

# Regulatory Analysis Form

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<p>(1) Agency</p> <p>Department of Environmental Protection</p>	<p>REVIEW COMMISSION</p>
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<p>(2) I.D. Number (Governor's Office Use)</p> <p>7-365</p>	<p>IRRC Number: 2211</p>
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(3) Short Title

Heavy-Duty Diesel Emissions Control Program

<p>(4) PA Code Cite</p> <p>Title 25 Environmental Protection Chapter 126 Subchapter E</p>	<p>(5) Agency Contacts &amp; Telephone Numbers</p> <p>Primary Contact: Sharon Trostle, 783-8727</p> <p>Secondary Contact: Barbara Sexton, 783-8727</p>
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<p>(6) Type of Rulemaking (Check One)</p> <p><input checked="" type="checkbox"/> Proposed Rulemaking</p> <p><input type="checkbox"/> Final Order Adopting Regulation</p> <p><input type="checkbox"/> Final Order, Proposed Rulemaking Omitted</p>	<p>(7) Is a 120-Day Emergency Certification Attached?</p> <p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes: By the Attorney General</p> <p><input type="checkbox"/> Yes: By the Governor</p>
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(8) Briefly explain the regulation in clear and nontechnical language.

The regulation would adopt by reference California's emission standards for new heavy-duty diesel vehicles (HDDVs) and engines (HDDEs) which are greater than 14,000 lb., for model year 2005 and subsequent model years. The regulation would require that heavy-duty diesel engine manufacturers that sell HDDVs and HDDEs in Pennsylvania, certify their engines using the Not-To-Exceed (NTE) and Euro III European Stationary Cycle (ESC) tests, also known as supplementary tests. Persons in Pennsylvania would be required to sell, lease, import, deliver, purchase, rent, acquire, or receive new HDDVs and HDDEs that meet the requirements of California's emission standards pertaining to HDDVs and HDDEs for the appropriate model years. The proposed rule also adopts California rules by reference. It includes a number of exemptions, types of certification testing, and types of enforcement testing. Responsibilities of manufacturers are described for warranty and recall obligations, emissions averaging, banking, and trading obligations, and sales reporting. Record keeping and reporting responsibilities of vehicle and engine dealers are described.

(9) State the statutory authority for the regulation and any relevant state or federal court decisions.

"Air Pollution Control Act", 1960, January 8, P.L. (1959) 2119, § 5 (35 P.S. § 4005)

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(10) Is the regulation mandated by any federal or state law or court order, or federal regulation? If yes, cite the specific law, case or regulation, and any deadlines for action.

Federal or state law or court order does not mandate the Pennsylvania Heavy-Duty Diesel Emissions Control Program.

(11) Explain the compelling public interest that justifies the regulation. What is the problem it addresses?

The California Air Resources Board (CARB) and California Air Quality Control Districts produced evidence that engine manufacturers were installing defeat devices into their engines in the mid-1990s. These defeat devices were software innovations that allowed the engine's computer to distinguish between operating conditions included in the certification test and those not included. Consequently, the engines would pass certification testing, but when it was operating on the open highway, it would emit excessive amounts of ozone-forming pollutants for the benefit of fuel economy. These excess emissions occurred from 1988 to 1998. In 1998 alone, the defeat devices caused approximately 1.3 million tons of excess NOx emissions in the country – a significant percentage of overall NOx emissions that year.

As part of a consent decree with the Department of Justice in 1998, in order to make up some of the difference in excess emissions, heavy-duty diesel engine manufacturers agreed to meet federal 2004 exhaust emission standards in 2002 and incorporate the new supplementary tests into their engine certification procedures. These supplementary test procedures, NTE and ESC III, in combination with the federal test procedure (FTP), reflected real world driving conditions much better than the FTP alone. The ESC test also has associate requirements known as maximum achievable emission limits (MAEL). The MAEL requirements can be considered an adjunct to the ESC because they are utilized during the ESC test. The MAEL prevents manufacturers from complying with the ESC using computer programs that "recognize" when the engine is being tested at specific test points and then recalibrating for better fuel economy.

EPA recognized the positive effect that these tests would have on lowering emissions and tried to incorporate them into their new HDDE standards for model year 2004. EPA is required by the Clean Air Act to give four years notice to manufacturers when they develop a new emission standard. EPA was unable to meet the four-year requirement and only was able to incorporate the tests into their standards for model year 2007. Therefore, the entire country is lacking these testing procedures for model years 2005 and 2006 while the country benefits from them for model years 2002 to 2004 from a percentage of engines.

High ozone levels continue to pose a significant health threat in areas of Pennsylvania and throughout the Northeast. Pennsylvania needs to implement this rule, as part of its overall clean air strategy, to protect state and regional public health over the long term. Pennsylvania will lower emissions of NOx produced by model years 2005 and 2006 by 2 tons per day in the more-polluted Philadelphia area and 12.5 tons per day statewide in the year 2006 as a direct result of the adoption of this rulemaking. It is quite conceivable that if enough large states adopt similar rules to this one that the engine manufacturers will be compelled by practicality to produce all of their engines so that they comply with the NTE and ESC III testing requirements. This would keep pollution transport from upwind states low and help the Commonwealth lower their transport to downwind states.

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(12) State the public health, safety, environmental or general welfare risks associated with non-regulation.

Vehicles complying with the NTE and ESC III testing requirements will have lower emissions of ozone precursors than vehicles currently sold in Pennsylvania. Health problems are associated with "ground-level" ozone exceedances. When inhaled, even at low levels, ozone can cause acute respiratory problems, aggravate asthma symptoms, cause temporary decreases in lung capacity, cause inflammation of lung tissue, lead to hospital admissions and emergency room visits, impair the body's immune system defenses and lead to premature death.

Despite intense efforts on the part of the states and EPA to control oxides of nitrogen and the anthropogenic (human-made) portion of the VOC emissions, some areas in the state remain in violation of the 1-hour NAAQS for ozone. Many areas of the state will be in violation of the 8-hour ozone NAAQS when that standard comes into effect. Non-regulation will lead to more violations of that health-based standard.

Diesel engines also produce sulfur oxides (SO<sub>x</sub>), particulate matter (PM), and toxic compounds, such as formaldehyde, all of which have similarly adverse health effects as ozone. Emissions from HDDEs and HDDVs account for a substantial portion of ambient PM levels. These levels are higher in some urban areas.

(13) Describe who will benefit from the regulation. (Quantify the benefits as completely as possible and approximate the number of people who will benefit.)

All of the citizens of the Commonwealth will benefit from reduced emissions of oxides of nitrogen (NO<sub>x</sub>) from HDDEs. While this regulation by itself will not provide for attainment of the ozone standard, it will provide progress towards that goal. It will also reduce emissions of PM, SO<sub>x</sub> and toxic air pollutants. The entire population of the Commonwealth as well as the entire populations of states downwind, from New Jersey to Maine, will benefit. A possible greater effect will occur if enough large states like Pennsylvania adopt this regulation so that engine manufacturers are encouraged to produce just engines that comply with the new test procedures. In essence, the California standard will become the national standard.

(14) Describe who will be adversely affected by the regulation. (Quantify the adverse effect as completely as possible and approximate the number of people who will be adversely affected.)

Any person or business entity that purchases a diesel engine to be installed into a vehicle with a gross vehicle weight rating (GVWR) of 14,001 lb or greater or a vehicle with GVWR 14,001 lb or greater will be required to pay more for these vehicles. It is impossible to estimate the cost for just the supplemental test. The cost analysis performed by EPA and CARB included costs for necessary air pollution control equipment to be installed on each engine in order to comply with a more stringent emission standard. It is impossible to estimate the cost of the NTE and ESC tests themselves. It would be considerably less than the \$824 total given in the cost analysis. Increased operating costs not to exceed \$8.62 per vehicle per year will also be associated with this rulemaking.

