich burn SI engines subject to a 76 percent or more formaldehyde reduction emission standard.
 - The proposed alternative compliance option is to demonstrate compliance by testing for total hydrocarbon (THC) emissions and showing that the engine is achieving at least a 30 percent reduction of THC emissions.

EMERGENCY DEMAND RESPONSE/PEAK SHAVING:

- Increasing allowable hours for owners/operators to operate their stationary emergency RICE as part of an emergency demand response program and for voltage support.
 - Proposing to allow emergency engines to operate for 100 hours per year for the following purposes:
 - monitoring and testing,
 - demand response for Energy Emergency Alert Level 2 situations, and
 - responding to situations when there is at least a five percent or more change in voltage.
- Adding a temporary limited allowance that will expire on April 16, 2017 for stationary emergency engines located at area sources of HAP to be used for up to 50 hours per year for any non-emergency purpose, including peak shaving.
 - The 50 hours is part of the 100 hours per year total allowance for monitoring and testing, demand response, and voltage change situations.

DEFINITIONS:

- Expanding the definition of remote area sources of Alaska to include stationary engines that meet all the following conditions:
 - The only connection to the Federal Aid Highway System (FAHS) is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid, and
 - At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes, and

- The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy and is used less than 500 hrs per year on a 10 year rolling average.

MISCELLANEOUS CHANGES:

- Making the following clarifications and corrections to the rule:
 - Adding a clarification in §63.6640(f) of 40 CFR part 63, subpart ZZZZ stating that an engine that exceeds the calendar year limitations on non-emergency operation will be considered a non-emergency engine and subject to the requirements for non-emergency engines for the remaining life of the engine.
 - Revising Tables 1b and 2b of 40 CFR part 63, subpart ZZZZ to clarify that the pressure drop measurement is only required to be taken at plus or minus 10 percent 100 percent load for certain engines.
 - Adding a footnote to Table 1b of 40 CFR part 63, subpart ZZZZ stating that sources can petition the Administrator for a different temperature range consistent with Table 2b of the rule.
 - Correcting rows 8 and 10 in Table 2d of 40 CFR part 63, subpart ZZZZ to indicate that the requirements apply to non-emergency, non-black start stationary RICE greater than 500 HP that are four stroke lean burn (4SLB) and four stroke rich burn (4SRB) that operate more than 24 hours per year.
 - Revising the language in §63.6625(b) of 40 CFR part 63, subpart ZZZZ that states “...in paragraphs (b)(1) through (5) of this section” to read “in paragraphs (b)(1) through (6) of this section.”
 - Changing Tables 2c and 2d of 40 CFR part 63, subpart ZZZZ, where it currently specifies to inspect air cleaner, to also specify that the air cleaner must be replaced as necessary.
 - Revising §63.6620(b) of 40 CFR part 63, subpart ZZZZ to indicate that testing must be conducted within plus or minus 10 percent of 100 percent load for stationary RICE greater than 500 HP located at a major source (except existing non-emergency CI stationary RICE greater than 500 HP located at a major source) that are subject to testing.
 - Specifying that the operating limitations (pressure drop and catalyst inlet temperature) in Tables 1b and 2b of 40 CFR part 63, subpart ZZZZ do not have to be met during startup.
 - Clarifying in 40 CFR part 63, subpart ZZZZ that the existing stationary RICE regulated in 2010 (i.e., engines constructed before June 12, 2006 that are less than or equal to 500 HP located at major sources or engines located at area sources) must burn landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis in order to qualify as a landfill or digester gas engine under the rule.
 - Clarifying §60.4207(b) of 40 CFR part 60, subpart IIII to specify that owners/operators of stationary CI engines less than 30 liters per cylinder that are subject to the subpart, and that use diesel fuel, must use diesel fuel that meets the requirements of 40 CFR 80.510(b). Owners and operators may use up any diesel fuel acquired prior to October 1, 2010 that does not meet the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.
 - Adding Appendix A to 40 CFR part 63, subpart ZZZZ, which includes procedures that can be used for measuring CO emissions from existing stationary 4SLB and 4SRB stationary RICE above 500 HP located at area sources of HAP that are complying with the emission limits in Table 2d of 40 CFR part 63, subpart ZZZZ.
 - Reinstating the footnotes for Table 2 of 40 CFR part 60, subpart JJJJ.

- Adding “part 60” in Table 4 of the NESHAP, in row 2 where it refers to 40 CFR appendix A.
- Clarifying in §63.6625(a) of 40 CFR part 63, subpart ZZZZ that a continuous emission monitoring system is only required to be installed at the outlet of the control device for engines that are complying with the requirement to limit the concentration of CO.
- Clarifying that all of the standards for stationary SI RICE in §60.4231(b) of 40 CFR part 60, subpart JJJ are for stationary SI RICE that use gasoline.
- Clarifying that all of the standards for stationary SI RICE in §60.4231(c) of 40 CFR part 60, subpart JJJ are for stationary SI RICE that are rich burn engines that use liquified petroleum gas (LPG).
- Clarifying that all of the standards for stationary SI RICE in §60.4231(d) of 40 CFR part 60, subpart JJJ are for stationary SI RICE that are not gasoline engines or rich burn engines that use LPG.