



# Regulatory Announcement

## Non-Conformance Penalties for Heavy-Duty Diesel Engines

*The U.S. Environmental Protection Agency (EPA) is finalizing non-conformance penalties that could be used by manufacturers of heavy-duty diesel engines unable to meet the 2004 model year non-methane hydrocarbon plus nitrogen oxides (NMHC+NOx) emission standard. These penalties allow a manufacturer to produce and sell non-conforming engines upon payment of a penalty. The penalty, which is assessed on a per-engine basis, varies with the certified emission level for the engine family involved.*

### What are Non-conformance Penalties?

Non-conformance penalties (NCPs) are monetary penalties that allow a vehicle or engine manufacturer to sell engines that do not meet the emission standards. Under a penalty structure previously established by regulation, manufacturers may choose to pay a penalty on a per-engine basis rather than comply with the applicable standard.

The Clean Air Act outlines the key requirements of an NCP program. The Act requires that:

- The penalties increase with the degree of non-compliance with the emission standard and that the penalties increase over time.
- Emissions under an NCP program may not go above an upper limit established by regulation.
- The NCPs remove any competitive disadvantage that might otherwise accrue to a manufacturer that is complying with the standards.

## **Which Engines and Vehicles would be Covered?**

The non-conformance penalties will be available for 2004 and later model year heavy-duty highway diesel engines, including engines used in urban buses. EPA is establishing NCPs for the 2004 NMHC+NO<sub>x</sub> standard for highway heavy-duty diesel engines. This standard is 2.5 grams per brake-horsepower-hour of NMHC+NO<sub>x</sub>.

## **Why is EPA Establishing these Penalties?**

NCPs provide flexibility that fosters long-term improvement in emissions without driving manufacturers out of the market. When EPA established the 2004 NMHC+NO<sub>x</sub> standard in 1997, we committed to establishing NCPs in time for the 2004 model year, if the need for such NCPs became apparent. This final rule is the final step towards fulfilling that commitment. As with past NCP rules, this rule relies primarily on cost information provided by the manufacturers of heavy-duty diesel engines in order to develop the penalty rates.

NCPs are authorized for heavy-duty engines under section 206(g) of the Clean Air Act. A 1985 rulemaking established three basic criteria for determining the eligibility of emission standards for NCPs in any given model year. First, the emission standard in question must become more difficult to meet. Second, substantial work must be required in order to meet the emission standard. Third, a technological laggard must be likely to develop. A technological laggard is considered to be a manufacturer who cannot meet a particular emission standard due to technological (not economic) difficulties and who, in the absence of NCPs, might be forced from the marketplace.

These three criteria have been satisfied with respect to the NMHC+NO<sub>x</sub> standard that applies to 2004 and later model year heavy-duty diesel engines. Therefore, it is appropriate at this time to establish NCPs for this emission standard.

## **What are the Requirements?**

The actual penalties that a manufacturer would pay for each non-complying engine are determined by formulas that already exist in the federal regulations. The final rule specifies certain parameters that, when plugged into the formulas along with the emissions of the engine and the incorporation of other factors, will determine the amount a manufacturer must pay. Key parameters that determine the NCP a manufacturer must pay are the estimated average cost of compliance, the estimated cost of

compliance for a near worst-case engine, and the degree to which the engine exceeds the emission standard. Engine emissions may not exceed an upper limit designated in the regulations. The table below provides some examples of the calculated penalties at several emission rates under this rule.

### Penalty Rates at Several Example Emission Levels<sup>1</sup>

NMHC+NOx Compliance Level (g/bhp-hr) <sup>2</sup>	Heavy-Duty Service Class			
	Light	Medium	Heavy	Urban Bus
2.5	\$0	\$0	\$0	\$0
3.0	\$1,262	\$910	\$3,640	\$2,470
3.5	\$1,745	\$1,820	\$6,946	\$4,393
4.0	\$2,227	\$2,716	\$7,999	\$5,527
4.5	\$2,710	\$4,930	\$9,052	\$6,660
6.0	N/A <sup>3</sup>	N/A <sup>3</sup>	\$12,210	N/A <sup>3</sup>

1 The penalties are for exceedance of the 2.5 gram per brake horsepower-hour NMHC+NOx standard. They are expressed in 2001 dollars and are for the first year of non-compliance (the penalties increase with subsequent years).

2 g/bhp-hr = grams per brake horsepower-hour.

3 For the light and medium heavy-duty service classes, and for urban buses, the upper limit is established at 4.5 g/bhp-hr, therefore no NCPs are applicable to emissions at 6.0 g/bhp-hr. For the heavy heavy-duty diesel engine service class, the upper limit is set at 6.0 g/bhp-hr.

In 1998, the Department of Justice and the Environmental Protection Agency announced a settlement with seven major manufacturers of diesel engines to resolve claims that they installed illegal computer software on heavy duty diesel engines that turned off the engine emission control system during highway driving. The settlements were entered by the Court on July 1, 1999. These consent decrees with the Federal Government contained a number of provisions applying to heavy-duty on-road, and in some cases, nonroad, engines. The consent decrees contain provisions for monetary penalties to be applied to manufacturers unable to meet the specified October 2002 highway emission limits. The decrees specify that such penalties are to be based upon the NCPs for the 2004 standards; if such NCPs have not been promulgated then the penalties revert to being based upon the existing NCPs, which pertain to the 1998 heavy-duty diesel NOx standard.

## **Health and Environmental Benefits**

NCPs have a minimal environmental impact. They provide flexibility that fosters long-term improvement in emissions without driving manufacturers out of the market. We can not predict how many manufacturers would make use of the NCPs, therefore the emission impact cannot be quantified. We expect relatively few engine families to be certified under these provisions. Any impacts should be short-term in nature, because the structure of the penalties, by increasing over time, discourages long-term use, and because the penalty figures are high enough such that long-term use is not a viable option for the manufacturers.

## **Costs**

NCPs generally have minimal adverse economic impacts. Use of them is optional; manufacturers have the flexibility and will likely choose whether or not to use NCPs based on their ability to comply with emissions standards. Manufacturers that choose to make use of the NCPs will incur those costs, which are based, in part, on the cost of complying with the emission standards. Without NCPs, a manufacturer that has difficulty meeting the standards has only two alternatives: fix the non-conforming engines, perhaps at a prohibitive cost, or do not produce/sell them. The availability of NCPs provides manufacturers with a third alternative, yet protecting the manufacturer that has chosen to incur the costs of complying with the standards.

## **For More Information**

You can access documents on this rulemaking electronically on the Office of Transportation and Air Quality Web site at <http://www.epa.gov/otaq/hd-hwy.htm> or by contacting us at:

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