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(15) List the persons, groups or entities that will be required to comply with the regulation. (Approximate the number of people who will be required to comply.)

Heavy-duty diesel engine manufacturers and vehicle manufacturers that use these engines will be required to comply with the regulation. Also, heavy-duty diesel engine and vehicle dealers will be required to keep records for the Department to review. However, PennDOT regulations already require dealers to retain copies of manufacturers' documents that would contain the necessary CARB certification verifying compliance.

Ten manufacturers of HDDEs produce nearly all of the diesel engines sold in the United States for use in highway vehicles. These companies include: Caterpillar, Inc., Cummins Engine Company, DaimlerChrysler Corporation, Detroit Diesel Corporation, Ford Motor Corporation, General Motors Corporation, International Truck and Engine Corporation, Isuzu Motors America, Inc., Mack Trucks, Inc, and Volvo Corporation.

In addition to engine manufacturers, several hundred HDDV dealerships, repair facilities and parts distributors in Pennsylvania will be subject to record audits by the Department.

(16) Describe the communications with and input from the public in the development and drafting of the regulation. List the persons and/or groups who were involved, if applicable.

The Air Quality Technical Advisory Committee was consulted and gave input for this regulation. We also discussed this regulation with staff from the Pennsylvania Department of Transportation (PennDOT) Bureau of Vehicle Registration and received their input on the best way to proceed. We have also provided information to the Pennsylvania Motor Truck Association.

(17) Provide a specific estimate of the costs and/or savings to the regulated community associated with compliance, including any legal, accounting or consulting procedures which may be required.

California prepared a cost analysis for this regulation, which demonstrated that medium-duty diesel vehicles will cost an extra \$674 per vehicle and a heavy-duty diesel vehicle will cost an additional \$824 per vehicle. However, these costs include all of the pollution control equipment needed to attain the federal emission standard for model year 2004 in addition to the extra costs associated with the supplementary tests included in the California (but not federal) rule. It is impossible to separate the costs of the two. Nevertheless, the cost per vehicle just for the supplementary tests will be a small fraction of the total cost per vehicle given above. See attached sheet for cost estimates. In addition, if enough states adopt similar regulations as this one, a de facto national standard will be created because manufacturers will not find it economical to make two different engines. Should this happen, consumers will incur the costs whether or not Pennsylvania has a regulation.

The general public in Pennsylvania will purchase approximately 16,050 medium-duty and heavy-duty diesel highway vehicles during a typical calendar year. Using California's cost estimates of \$824 and \$674 per vehicle, the cost to the manufacturer amounts to approximately \$30,406,725 for the two-year gap that this rulemaking covers, which could be passed on to the consumer. An additional 6% for state sales tax will be included in this extra cost, which brings the total cost to \$32,231,123. There is also a very slight increase in operating cost of about \$8.62 per year, which will bring the total cost to \$32,611,587.

Pennsylvania heavy-duty diesel vehicle dealerships will be required to perform no additional record keeping procedures, since PennDOT regulations already require them to keep the records that this rule requires.

## Regulatory Analysis Form

(18) Provide a specific estimate of the costs and/or savings to local governments associated with compliance, including any legal, accounting or consulting procedures which may be required.

Local governments have 4,974 vehicles in their fleets over 14,000 lb. Assuming that all of these vehicles are diesel and are replaced at the same rate as the commercial fleet, municipal governments would replace their fleets with vehicles subject to this regulation with 85 vehicles in FY+3, 338 vehicles in FY+4, and 169 vehicles in FY+5. It is estimated that operating costs will not exceed \$8.62 per vehicle per year.

(19) Provide a specific estimate of the costs and/or savings to state government associated with the implementation of the regulation, including any legal, accounting or consulting procedures which may be required.

State government purchases approximately 200 heavy-duty diesel highway vehicles during a typical fiscal year. These vehicles will cost the manufacturer about \$378,900 more to produce over the two year gap that this rule is covering, which will be passed on to the state. Once again, it is impossible to factor out the cost of the supplementary tests from the cost of the extra control equipment. If it were possible, the cost would be a smaller amount. Increased operating cost will not exceed \$8.62 per year per vehicle.

(20) In the table below, provide an estimate of the fiscal savings and cost associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year	FY +1 Year	FY +2 Year	FY +3 Year	FY +4 Year	FY +5 Year
<b>SAVINGS:</b>	\$	\$	\$	\$	\$	\$
<b>Regulated Community</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>Local Government</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>State Government</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Savings</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>COSTS:</b>						
<b>Regulated Community</b>	0.00	0.00	0.00	7,851,778	16,249,661	8,510,148
<b>Local Government</b>	0.00	0.00	0.00	156,381	322,275	167,096
<b>State Government</b>	0.00	0.00	0.00	92,531	191,124	100,417
<b>Total Costs</b>	0.00	0.00	0.00	8,100,690	16,763,060	8,777,661
<b>REVENUE LOSSES:</b>						
<b>Regulated Community</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>Local Government</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>State Government</b>	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Revenue Losses</b>	0.00	0.00	0.00	0.00	0.00	0.00

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(20a) Explain how the cost estimates listed above were derived.

**Regulated Community:** California weight classes separate vehicle classes into medium-duty (14,000-18,000 lb.) and heavy-duty (greater than 18,000 lb.). PennDOT supplied total highway vehicle registrations in the Commonwealth for 1999. Since very few vehicles over 14,000 lb. are gasoline-powered, it was assumed that all vehicles over 14,000 lb. were diesel-powered. This total number was apportioned using PennDOT supplied fleet age data for Pennsylvania. First-year diesel vehicles account for 3.4% of all HDDVs in the Commonwealth. Second-year diesel vehicles account for 6.8 percent of all vehicles. Heavy-duty diesel highway vehicle sales were considered to be constant over the next five years. The number of vehicles for both medium-duty vehicles and heavy-duty vehicles sold in a typical year was multiplied by the appropriate cost estimates derived in the CAREB staff report and grown by the rate of inflation (2.82% per year) over two years. Pennsylvania sales tax was factored in for consumers. This regulation takes effect for model year 2005, which can be produced as early as January 2004. This corresponds to FY +3. We assumed that all vehicles purchased in the second half of FY +3 were affected by this regulation. All of the vehicles purchased in FY + 4 were affected by this regulation and only vehicles to be purchase in the first half of FY + 5 were affected by this regulation. There will be a slight increase in operating costs of no more than \$8.62 a year per truck.

**Local Government:** Costs will be estimated by multiplying the number of heavy-duty trucks purchased by local governments by the California estimated costs and grown by the rate of inflation over five years. Operating costs will not exceed \$8.62 per vehicle per year.

**State Government:** Individual state agencies that were thought to be major purchasers of diesel vehicles with a GVWR over 14,000 lb. were contacted. The agencies contacted were Fish and Boat, Game Commission, PennDOT, Turnpike Commission, and Department of General Services. We obtained an estimate of the average yearly purchases by these agencies. PennDOT purchases 170. Fish and Boat and Game Commissions each purchase about 3. Turnpike Commission purchases about 25. DGS purchases zero. The costs were estimated by multiplying the number of vehicles by the California estimated costs and grown by the rate of inflation. Operating cost will not exceed \$8.62 per vehicle per year.

