



# Compliance Alert

## *Spark Ignition and Reciprocating Internal Combustion Engine Performance Standards*

EPA has proposed two new rules on internal combustion engines including new source standards of performance (NSPS) for stationary spark ignition internal combustion engines and national emission standards for hazardous air pollutants (NESHAP) for stationary reciprocating internal combustion engines. These two types of regulations are being proposed as part of a single Notice of Proposed Rulemaking (NPRM) because the industries being addressed are similar.

The NESHAP portion of this action serves as a revision to 40 CFR 63, Subpart ZZZZ. The NESHAP applies to engines that either are located at area sources of hazardous air pollutant (HAP) emissions or that have a site rating of less than or equal to 500 brake horsepower (HP) and are located at major sources of HAP emissions. These two rules were proposed together in the 12 June 2006 Federal Register (71 FR 33804) and corrections were published on 25 June 2006 (71 FR 36394). *Comments on this proposed rule must be received by the EPA on or before 11 October 2006.*

### Impacted Industries and Facilities

These proposed requirements potentially apply to all facilities that manufacture or operate internal combustion engines, whether the facilities are major or non-major (area) sources of HAP. Specifically, the following engine categories are subject to revised standards in this proposed rule:

#### **NSPS (40 CFR 60 Subpart JJJJ)**

- New, modified, or reconstructed spark ignition internal combustion engines (SI ICE)

#### **NESHAP (43 CFR 63 Subpart ZZZZ)**

- New, existing, and reconstructed non-emergency reciprocating internal combustion engines (RICE) – both spark and compression ignition – with a maximum engine power less than 500 HP located at major sources of HAPs.

*Note: RICE with a maximum power greater than or equal to 500 HP are already regulated under this standard.*

- New, existing, and reconstructed non-emergency RICE of all sizes located at area sources (i.e. non-major sources of HAPs).

There are no requirements for engine test cells and stands under this proposed rule because the Engine Test Cells/Stands NESHAP regulates these units.

It should be noted also that NSPS 40 CFR 60, Subpart IIII standards for compression ignition internal combustion engines (CI ICE) were published on 28 June 2006 (final). The requirements of this regulation are not covered in this compliance alert. Please contact Sharon Scroggins, NASA Clean Air Act Principal Center, if you require further information about the CI ICE regulation.

The following table summarizes the affected sources:

Engine Type	Engine Size	Existing, New, Modified, Reconstructed	Facility Source Category	40 CFR 60 Subpart JJJJ Requirements	40 CFR 63 Subpart ZZZZ Requirements
SI ICE	HP < 500	New, Modified, Reconstructed	All	New Standards	See RICE (below)
SI ICE	HP ≥ 500	New, Modified, Reconstructed	All	New Standards	See RICE (below)
RICE	HP < 500	Existing, New, or Reconstructed	Major Source	See SI ICE (above)	New Standards
RICE	HP ≥ 500	Existing, New, or Reconstructed	Major Source	See SI ICE (above)	Existing Standards
RICE	HP < 500	Existing, New, or Reconstructed	Area Source (Non-Major)	See SI ICE (above)	New Standards
RICE	HP ≥ 500	Existing, New, or Reconstructed	Area Source (Non-Major)	See SI ICE (above)	New Standards

SI ICE = Spark Ignition Internal Combustion Engine

RICE = Non-Emergency Reciprocating Internal Combustion Engine – Spark or Compression Ignition

## Summary of Requirements

This NSPS will limit emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and non-methane hydrocarbons (NMHC) from new, modified, or reconstructed stationary spark ignition internal combustion engines. Requirements for new stationary spark ignition engine apply to those for which construction commences (which is the date the engine is ordered) after 12 June 2006 and

- manufactured after 1 July 2007, for engines greater than or equal to 500 horsepower;
- manufactured after 1 January 2008, for engines less than 500 HP; or
- manufactured after 1 January 2009 for certain emergency engines that are not gasoline fired or rich burn LPG fired.

Modified or reconstructed engines are those stationary spark ignition engines that commenced modification or reconstruction after 12 June 2006.

EPA is also proposing to allow owners and operators of natural gas engines to use propane as back up fuel for emergency purposes for no more than 100 hours per year. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards. Owners and operators that operate engines that have been certified by the engine manufacturer are not required to perform any performance testing unless the engine is operated outside of the fuel properties specified by the manufacturer. If the owner or operator uses fuels that are outside of the fuel specifications or does not follow the adjustments specified by the manufacturer, the engine is no longer considered a certified engine and the owner or operator must test the engine to demonstrate compliance.

The RICE NESHAP will limit HAP emissions from new and reconstructed stationary RICE that are located at area sources of HAP or that have a site rating of less than or equal to 500

HP and are located at major sources of HAP. The emission requirements under the proposed NESHAP include limits for NMHC, CO, formaldehyde, and particulate matter (PM) and apply to those new engines that are ordered after 12 June 2006 and reconstructed engines with manufacture dates that phase in starting in 2007 through 1 January 2011 depending on the engine size, engine type, and fuel burned. *Note that RICE with a site rating of more than 500 HP located at major sources of HAPs are subject to currently applicable emission limitations in 40 CFR 63 Subpart ZZZZ which were promulgated in 2004.*

The NSPS and NESHAP both exempt area sources from the requirement to apply for a Title V permit unless such a permit is required under another regulation.

Owners/operators have several options to demonstrate compliance with the proposed rule. Primarily, owners/operators would purchase an engine certified for stationary use by the manufacturer. The proposal would also require owners/operators to operate and maintain the engine according to the manufacturer's instructions. If a non-certified engine is purchased, then the owners or operators would need to conduct performance tests to demonstrate compliance. Additional requirements include the installation of a non-resettable hour meter and compliance with gasoline sulfur content limitations.

While existing stationary RICE that are located at area sources of HAPs or that have a site rating of less than or equal to 500 HP and are located at major sources of HAPs are affected facilities, the emission limitations do not apply to these sources. Certain notification and reporting requirements may still apply.

The schedule for completing this rule is part of a consent decree which requires the EPA Administrator to complete a final rule by 20 December 2007.

## Key Issues with the Revised Engine Standards

**Engines ordered after 12 June 2006 would be subject to the proposed requirements** – If your Center is in the process of procuring or reconstructing an internal combustion engine, a review of the proposed requirements may help determine if the engine will comply with future requirements. A source that operates the newly regulated engines would potentially be subject to NSPS and NESHAP standards. This can significantly affect air permit and obligations.

**Most compliant engines are likely to be certified by the manufacturer** – Although the proposed rule allows for engines to be certified by the owner or operator, it is expected that most engines subject to this proposed rule will be certified by the manufacturer. By receiving certification from the engine manufacturer, the Center can reduce its compliance burden under this rule.

**The comment period for this rule may end as soon as 11 October 2006** -- These rules have not yet been finalized. EPA is currently accepting comments regarding these proposed rules. If you have a concern about the requirements or believe your Center should not be subject to these rules, your comments may facilitate a change to the rule that will help your Center. For more information on submitting comments, contact Sharon Scroggins/MSFC at 256.544.7932.