

Regulatory Announcement

Proposed In-Use Testing Program for Heavy-Duty Diesel Engines and Vehicles

The U.S. Environmental Protection Agency (EPA) is proposing a manufacturer-run, in-use emissions testing program for heavy-duty diesel trucks. This proposal is the first step in implementing a June 2003 settlement agreement between the Engine Manufacturers Association (EMA) and EPA. Under this in-use testing program, manufacturers will measure gaseous and particulate exhaust emissions from diesel engines using portable onboard emission measurement systems. This cooperative effort represents a significant advance in helping to ensure that the benefits of more stringent emission standards are realized under real-world driving conditions.

Background

EPA has issued five rules regarding diesel engines since 1999. These include the 2004 and 2007 Heavy-Duty Diesel Motor Vehicle Engines Rules, Recreational Marine Diesel Engines Rule, Commercial Marine Diesel Engines Rule, and the Clean Air Nonroad Diesel Rule for compression-ignition engines. EMA and some manufacturers challenged parts of the highway and marine rules regarding legal authority and technical feasibility of certain emission standards called the Not-To-Exceed Standards (NTE). EPA, the California Air Resources Board (CARB), and EMA, along with its member companies, have worked cooperatively to reach an agreement. The resulting settlement included provisions for proposing a manufacturer run, in-use emissions testing program.

The new testing program will assess in-use gaseous and particulate exhaust emissions from heavy-duty diesel trucks using portable emission measurement systems for the first time. Previously, testing engine emissions involved removing the engine from the truck and testing the engine in a laboratory on an engine dynamometer. Starting in the mid-1990s EPA facilitated research into portable systems by developing and using prototype systems in its compliance programs. Portable systems were placed inside of vehicles to measure emissions performance during real-world operating conditions. It became clear that these systems offered advantages over conventional approaches to assess in-use exhaust emissions from engines for design improvement, research, modeling, and compliance purposes.

In a largely unprecedented example of proactive government and industry cooperation, prior to any formal rulemaking initiative, manufacturers have agreed to implement this new type of in-use emission testing program. The resulting collaborative program, which advances EPA's [Clean Diesel Program](#), is a significant step forward for both parties in helping ensure that heavy-duty diesel engines comply with applicable emission standards throughout their useful lives while reducing overall compliance burdens.

Key Elements of the Proposed Program

We are proposing to establish a manufacturer-run, in-use NTE testing program for vehicles with heavy-duty diesel engines, beginning with a pilot program in calendar years 2005 and 2006. The pilot program will allow EPA and the manufacturers to gain the necessary experience with in-use testing protocols and generation of in-use test data using portable emission measurement systems. Beginning in calendar year 2007, when the NTE and tailpipe emission standards for nitrogen oxides (NO_x) and particulate matter (PM) take effect, the fully enforceable program will apply to 2007 and later model year engines.

Under the program, testing will be conducted and paid for by manufacturers with EPA oversight on in-use vehicles, under real-world driving conditions, within the engine's useful life. Four pollutants will be measured: hydrocarbons (HC), carbon monoxide (CO), NO_x, and PM. Manufacturers will test fleet or customer-owned, in-use trucks, tapping into existing customer relationships and creating new lines of communication with customers, all of which is expected to fortify the engine development process. This will enhance the manufacturer's ability to catch any problem engines early on, and encourage future engine designs that are cleaner and more durable.

Manufacturers will monitor compliance by testing in-use diesel engines during normal vehicle operation. If noncomplying engines are identified, the manufacturer will test more engines for the purpose of determining if any further action is necessary. EPA will likewise use the in-use data to make independent evaluations about the possible need to pursue further actions.

This program will address a serious, long-standing need for "real-world" in-use testing data, which have never been collected on this large a scale. We expect that the wealth of in-use test data generated will have a number of valuable uses in addition to monitoring heavy-duty diesel engines for NTE compliance purposes. We will use the data to assure that emission standards are being met; we may also use the information in the development of in-use emission factors for emissions and air quality modeling. The data will also be available to the public for review and analysis.

Other Programs

California's involvement in the development of this program was critical in assuring that engine manufacturers are subject to a consistent national in-use NTE test program. CARB intends to adopt a parallel in-use testing program for 2007, soon after EPA completes its final rule for this program.

In addition, EPA is developing an outline for a similar in-use testing program for nonroad diesel engines covered by the emission standards finalized in May 2004. Such a program will be patterned after the heavy-duty truck in-use testing program, but will address some unique issues pertaining to the nonroad market. We anticipate publishing a proposed rule for public comment in 2005.

Economic, Health and Environmental Impacts

EPA expects that 14 heavy-duty diesel engine manufacturers will be involved in the program. Total annual costs are estimated at about \$1 million. This proposed in-use emissions testing program is expected to help ensure that the intended health and environmental benefits from recently-adopted emission regulations are realized throughout the entire useful lives of heavy-duty diesel engines.

Public Participation Opportunities

We welcome your comments on this proposal. For instructions on submitting written comments, please see the *Federal Register* notice. It is available from the EPA Air Docket by calling (202) 566-1742; please refer to Docket No. OAR-2004-0072. In addition, you can access the proposed rule and related documents on EPA's Office of Transportation and Air Quality Web site at:

www.epa.gov/otaq/hd-hwy.htm

A public hearing will be held in Washington, DC, on July 15, 2004, at 10:00 am. Additional information about the hearing will be printed in the *Federal Register*.

For More Information:

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