(20b) Provide the past three year expenditure history for programs affected by the regulation.

No programs were affected by this regulation over the last three years.

Program	FY-3	FY-2	FY-1	Current FY
Air Quality	\$31,000,000	\$27,000,000	\$26,000,000	\$27,000,000

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(21) Using the cost-benefit information provided above, explain how the benefits of the regulation outweigh the adverse effects and costs.

These supplementary emission-testing requirements in this regulation are a cost effective means to reducing ozone-forming emissions in areas that need the reductions most. An area that fails to attain the standard runs the risk of sanctions, which could include the loss of all federal highway funds.

In addition, the health risks associated with nonregulation, described in (12), will be reduced, thereby lowering health-care and related costs in the affected area.

(22) Describe the nonregulatory alternatives considered and the costs associated with those alternatives. Provide the reasons for their dismissal.

A single program that is large enough to bring Pennsylvania into attainment is impossible. Both regulatory and nonregulatory (including voluntary) measures will be necessary for clean air, as well as controlling emissions from upwind states. This regulation adopts a rule with which engine manufacturers will already be complying and extends that rule two years so that manufacturers do not slide back into the practice of producing engines that are not tested under real-world conditions.

The Department has formed four stakeholder groups in an attempt to devise strategies for four regions of the state. Both regulatory and nonregulatory approaches have been explored and implemented. All of these groups discussed and recommended control measures for diesel truck emissions. While they did not recommend this control measure specifically, they did recognize the importance of controlling emissions from highway diesel vehicles.

(23) Describe alternative regulatory schemes considered and the costs associated with those schemes. Provide the reasons for their dismissal.

The Clean Air Act precludes a state from making a "third vehicle" or in other words, adopting a third emission standard for any type of vehicle or engine; therefore, Pennsylvania could not consider its own emission standards. The Commonwealth is limited to adopting either federal or California standards.

The Department also considered using registration or title denial as a mechanism for ensuring that dealers sell only CARB certified heavy-duty diesel vehicles and engines. After consulting with the Pennsylvania Department of Transportation, the Department discovered that legislation would be required to deny titling or registration for emission standards.

## Regulatory Analysis Form

(24) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulation.

The United States EPA requires that the test procedures adopted in this regulation be in effect from 2002 to 2004 for all heavy-duty diesel engine consent decree manufacturers. These manufacturers account for 60 percent of all HDDEs manufactured in the country. EPA included these procedures in the regulation Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements or "2007 Rule." In addition, the U.S. EPA attempted to have these test procedures incorporated into their Control of Emissions of Air Pollution from 2004 and Later Model Year Heavy-Duty Highway Engines in order to cover the years 2005 and 2006, but was unable to do so due to time constraints. The Commonwealth needs to adopt these regulations so that engine manufacturers perform these test procedures and continue to offer engines and vehicles that have been tested over the widest set of conditions. This regulation will preserve the amount of emission reductions that the equipment of today can offer.

(25) How does the regulation compare with those of other states? Will the regulation put Pennsylvania at a competitive disadvantage with other states?

In addition to California and Pennsylvania, at least 18 other states and the District of Columbia are proposing to adopt California's regulation. The states that are proposing to adopt this regulation account for a large percentage of the population of the United States, and thus, truck sales. We believe that if these large states adopt this regulation that the test procedures adopted will become a de facto national standard.

(26) Will the regulation affect existing or proposed regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

Adoption of the Pennsylvania Heavy-Duty Diesel Emissions Control program will not affect any existing or proposed regulations of the promulgating agency or other state agency.

(27) Will any public hearings or informational meetings be scheduled? Please provide the dates, times, and locations, if available.

No. Engine manufacturers, who are the entities most regulated by this rule, have vast experience complying with these requirements.

## Regulatory Analysis Form

(28) Will the regulation change existing reporting, record keeping, or other paperwork requirements? Describe the changes and attach copies of forms or reports which will be required as a result of implementation, if available.

Engine manufacturers will be required to include on their manufacturers statement of origin (MSOs) proof that their engine or vehicle complies with California emission requirements. Engine manufacturers will be required to submit to the Department a report documenting the total deliveries for sale of engines and vehicles for each engine family over the model year in the Commonwealth. In addition, each heavy-duty diesel engine and vehicle manufacturer shall submit annually to the Department a report of all its heavy-duty diesel engines or vehicles that were included in any of the emissions averaging, banking, and trading programs for heavy-duty diesel engines within the requirements of Title 13, CCR, Division 3, Chapter 1, Article 2, Section 1956.8. These requirements will help the Department calculate emission reductions achieved by the program based on actual vehicle sales.

Vehicle dealers are already required to keep sales records for three years as part of a Pennsylvania Department of Transportation requirement.

(29) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers.

Compliance assistance will be provided to affected parties, primarily heavy-duty diesel vehicle dealers, by distributing written information and conducting workshops in cooperation with the associations representing truck dealers and purchasers. We will work through the appropriate state trade organizations to distribute information to their members. In addition, the Commonwealth will explain the program to the HDDV-buying public through its normal communication mechanisms like press releases and compliance assistance bulletins.

(30) What is the anticipated effective date of the regulation; the date by which compliance with the regulation will be required; and the date by which any required permits, licenses or other approvals must be obtained?

The anticipated effective date of the regulation will be in the first half of 2002. The program would first affect the engine models manufactured two years after the effective date (model year 2005).

(31) Provide the schedule for continual review of the regulation.

The regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

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*Crestina S. Caputo*

(DEPUTY ATTORNEY GENERAL)

AUG 15 2001

DATE OF APPROVAL

Check if applicable  
Copy not approved. Objections  
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Copy below is hereby certified to be a true and correct copy  
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DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ENVIRONMENTAL QUALITY BOARD

(AGENCY)

DOCUMENT/FISCAL NOTE NO. 7-365

DATE OF ADOPTION:

BY: *David E. Hess*

TITLE: DAVID E. HESS, CHAIRMAN  
(EXECUTIVE OFFICER, CHAIRMAN OR SECRETARY)

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BY: *B. Justice*

7/23/01

DATE OF APPROVAL

(Deputy General Counsel)  
(Chief Counsel, Independent Agency)  
(Strike inapplicable title)

Check if applicable. No Attorney General approval or objection within 30 days after submission.

NOTICE OF  
PROPOSED RULEMAKING  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ENVIRONMENTAL QUALITY BOARD

Heavy-Duty Diesel Emissions Control Program

25 Pa. Code, Chapter 121 and Chapter 126, Sub. E

**NOTICE OF PROPOSED RULEMAKING  
ENVIRONMENTAL QUALITY BOARD  
[25 PA CODE CHAPTERS 121 AND 126]  
HEAVY-DUTY DIESEL EMISSIONS CONTROL PROGRAM**

**PREAMBLE**

The Environmental Quality Board (Board) proposes to amend Chapters 121 and 126 (relating to general provisions and motor vehicle and fuels programs) to read as set forth in Annex A.

The proposed rulemaking establishes a new heavy-duty diesel emissions control program designed to primarily reduce emissions of carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), volatile organic compounds (VOCs), particulate matter (PM), and air toxics from new heavy-duty diesel engines and trucks. The proposed amendments adopt and incorporate by reference certain requirements of the California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Model Year Heavy-Duty Engines and Vehicles as authorized under section 177 of the Clean Air Act (42 U.S.C.A. § 7507) (CAA).

This proposal was adopted by the Board at its meeting of July 17, 2001.

**A. Effective Date.**

These proposed amendments will be effective immediately upon publication in the *Pennsylvania Bulletin* as final rulemaking.

