

EPA Announces Comprehensive Plan to Reduce Emissions from Nonroad Spark-Ignition (SI) Engines above 25 hp, Recreational Marine and Nonroad Vehicles, and Highway Motorcycles – On December 7, 2000 (65 F.R. 76789), EPA published a finding that nonroad SI engines rated above 19 kilowatts (25 hp), recreational land-based SI engines, and certain recreational marine engines contribute to air quality nonattainment for ozone or carbon monoxide in more than one nonattainment area and, as a consequence, should be regulated under the Clean Air Act. In response to that finding, EPA issued a Notice of Proposed Rulemaking (46 F.R. 76797) seeking public comment on the Agency’s plan to propose a national program to control emissions from the following nonroad sources:

- Industrial spark-ignition engines rated above 19 kW (25 hp) (e.g., forklifts and generators);
- Recreational gasoline engines (e.g., snowmobiles, all terrain vehicles, and off-road motorcycles); and
- Recreational marine diesel engines and all sterndrive and in-board gasoline engines.

In addition, the ANPRM announced EPA’s plan to consider tighter emission standards for on-road motorcycles. An electronic copy of the ANPRM and other information about EPA’s plan to regulate these emission sources can be found at EPA’s mobile source web site at www.epa.gov/otaq. Look under *What’s New at OTAQ*.

Nonroad SI Engines above 19 kW – EPA estimates that by 2007 large nonroad SI engines will contribute four percent of the NO_x emissions, three percent of the HC emissions, three percent of the CO emissions and 0.3 percent of the PM emissions of the entire mobile source inventory. EPA estimates that currently 915,678 of these vehicles/engines are in use, and that the number will rise to 1,127,323 by 2007. For large nonroad SI engines, EPA is contemplating proposing standards of 4 g/kW-hr (3 g/bhp-hr) for NO_x and 50 g/kW-hr (37 g/bhp-hr) for CO to take effect in 2004. EPA states that three-way catalyst technology with electronic controlled fuel systems make the proposed standards achievable.

Nonroad Recreational Vehicles – EPA estimates that by 2007, SI recreational nonroad engines will contribute 12 percent of the HC emissions and six percent of the CO emissions to the mobile source emission inventory, but will contribute only a small fraction of the NO_x and PM emissions. EPA estimates that as of 1996 there were 1,743,801 ATV/nonroad motorcycles (19% are 2-stroke), 1,289,302 snowmobiles (100% are 2-stroke), and 413,492 specialty vehicles (43% are 2-stroke) in use and that the numbers will continue to grow through 2010. In the ANPRM, EPA states that it will focus on HC and CO emissions – primarily by reducing these emissions from 2-stroke engines. EPA states that HC emission could be reduced by 70+% through the elimination of scavenging losses, with additional reductions possible through the use of an oxidation catalyst. EPA appears to be considering a 2006-2008 compliance date for regulating recreational nonroad SI engines.

Recreational Marine CI and SI Engines – EPA plans to regulate emissions from recreational marine CI engines rated at or above 37 kW (50 hp) and SI sterndrive or inboard engines. For CI engines, EPA plans to target NO_x emissions with the standards taking effect

around 2007. The Agency identified a range of engine design improvements already being applied to on-road diesel engines that could be used to achieve reductions from marine CI engines. For SI sterndrive/inboard engines, EPA identified several technologies including electronic fuel injection, EGR, and two- and three-way catalyst technology (with closed-loop controls). EPA will consider standards for HC+NO_x emissions and for CO emissions. EPA notes that even with a low-efficiency catalyst an HC+NO_x standard of 5-7 g/kW-hr may be feasible and with a more efficient catalyst greater reductions may be achievable. EPA is considering the 2005-2006 timeframe for implementing standards for marine SI sterndrive/inboard engines.

On-Highway Motorcycles – EPA estimates that there are 5.4 million highway motorcycles in use and that approximately 411,000 highway motorcycles were sold in 1998. The existing, lenient emission standards for on-road motorcycles (5.0 g/km for HC and 12.0 g/km for CO) were established over 20 years ago. In 1984, California adopted more stringent standards for all classes of 1988 and later model year motorcycles. In 1998, California adopted a two-phase (2004 and 2008) HC+NO_x standard for motorcycles with engines 280 cc and higher. The Air Resources Board (ARB) has identified catalyst technology as one of the compliance strategies available to meet the new California standards. EPA will invite comments on harmonizing with the California standards, as well as setting different standards.

For more information regarding the ANPRM, contact EPA's Margaret Borushko at (tel.) 734/214-4334 or at (e-mail) borushko.margaret@epa.gov. The comment period is open until February 5, 2001.