United States Environmental Protection Agency

Office of Transportation and Air Quality
EPA-420-F-00-100
May 17, 2000

Proposal for Cleaner Heavy-Duty Trucks and Buses and Cleaner Diesel Fuel

The Environmental Protection Agency is proposing more stringent emission standards for heavy-duty vehicles that would reduce smog-causing emissions from trucks and buses by 95 percent beyond current levels. Soot emissions also would be reduced by 90 percent beyond current levels. In order to meet these more stringent standards for diesel engines, the proposal requires the sulfur content of diesel fuel to be capped at 15 parts per million – a 97 percent reduction. EPA plans to finalize these standards by the end of the year, and the standards will take effect in 2006 - 2007.

Health Concerns

- There is great concern about the adverse health effects associated with exposure to diesel exhaust. Exposure is widespread, particularly in urban areas, and according to several national and international agencies, there is increasing evidence that diesel exhaust or diesel particulate matter (soot) may cause lung cancer in humans. Non-cancerous effects such as lung damage and respiratory problems are also associated with exposure to diesel exhaust.

Heavy-Duty Trucks and Buses

- In 2007, when the proposed emission standards would begin to take effect, heavy-duty trucks and buses would contribute more than half of nitrogen oxide and particulate matter emissions from all highway vehicles. In some urban areas, the contribution would be even greater.

- An older, dirtier diesel vehicle can emit almost 8 tons of pollution per year. This amounts to 160 to 240 tons of pollution over the life of the engine.

- The proposal would require low-sulfur diesel fuel beginning in 2006. Since heavy-duty diesel vehicles often travel across state lines, low-sulfur diesel fuel must be available nationwide to ensure the effectiveness of new pollution control devices.

- Diesel engines are more durable and have higher fuel economy than gasoline engines. The cleaner diesel fuel and new clean diesel engines required by this proposal will add "clean" to durable and economic when describing these trucks and buses.

Proposed Standards

- EPA is proposing a particulate matter (soot) emission standard for new heavy-duty engines of 0.01 grams per brake-horsepower-hour (g/bhp-hr), to take full effect in the 2007 model year. The current soot standard is 0.1 g/bhp-hr.

- EPA is also proposing standards for smog-causing nitrogen oxides (NOx) and hydrocarbons (HC) of 0.20 g/bhp-hr and 0.14 g/bhp-hr, respectively. The current standard for NOx is 4 g/bhp-hr and the HC standard is 1.3 g/bhp-hr. These standards will be phased-in for diesel vehicles between 2007 and 2010. Gasoline vehicles would have to meet these standards in 2007.

- The sulfur content of diesel fuel, used in highway vehicles, would be limited to a cap of 15 parts per million (ppm) beginning June 1, 2006. The current standard is a cap of 500 ppm.

Benefits of EPA's Proposal

- As a result of EPA's proposal, each new truck and bus would be as much as 95 percent cleaner than today's trucks and buses.

- The proposal would reduce emissions of smog-causing (nitrogen oxides) by 2.8 million tons each year when the program is fully implemented in 2030. Emissions of soot (particulate matter) would be reduced by 110,000 tons each year.

- Reducing diesel exhaust will result in a significant reduction -- almost 33,000 tons each year -- of toxic air pollutants (such as benzene), many of which are known human carcinogens.

- The proposal is equivalent to removing the pollution created by 13 million of today's trucks.

- This proposed program will ensure that every American will breathe cleaner air. Many states will need to reduce smog-causing and soot emissions, to attain national air quality standards by the required 2007 - 2010 timeframe. This proposal, in combination with other clean air programs, will ensure that a significant number of areas across the country, with a population of more than 120 million people, will be able to meet and maintain EPA's national air quality standards.

Costs of EPA's Proposal

- The cost of reducing the sulfur content of diesel fuel would result in an estimated increase of approximately three to four cents per gallon.

- EPA estimates that vehicle costs would increase from $1,000 to $1,600 depending on the size of the vehicle. To put this in perspective, new heavy-duty trucks can cost as much as $150,000 and buses can cost $250,000.

- These cost impacts are small when we consider the costs over the life-span of the engine. Heavy duty engines tend to stay in operation for much longer periods of time than passenger cars. Trucks and buses can remain in operation for up to 30 years or 1,500,000 miles. In comparison, the average passenger car stays on the road for 10 years or 100,000 miles.

Flexibility Mechanisms

- In order to assure no disruption in fuel supply, EPA designed this proposal to include significant lead time for the introduction of this new cleaner fuel into the marketplace. The proposal also discusses various flexible phase-in approaches for the diesel fuel industries to facilitate the complete transition to new clean diesel fuel and to further reduce costs. Also, we are requesting comment on ways to provide additional flexibility to assist small refiners in complying with the program.

- For engine manufacturers, the proposed program allows phase-in of the new standards over four years (2007-2010). Manufacturers would have to meet the standards for nitrogen oxides and hydrocarbons under the following phase in schedule: 25 percent in 2007, 50 percent in 2008, 75 percent in 2009, and 100 percent in 2010. Standards for particulate matter (soot) would go into effect in 2007.

For More Information

- The proposed rule and related documents can be accessed electronically on the Office of Transportation and Air Quality Web site at: http://www.epa.gov/diesel-fuel-standards.htm

- We welcome your comments on this proposal. For instructions on submitting written comments, please see the *Federal Register* notice. You may submit written comments to EPA up to August 14, 2000. Please refer to Docket No. A-99-06. The address for submitting written comments is: Margaret Borushko (Docket No. A-99-06), U. S. Environmental Protection Agency, Office of Transportation and Air Quality, 2000 Traverwood Drive, Ann Arbor, MI 48105. You may also submit comments by email to diesel@epa.gov.

- Public hearings will be held in:

New York City	June 19, 2000	Crown Plaza Hotel
Chicago	June 20, 2000	Rosemont Convention Center
Atlanta	June 22, 2000	Renaissance Atlanta Hotel
Los Angeles	June 27, 2000	Hyatt Regency
Denver	June 29, 2000	Doubletree Hotel

- Additional information about the hearings will be published in a supplemental notice in the *Federal Register* in the near future.