**B. Contact Persons.**

For further information, contact Arleen Shulman, Chief, Mobile Sources Section, Division of Air Resource Management, Bureau of Air Quality, Rachel Carson State Office Building, 12<sup>th</sup> Floor, P.O. Box 8468, Harrisburg, PA 17105-8468, (717) 787-9495, or Robert A. Reiley, Assistant Counsel, Bureau of Regulatory Counsel, Office of Chief Counsel, Rachel Carson State Office Building, 9<sup>th</sup> Floor, P.O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-7060.

**C. Statutory Authority.**

The proposed rulemaking is being made under the authority of section 5(a)(1) of the Air Pollution Control Act (act)(35 P.S. §4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. The Board is also expressly

authorized by section 5(a)(7) of the act to adopt regulations designed to reduce emissions from motor vehicles.

#### **D. Background and Purpose.**

Heavy-duty diesel (HDD) engines and vehicles contribute greatly to a number of serious health and welfare problems. First, they emit pollutants like PM, sulfur oxides (SO<sub>x</sub>), toxic compounds, such as formaldehyde, and ozone precursors, such as NO<sub>x</sub> and VOCs, whose documented adverse health effects include premature mortality, aggravation of respiratory and cardiovascular disease, changes in lung function and increased respiratory symptoms, changes to lung tissues and structures, altered respiratory defense mechanisms, chronic bronchitis, and decreased lung function. Second, ozone pollution causes crop and forestry losses, and PM causes damage to materials and soiling of commonly used building materials and culturally important items such as statues and works of art. Third, NO<sub>x</sub>, SO<sub>x</sub>, and PM contribute to visibility impairment. Fourth, NO<sub>x</sub> emissions from HDD vehicles contribute to the acidification, nitrification, and eutrophication of water bodies. Fifth, the U.S. Environmental Protection Agency (EPA) has concluded that diesel exhaust is likely to be carcinogenic to humans. Finally, while vehicles powered by HDD engines account for about only one percent of all motor vehicles and equipment, they are responsible for nearly a quarter of NO<sub>x</sub> emissions.

Emissions from HDD engines and vehicles account for a substantial portion of ambient PM and ground-level ozone levels. These proportions are higher in some urban areas. Urban areas, which include many poorer neighborhoods, can be disproportionately impacted by HDD vehicle emissions because of heavy traffic in densely populated urban areas.

In addition, due to its location in the Northeast, the Commonwealth is a conduit for a large amount of truck traffic. If this rulemaking is not adopted, Pennsylvania can expect an additional 12.5 tons of NO<sub>x</sub> emissions per average summer day in 2006 statewide from the trucks manufactured in 2005 and 2006. In the 5-county Philadelphia area alone, model year 2005 and 2006 trucks are expected to emit an additional 2 tons of NO<sub>x</sub> per average summer day in 2006 without these additional controls.

HDD engines and vehicles have not been subject to many environmental regulations since passage of the Clean Air Act in 1970. EPA's regulation of HDD engines and vehicles did not begin until 1984, when the agency adopted a 10.7 grams/brake horsepower-hour (g/bhp-hr) NO<sub>x</sub> standard. EPA's NO<sub>x</sub> emissions standards for 1998 to 2003 model year HDD engines are 4 g/bhp-hr. EPA currently requires testing of the engine (with emission control systems in place) rather than the entire vehicle. Thus the standards are expressed in units of g/bhp-hr (i.e. grams of emission per unit of work the engine performs over a period of time), rather than the grams per mile unit used for testing passenger cars and light-duty trucks.

Before being offered for sale, new engines must be certified to compliance with federal emissions standards. Engines are tested for certification using an engine dynamometer. The performance test cycle or cycles for determining compliance with numerical standards plays an important part in determining the stringency of the existing standards. It is the performance test that serves as the basis for determining this compliance.

Currently, EPA only tests engines with the federal test procedure (FTP) to determine compliance with the HDD engine standards. The FTP, however, only represents a small portion of "real world" driving conditions. For example, the FTP does not include elevated high temperatures and highway cruise patterns. It is therefore inadequate in testing emissions under these conditions.

Several years ago, the United States Department of Justice, EPA, and the California Air Resources Board (CARB) brought major enforcement actions alleging that seven of the largest HDD engine and vehicle manufacturers (representing approximately 60 percent of HDD engine sales) violated federal and California engine certification regulations by "defeating" or turning off diesel emission control devices during in-use highway driving. The manufacturers employed "defeat devices" in the HDD engines for model years 1988 through 1998. With these defeat devices, emission controls typically were turned off during cruising conditions to save fuel. This allowed NOx emissions as high as three times the emission standard. It is estimated that in 1998 alone, the "defeat devices" caused approximately 1.3 million tons of excess NOx emissions nationally.

The federal government and the seven HDD engine and vehicle manufacturers resolved the cases through settlement agreements. In 1998 they entered into judicial consent decrees (binding settlement orders) that imposed substantial penalties upon the seven manufacturers and required them to achieve additional emission reductions.

In the consent decrees, the settling manufacturers are required, among other things, to produce HDD engines and vehicles that comply with prescribed emission standards that are lower than those required in current California and federal regulations, as measured by the FTP. Specifically, these engines must meet a 2.5 g/bhp-hr standard for non-methane hydrocarbons (NMHC) plus NOx emissions no later than October 1, 2002. This will require production of new engines that are approximately 50 percent cleaner than current engines.

The majority of these settling engine manufacturers (Caterpillar, Cummins, Detroit Diesel, Mack Trucks, Renault (RVI) and Volvo Trucks) have also agreed to produce HDD engines by October 1, 2002 that meet supplemental certification test procedures. Together with the FTP test, the supplemental test procedures will require control of emissions during the majority of "real world" operating conditions,

insuring that in the future “defeat devices” will no longer be employed. This will result in significant additional emission reductions of NO<sub>x</sub> and other pollutants during “real world” conditions. These supplemental test procedures are designed to make up for the deficiencies of the FTP.

The California rules require manufacturers to perform supplemental test procedures, in addition to the existing FTP. The two components of the supplemental test are known as the Not To Exceed (NTE) test and the EURO III European Stationary Cycle (ESC) test. The ESC test also has associated requirements known as maximum achievable emission limits (MAEL).

The NTE test procedure can be run in a vehicle on the road or in an emissions testing laboratory using an appropriate dynamometer. The vehicle or engine is operated under conditions that may reasonably be expected in normal vehicle operation and use, including operation under steady-state or transient conditions and under varying ambient conditions. Emissions are averaged over a minimum time of 30 seconds and then compared to the applicable emission limits.

The ESC test simulates cruising conditions better than either the FTP or the NTE procedures. This can help prevent excess emissions increasing during highway driving. This test consists of 13 modes of speed and power, primarily covering the typical highway cruise operating range of HDD engines. During each mode of operation, the concentration of the gaseous pollutant is measured and weighted. The weighted average emissions for each pollutant, as calculated by this test, must not be greater than the applicable FTP emission standard.

The MAEL requirements can be considered an adjunct to the ESC test because they are utilized during the 12 non-idle test modes of that test. The MAEL specifications prevent manufacturers from complying with the ESC using computer programs that “recognize” when the engine is being tested at specific test points, and then recalibrating for better fuel economy (which results in higher emissions) between test points. The MAEL requirements ensure that emissions do not exceed a cap when operating within the non-idle ESC test modes.

