



Heavy-Duty Engine & Vehicle Standards & Highway Diesel Fuel Sulfur Control Requirements Summary

General Background

THE U.S. Environmental Protection Agency's (EPA's) new emission standards, taking effect in model year 2007, apply to heavy-duty highway engines and vehicles. EPA's Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements require stringent pollution controls on diesel engines used in trucks and buses. The requirements will be a major step toward reaching our nation's clean air and public health goals. Because emission control devices are damaged by sulfur, EPA is also reducing the level of sulfur in highway diesel fuel by 97 percent by mid-2006.

Heavy-duty engines emit large amounts of nitrogen oxide (NO_x), which contributes to ozone, and particulate matter (PM). The PM emitted by heavy-duty engines contributes to serious public health problems, such as lung cancer, aggravation of respiratory and cardiovascular disease and asthma, acute respiratory symptoms, chronic bronchitis, and decreased lung function. Exposure is widespread, particularly in urban areas.

Heavy-duty trucks and buses account for about one-third of NO_x emissions and one-quarter of PM emissions from mobile sources. In some urban areas, the contribution is even greater. EPA's program will result in PM and NO_x emission levels that are 90 percent below the levels of today's cleanest engines.

EPA's program includes provisions to facilitate the transition to the new standards and to encourage the early introduction of clean technologies. It provides flexibility in various testing and compliance requirements and addresses differences between the new technologies and existing engine-based technologies.

Refiners will be required to produce diesel fuel for use in highway vehicles with a sulfur content of no more than 15 parts per million (ppm), beginning June 1, 2006. This fuel will be available across the country by Fall 2006.

*Innovative
Strategies for
Cleaner Air*

The overall benefits of the Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements significantly outweigh the cost by a ratio of approximately 20 to 1.

Environmental and Health Benefits

When the program is fully implemented, annual emission reductions will prevent 8,300 premature deaths, more than 9,500 hospitalizations, and 1.5 million lost work days. The program will provide annual emission reductions equivalent to removing the pollution from more than 90 percent of today's trucks and buses, or about 13 million trucks and buses.

Estimated Costs

Emission reductions and the resulting significant public health and environmental benefits of the program will come at an average cost increase of about \$1,200 to \$1,900 per new vehicle, depending on the vehicle size. When fully implemented, the sulfur reduction requirement will increase the cost of producing and distributing diesel fuel by about 4½ to 5 cents per gallon.

For More Information

For more information on the Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements, please visit www.epa.gov/otaq/diesel.htm.



Recycled/Recyclable—Printed with vegetable oil based inks
on 100% postconsumer, process chlorine free recycled paper.

November 2005
EPA-420-F-05-044