Since certifying HDD engines using the NTE and ESC tests produces much higher reductions than the reductions achieved when only the FTP is used, EPA issued a final rule to adopt these supplemental test procedures for 2004 and subsequent model year HDD engines and vehicles. *See*, 65 F.R. 59895 (October 6, 2000). However, due to timing constraints that the Clean Air Act imposes on EPA under Section 202 (42 U.S.C.A. §7521), manufacturers will not be required to comply with the NTE and ESC test procedures until 2007 model year. Therefore, there will be a two-year gap between the expiration of these test procedures for the settling manufacturers following the 2004 model year and the commencement of the test procedures for model year 2007 under EPA’s final rule.

As a result, for two entire model years there may be serious “backsliding”; that is, diesel exhaust emissions could increase significantly above the previous levels mandated by the consent decrees. For this reason, California decided to “fill the gap” by requiring compliance with the NTE and ESC test procedures in addition to the FTP test procedure during the 2005 and 2006 model years. Moreover, this regulation will apply to all manufacturers, not just those affected by the consent decrees, who may want to enter the U.S. HDD engine market to gain an unfair competitive advantage.

A number of states have recognized the benefits of adopting these test procedures to prevent any backsliding attempts by HDD engine and vehicle manufacturers and to maintain improved air quality. These states are anticipated to develop rules similar to those proposed in Pennsylvania. If enough states adopt these test procedures, it could result in a de facto national standard, removing any differences in engines and engine costs among states.

The Commonwealth also recognizes the benefits of adopting these test procedures. It is estimated that an additional 12.5 tons of NO<sub>x</sub> emissions per average summer day statewide from trucks manufactured in 2005 and 2006 will be reduced through the adoption of this rule.

The proposed rulemaking establishes a heavy-duty diesel emissions program consistent with the requirements of Section 177 of the CAA (42 U.S.C.A. § 7507) and will serve as the framework for the Commonwealth’s program to control emissions from new HDD engines and vehicles.

The CAA allows California (and only California) to obtain a waiver of federal preemption to continue to set its own motor vehicle standards. The CAA was amended in 1977 to allow states to adopt emission standards for motor vehicles if the standards are identical to the California standards and a state adopts the standard at least two years before commencement of the model year.

Congress amended Section 177 in 1990 to prohibit States from taking any action that would have the effect of creating a motor vehicle or motor vehicle engine different than a motor vehicle or engine certified in California under California standards or otherwise create a “third vehicle.”

The Commonwealth’s proposed heavy-duty diesel emissions control program does not mandate the sale or the use of any special diesel fuel which complies with the specifications adopted by the state of California. The courts have held that a State’s failure to adopt California fuel requirements does not violate the Section 177 requirement that state emission standards be “identical to the California standards

for which a waiver has been granted.” *Motor Vehicle Manufacturers Association of the United States v. New York State Department of Environmental Conservation*, 177 F. 3d 521(2d Cir. 1994).

Since heavy-duty diesel engines are engine certified, currently there is no mechanism in California to ensure that either a replacement engine or rebuild complies with requirements at least as stringent as the original engine. However, non-regulatory common practice dictates that when an engine is replaced, it is typically replaced with a newer, lower-emitting engine due to hardware and electronics compatibility concerns. Additionally, modern electronically controlled engines typically operate for more than 500,000 miles (and in many cases more than 1,000,000 miles) before requiring replacements/rebuilds. By the time a typical replacement/rebuild occurs, engines older than the original engines are generally too old to be used or are not available.

Following promulgation of the proposed new heavy-duty diesel emissions control program regulations, amendments to Chapters 121 and 126 will be submitted to EPA as a revision to the State Implementation Plan.

Under section 5(a)(7) of the Air Pollution Control Act, the Department consulted with the Department of Transportation during the development of the proposed amendments. The Department also consulted with the Air Quality Technical Advisory Committee (AQTAC) on the proposed rulemaking. On April 27, 2001, the AQTAC recommended that the proposed rulemaking be submitted to the Board for consideration. AQTAC also suggested that the Department continue its aggressive efforts with other states to support uniform federal standards for heavy-duty diesel vehicles to ensure progress in significantly reducing truck emissions during this decade.

This proposed rulemaking is consistent with the mandate under Executive Order 1996-1. The proposed rulemaking is necessary to achieve and maintain the ambient air quality standard for ozone and as such is justified as a compelling and articulable State interest as required under the Executive Order.

#### **E. Summary of Regulatory Requirements.**

This proposal establishes the requirements for the implementation of a new heavy-duty diesel emissions control program. A summary of the proposed rulemaking follows:

## ***Chapter 121. General Provisions***

The proposed amendments to Section 121.1 (relating to definitions) include terms and phrases applicable to the New Heavy-Duty Diesel Emissions Control Program. The proposed definitions include the following terms: “heavy-duty diesel engine” and “heavy-duty diesel vehicle.”

The proposed rulemaking also amends the definition of new motor vehicle or new light-duty vehicle to include vehicles subject to the requirements of the Heavy-Duty Diesel Emissions Control Program.

## ***Chapter 126. Motor Vehicle and Fuels Programs***

### ***Subchapter E. Pennsylvania Heavy-Duty Diesel Emissions Control Program***

The title of Chapter 126 is proposed to be changed from “Standards for Motor Fuels” to “Motor Vehicle and Fuels Programs.” Subchapter E contains provisions that establish a new heavy-duty diesel emissions control program in this Commonwealth to reduce the emissions of NO<sub>x</sub>, SO<sub>x</sub>, PM, and air toxics from HDD engines and vehicles under Section 177 of the CAA.

Proposed §126.501 (relating to purpose) establishes a heavy-duty diesel emissions control program consistent with the requirements of Section 177 of the CAA. It adopts and incorporates by reference certain provisions of the California exhaust emissions standards and test procedures for 1985 and subsequent model year HDD engines and vehicles. It also provides for certain exemptions from the program.

Proposed §126.502(a) (relating to general requirements) provides that the Pennsylvania Heavy-Duty Diesel Emission Control Program applies to new model year 2005 and subsequent model year HDD engines and vehicles with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are sold, leased, offered for sale or lease, imported, delivered, purchased, rented, acquired, or received in this Commonwealth.

As proposed § 126.502(b) adopts and incorporates by reference the provisions of the California Exhaust Emissions Standards and Test Procedures for 1985 and Subsequent Heavy-Duty Engines and Vehicles to the extent that they pertain to model year 2005 and subsequent model year HDD engines and vehicles with a GVWR of greater than 14,000 pounds.

As proposed § 126.502(c) adopts and incorporates by reference the provisions of the California Enforcement of Vehicle Emission Standards and Surveillance

Testing under Title 13 California Code of Regulations (CCR), Division 3, Chapter 2, Article 1.5, § 2065.

Proposed § 126.503 (relating to emission requirements) provides that a person may not sell, import, deliver, purchase, lease, rent, acquire or receive a model year 2005 and subsequent model year HDD engine or vehicle that is subject to the requirements of this program that has not received a CARB executive order for all applicable requirements of Title 13 CCR.

As proposed § 126.503(b) allows manufacturers the option to include any of the HDD engines or vehicles it sells in this Commonwealth to participate in the averaging, banking and trading programs as provided under Title 13 CCR, Division 3, Chapter 1, Article 2, Section 1956.8.

As proposed § 126.503(c) allows manufacturers the option to certify any of its HDD engines and vehicles delivered for sale in this Commonwealth to the optional emission standards as provided under Title 13 CCR, Division 3, Chapter 1, Article 2, § 1956.8.

As proposed § 126.503(d) requires that all new heavy-duty engines and vehicles subject to the requirements of this subject chapter shall possess a valid emissions control label which meets the requirements of Title 13, CCR, Division 3, Chapter 1, Section 1965.

Proposed §126.504 (relating to exemptions) provides that the following are exempt from the Pennsylvania Heavy-Duty Diesel Emissions Control Program: emergency vehicles; a HDD engine or vehicle transferred by a dealer to another dealer; a HDD vehicle transferred for use exclusively off highway; a HDD vehicle granted a national security or testing exemption under Section 203 (b)(1) of the CAA (42 U.S.C.A. § 7522(b)); a HDD vehicle defined as a military tactical vehicle or engine under Title 13, CCR, Division 3, Chapter 1, Article 1, Section 1905; a HDD vehicle sold after the effective date of the final rule if it was registered in this Commonwealth before the effective date of the final rule; a HDD engine or vehicle for the model years 2005 and 2006 manufactured by an ultra-small volume manufacturer as defined under Title 13 CCR, Division 3, Chapter 1, Article 2, Section 1976(f)(2); an urban bus as defined under Title 13, CCR, Division 3, Chapter 1, Article 2, Section 1956.2(b)(4) for model years 2005 and 2006; and a HDD engine that following a technology review, CARB determines it to be inappropriate to require compliance with the emissions standards under Section 1956.8 for that particular model year.

Proposed § 126.511 (relating to new engine and vehicle certification testing) requires that prior to being offered for sale or lease in this Commonwealth, new

HDD engines and vehicles shall be certified as meeting the motor vehicle requirements of Title 13 CCR, Division 3, Chapter 1, Article 2, Section 1956.8.

Proposed § 126.512 (relating to new engine and vehicle compliance testing) requires that prior to being offered for sale or lease in this Commonwealth, new HDD engines and vehicles shall be certified as meeting the heavy-duty diesel engine and vehicle requirements of Title 13 CCR, Division 3, Chapter 1, Article 2, § 1956.8 as determined by Title 13 CCR, Chapter 2, Article 2, §§ 2101-2110.

Proposed § 126.513 (relating to assembly line testing) provides that each manufacturer of new heavy-duty diesel engines and vehicles subject to the Pennsylvania Heavy-Duty Diesel Emission Control Program shall conduct assembly line testing in accordance with Title 13 CCR, Chapter 2, Article 1.

Proposed §126.514 (relating to in-use engine and vehicle enforcement testing) provides that for the purposes of detection and repair of engines and vehicles that fail to meet the emission requirements of the program, the Department may, after consultation with CARB, conduct in-use vehicle enforcement testing in accordance with the protocol and testing procedures under Title 13 CCR, Division 3, Chapter 2, Article 2.3, Sections 2136-2140.

Proposed §126.515 (relating to in-use surveillance testing) provides that the Department may conduct in-use surveillance testing after consultation with CARB.

Proposed §126.521 (relating to warranty and recall) provides that manufacturers of new HDD engines and vehicles shall warrant to the owner that each engine or vehicle complies over its period of warranty coverage with the requirements of Title 13 CCR, Division 3, Chapter 1, Article 6, Sections 2036, 2039, 2040, and 2041.

As proposed under § 126.521(b), each manufacturer shall submit to the Department failure of emission-related component reports for engines and vehicles subject to the program.

As proposed under § 126.521(c), any voluntary or influenced-related recall programs initiated by a HDD engine or vehicle manufacturer shall extend to all new HDD engines or vehicles in the Commonwealth.

As proposed under § 126.521(d), any in-use vehicle ordered recalls under Title 13 CCR, Division 3, Chapter 2, Article 2.2, §§ 2122-2135 shall extend to all new heavy-duty diesel engines and vehicles sold, leased, or offered for sale or lease in this Commonwealth.

Proposed §126.522 (relating to reporting requirements) provides that each manufacturer shall submit annually to the Department a report documenting the total deliveries for sale of HDD engines and vehicles for each engine family of that model year in this Commonwealth.

As proposed under § 126.522(b) each HDD engine and vehicle manufacturer shall submit annually to the Department a report of all of its heavy-duty diesel engines or vehicles delivered for sale that were included in any of the emissions averaging, banking and trading programs for heavy-duty diesel vehicles within the requirements of Title 13 CCR, Division 3, Chapter 1, Section 1965.

Proposed §126.531 (relating to responsibilities of heavy-duty diesel highway vehicle dealers) provides that a dealer must convey to the owner of a new HDD engine or vehicle subject to the requirements of this subchapter a valid emission control label which meets the requirements of Title 13 CCR, Division 3, Chapter 1, Section 1965.

As proposed § 126.531(b) a dealer may not sell, offer for sale or lease, or deliver a new heavy-duty diesel engine or vehicle subject to the requirements of this subchapter unless the engine or vehicle conforms to the standards and requirements under Title 13 CCR, Division 3, Chapter 2, Article 3, § 2151.

As proposed under § 126.531(c) a dealer who imports, sells, delivers, leases, or rents any HDD engines or vehicles subject to the requirements of this subchapter shall retain records concerning such a transaction for at least three years following the transaction.

#### **F. Benefits and Costs.**

Executive Order 1996-1 requires a cost/benefit analysis of the proposed amendments.

**Benefits.** The new heavy-duty diesel engine and vehicle emissions control program will contribute to the attainment and maintenance of the ozone health-based standard in this Commonwealth due to emission reductions from the operation of lower-emitting heavy-duty diesel vehicles. Modeling data from the Philadelphia area indicates that daily emissions of NO<sub>x</sub> will be reduced by 2 tons per average summer day and 12.5 tons per average summer day statewide from trucks manufactured in 2005 and 2006 that are subject to the requirements of this program. In addition, it is anticipated that the health of the citizens of this Commonwealth will benefit from these reductions as well as through reduced exposure of air toxics, NO<sub>x</sub> and other air pollutants, which place people's health at risk.

**Compliance Costs.** The primary cost to the trucking industry will be incurred when purchasing a new truck or engine. In 2005, this regulation could increase the average cost of an engine, which has a useful life of 15 to 20 years, by as much as \$800 and increase operating costs by up to \$9 per year. Because it is difficult to separate the incremental cost of the supplemental tests from other aspects of complying with federal and California standards, the actual cost is anticipated to be much lower.

**Compliance Assistance Plan.** Compliance assistance will be provided to affected parties, primarily automobile dealers, by distributing pamphlets and conducting public meetings and workshops to explain the proposed regulatory requirements. The Department will involve appropriate state trade organizations in the distribution of information to their membership. Information concerning the program will also be provided to affected consumers.

**Paperwork Requirements.** Heavy-duty diesel engine and vehicle manufacturers will be required to submit paperwork demonstrating compliance with the emissions standards and other requirements of the Pennsylvania heavy-duty diesel emissions control program. Heavy-duty diesel engine and vehicle dealers, leasing and rental agencies, and purchasers of heavy-duty diesel engines and vehicles must demonstrate to the Department that new vehicles subject to the proposed amendments meet the emissions standards.

#### **G. Sunset Review.**

The proposed amendments will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the amendments effectively fulfill the goals for which they were intended.

#### **H. Regulatory Review.**

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5 (a)), on August 21, 2001, the Department submitted a copy of the proposed rulemaking to the Independent Regulatory Review Commission (IRRC) and to the Chairpersons of the Senate and House Environmental Resources and Energy Committees. In addition to submitting the proposed amendments, the Department has provided IRRC and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, if IRRC has objections to any portion of the proposed amendments, it will notify the Department within 10 days following the close of the Committees' review period. The notification shall specify the regulatory review criteria that have not been met by that portion of the

proposed amendments to which an objection is made. The Regulatory Review Act specifies detailed procedures for review by the Department, the Governor and the General Assembly prior to final publication of the regulation.

**I. Public Comments.**

**Written Comments** – Interested persons are invited to submit comments, suggestions or objections regarding the proposed amendments to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15<sup>th</sup> Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions or objections must be received by the Board by November 9, 2001. Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by November 9, 2001. The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulation will be considered.

**Electronic Comments** – Comments may be submitted electronically to the Board at [RegComments@state.pa.us](mailto:RegComments@state.pa.us). A subject heading of the proposal and return name and address must be included in each transmission. Comments submitted electronically must also be received by the Board by November 9, 2001.

**J. Public Hearings.**

The Board will hold three public hearings for the purpose of accepting comments on this proposal. The hearings will be held at 1 p.m. on the following dates and at the following locations:

- |                  |  |
|------------------|--|
| October 1, 2001  | Department of Environmental Protection<br>Southcentral Regional Office<br>909 Elmerton Avenue<br>Harrisburg, Pa.                 |
| October 4, 2001  | Department of Environmental Protection<br>Southeast Regional Office<br>Suite 6010, Lee Park, 555 North Lane<br>Conshohocken, Pa. |
| October 10, 2001 | Department of Environmental Protection<br>Southwest Regional Office<br>500 Waterfront Drive<br>Pittsburgh, Pa.                   |

Persons wishing to present testimony at a hearing are requested to contact Debra Failor at the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, at least 1 week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to 10 minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons with a disability who wish to attend the hearing and require an auxiliary aide, service or other accommodation in order to participate should contact Debra Failor at (717) 787-4526, or through the Pennsylvania AT&T Relay Service at 1 (800) 654-5984 (TDD) to discuss how the Department may accommodate their needs.

By:

David E. Hess  
Chairman

Annex A

TITLE 25. ENVIRONMENTAL PROTECTION

PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

Subpart C. PROTECTION OF NATURAL RESOURCES

ARTICLE III. AIR RESOURCES

CHAPTER 121. GENERAL PROVISIONS

§ 121.1. Definitions.

The definitions in section 3 of the act (35 P.S. § 4003) apply to this article. In addition, the following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

\* \* \* \* \*

**Heavy-duty diesel engine – a diesel engine that is used to propel a motor vehicle with a Gross Vehicle Weight Rating of greater than 14,000 pounds.**

**Heavy-duty diesel vehicle – a diesel-powered motor vehicle with a Gross Vehicle Weight Rating of greater than 14,000 pounds.**

\* \* \* \* \*

*New motor vehicle or new light-duty vehicle* -A motor vehicle for which the equitable or legal title has never been transferred to the ultimate purchaser. For purposes of the Pennsylvania Clean Vehicles Program **and the Pennsylvania Heavy-Duty Diesel Emissions Control Program**, the equitable or legal title to a motor vehicle with an odometer reading of 7,500 miles or more shall be considered to be transferred to the ultimate purchaser. If the equitable or legal title to a motor vehicle with an odometer reading is less than 7,500 miles, the vehicle will not be considered to be transferred to the ultimate purchaser.

\* \* \* \* \*

**CHAPTER 126. [STANDARDS FOR MOTOR FUELS]  
MOTOR VEHICLE AND FUELS PROGRAMS**

Editor's Note: This subchapter is new and is printed in regular type to enhance readability.

**Subchapter E. PENNSYLVANIA HEAVY-DUTY DIESEL  
EMISSIONS CONTROL PROGRAM**

**GENERAL PROVISIONS**

- 126.501. Purpose
- 126.502. General Requirements
- 126.503. Emission Requirements
- 126.504. Exemptions

**APPLICABLE HEAVY-DUTY ENGINE AND VEHICLE TESTING**

- 126.511. New engine and vehicle certification testing
- 126.512. New engine and vehicle compliance testing
- 126.513. Assembly line testing
- 126.514. In-use engine and vehicle enforcement testing
- 126.515. In-use surveillance testing

**ENGINE AND VEHICLE MANUFACTURERS' OBLIGATIONS**

- 126.521. Warranty and recall
- 126.522. Reporting requirements

**MOTOR VEHICLE DEALER RESPONSIBILITIES**

- 126.531. Responsibilities of heavy-duty diesel highway vehicle dealers

**GENERAL PROVISIONS**

**§ 126.501. Purpose.**

- (a) This subchapter establishes a heavy-duty diesel emissions control program under section 177 of the Clean Air Act (42 U.S.C.A. § 7507) designed primarily to achieve emission

reductions of the precursors of ozone, particulate matter, air toxics, and other air pollutants from new heavy-duty diesel engines and vehicles.

(b) This subchapter adopts and incorporates by reference certain provisions of the California Exhaust Emission Standards and Test Procedures for Heavy-Duty Diesel Engines and Vehicles.

(c) This subchapter also exempts certain new heavy-duty diesel engines and vehicles from this new emissions control program.

**§ 126.502. General Requirements.**

(a) The Pennsylvania Heavy-Duty Diesel Emissions Control Program requirements apply to new heavy-duty diesel engines and vehicles with a gross vehicle weight rating (GVWR) of greater than 14,000 pounds that are sold, leased, offered for sale or lease, imported, delivered, purchased, rented, acquired, or received, in this Commonwealth starting with the model year 2005, and each model year thereafter.

(b) The provisions of the California Exhaust Emission Standards and Test Procedures for 1985 and Subsequent Heavy-Duty Engines and Vehicles, Title 13, CCR, Division 3, Chapter 1, Article 2, Section 1956.8 are adopted and hereby incorporated by reference to the extent that they pertain to the requirements for heavy-duty diesel engines and vehicles with a GVWR of greater than 14,000 pounds.

(c) The provisions of the California Enforcement of Vehicle Emission Standards and Surveillance Testing, Title 13 CCR, Division 3, Chapter 2, Article 1.5, Section 2065, are adopted and hereby incorporated by reference.

**§ 126.503. Emission requirements.**

(a) Starting with model year 2005, a person may not sell, import, deliver, purchase, lease, rent, acquire, or receive a new heavy-duty diesel engine or vehicle, subject to the Pennsylvania

Heavy-Duty Diesel Emissions Control Program requirements, in this Commonwealth that has not received a CARB Executive Order for all applicable requirements of Title 13 CCR, incorporated herein by reference.

(b) Starting with the model year 2005, a manufacturer may elect to include its heavy-duty diesel engines or vehicles delivered for sale in this Commonwealth in the emissions averaging, banking, and trading programs for heavy-duty diesel engines or vehicles as provided under Title 13 CCR, Division 3, Chapter 1, Article 2, Section 1956.8.

(c) Starting with model year 2005, a manufacturer may elect to certify any of its heavy-duty diesel engines or vehicles delivered for sale in this Commonwealth to the optional emission standards as provided under Title 13 CCR, Division 3, Chapter 1, Article 2, Section 1956.8.

(d) New heavy-duty diesel engines and vehicles subject to the requirements of this subchapter shall possess a valid emissions control label that meets the requirements of Title 13 CCR, Division 3, Chapter 1, Section 1965, incorporated herein by reference.

**§ 126.504. Exemptions.**

The following new heavy duty diesel engines and vehicles are exempt from the Pennsylvania Heavy-Duty Diesel Emissions Control Program requirements of this subchapter:

- 1) Emergency vehicles.
- 2) A heavy-duty diesel vehicle transferred by a dealer to another dealer.
- 3) A heavy-duty diesel vehicle transferred for use exclusively off-highway.
- 4) A heavy-duty diesel vehicle granted a National security or testing exemption under section 203(b)(1) of the Clean Air Act (42 U.S.C.A. § 7522(b)(1)).
- 5) A heavy-duty diesel vehicle defined as a military tactical vehicle or engine under Title 13, CCR, Division 3, Chapter 1, Article 1, Section 1905, incorporated herein by reference.

- 6) A heavy-duty diesel vehicle sold after the effective date of the final rule, if the vehicle was registered in this Commonwealth before the effective date of the final rule.
- 7) A heavy-duty diesel engine or vehicle for the model years 2005 and 2006 manufactured by an ultra-small volume manufacturer as defined under Title 13, Division 3, Chapter 1, Article 2, Section 1976(f)(2), incorporated herein by reference.
- 8) For model years 2005 and 2006, an urban bus as defined under Title 13 CCR, Division 3, Chapter 1, Article 2, Section 1956.2(b)(4), incorporated herein by reference.
- 9) A heavy-duty diesel engine or vehicle that, following a technology review, CARB determines is inappropriate to require compliance with the emission standards under Section 1956.8 for a particular model year.

## **APPLICABLE HEAVY-DUTY ENGINE AND VEHICLE TESTING**

### **§ 126.511. New engine and vehicle certification testing.**

- (a) Prior to being offered for sale or lease in this Commonwealth, new heavy-duty diesel engines and vehicles subject to the Pennsylvania Heavy-Duty Diesel Emissions Control Program requirements of this subchapter shall be certified as meeting the heavy-duty diesel engine and vehicle requirements of Title 13 CCR, Division 3, Chapter 1, Article 2, Section 1956.8 as determined by Title 13 CCR, Chapter 2, Article 2, §§ 2101-2110.
- (b) For purposes of complying with subsection (a), new vehicle certification testing determinations and findings made by CARB are applicable.

### **§126.512. New engine and vehicle compliance testing.**

Prior to being offered for sale or lease in this Commonwealth, new heavy-duty diesel engines and vehicles subject to the Pennsylvania Heavy-Duty Diesel Emission Control Program requirements of this subchapter shall be certified as meeting the heavy-duty diesel engine and

vehicle requirements of Title 13 CCR, Division 3, Chapter 1, Article 2, Section 1956.8 as determined by Title 13 CCR, Chapter 2, Article 2, §§ 2101-2110.

**§126.513. Assembly line testing.**

Each manufacturer of new heavy-duty diesel engines and vehicles subject to the Pennsylvania Heavy-Duty Diesel Emission Control Program requirements of this subchapter, certified by CARB and sold or leased in this Commonwealth, shall conduct assembly line testing in accordance with Title 13 CCR, Chapter 2, Article 1.

**§ 126.514. In-use engine and vehicle enforcement testing.**

(a) For the purposes of detection and repair of engines and vehicles subject to the Pennsylvania Heavy-Duty Diesel Emissions Control Program requirements which fail to meet the emission requirements of Title 13 CCR, Division 3, Chapter 1, Article 2, Section 1956.8, the Department may, after consultation with CARB, conduct in-use vehicle enforcement testing in accordance with the protocol and testing procedures in Title 13 CCR, Division 3, Chapter 2, Article 2.3, Sections 2136-2140, incorporated herein by reference.

(b) For purposes of compliance with subsection (a), in-use engine and vehicle enforcement testing determinations and findings made by CARB are applicable.

**§ 126.515. In-use surveillance testing.**

(a) For the purposes of testing and monitoring the overall effectiveness of the Pennsylvania Heavy-Duty Diesel Emissions Control Program in controlling emissions, the Department may conduct in-use surveillance testing after consultation with CARB, in accordance with Title 13 CCR, Division 3, Chapter 2, Article 3, §§ 2150-2153.

(b) For purposes of program planning, in-use surveillance testing determinations and findings made by CARB are applicable.

## **ENGINE AND VEHICLE MANUFACTURERS' OBLIGATIONS**

### **§ 126.521. Warranty and recall.**

- (a) A manufacturer of new heavy-duty diesel engines and vehicles subject to the Pennsylvania Heavy-Duty Diesel Emissions Control Program requirements of this subchapter which are sold, leased, offered for sale or lease in this Commonwealth, shall warrant to the owner that each engine or vehicle shall comply over its period of warranty coverage with the requirements of Title 13 CCR, Division 3, Chapter 1, Article 6, Sections 2036, 2039, 2040, 2041, and 2046 incorporated herein by reference.
- (b) Each manufacturer of new heavy-duty diesel engines and vehicles shall submit to the Department failure of emission-related components reports, as defined in Title 13 CCR, Division 3, Chapter 2, Article 2.4, Section 2144, incorporated herein by reference, for engines and vehicles subject to the Pennsylvania Heavy-Duty Diesel Emissions Control Program in compliance with the procedures in Title 13 CCR, Division 3, Chapter 2, Article 2.4, Sections 2141 - 2149, incorporated herein by reference.
- (c) For heavy-duty diesel engines and vehicles subject to the Pennsylvania Heavy-Duty Diesel Emissions Control Program, a voluntary or influenced emission-related recall campaign initiated by any heavy-duty diesel engine or vehicle manufacturer under Title 13 CCR, Division 3, Chapter 2, Article 2.1, Sections 2111 – 2121, shall extend to all new heavy-duty diesel engines or vehicles sold, leased, or offered for sale or lease in this Commonwealth.
- (d) For heavy-duty diesel engines and vehicles subject to the Pennsylvania Heavy-Duty Diesel Emission Control Program, an in-use vehicle ordered recall under Title 13 CCR, Division 3, Chapter 2, Article 2.2, Sections 2122-2135, shall extend to all new heavy-duty diesel engines or vehicles sold, leased, or offered for sale or lease in this Commonwealth.

**§ 126.522. Reporting requirements.**

(a) For the purposes of determining compliance with the Pennsylvania Heavy-Duty Diesel Emissions Control Program, commencing with the model year 2005, each manufacturer shall submit annually to the Department, within 60 days of the end of each model year, a report documenting the total deliveries for sale of engines and vehicles for each engine family over that model year in this Commonwealth.

(b) For the purposes of determining compliance with the Pennsylvania Heavy-Duty Diesel Emissions Control Program, each heavy-duty diesel engine and vehicle manufacturer shall submit annually to the Department, by March 1 of the calendar year following the close of the completed calendar year, a report of its heavy-duty diesel engines and vehicles delivered for sale in this Commonwealth that were included in the emissions averaging, banking, and trading programs for heavy-duty diesel engines and vehicles within the provisions of Title 13, CCR, Division 3, Chapter 1, Article 2, Section 1956.8.

**MOTOR VEHICLE DEALER RESPONSIBILITIES**

**§ 126.531. Responsibilities of heavy-duty diesel highway vehicle dealers.**

(a) A dealer may not sell, offer for sale or lease, or deliver a new heavy-duty diesel engine or vehicle subject to the requirements of this subchapter without a valid emissions control label which meets the requirements of Title 13 CCR, Division 3, Chapter 1, Section 1965.

(b) A dealer may not sell, offer for sale or lease, or deliver a new heavy-duty diesel engine or vehicle subject to the requirements of this subchapter unless the engine or vehicle conforms to the standards and requirements under Title 13 CCR, Division 3, Chapter 2, Article 3, Section 2151.

(c) A dealer who imports, sells, delivers, leases or rents an engine or vehicle subject to the requirements of this subchapter shall retain records concerning the transaction for at least 3 years following the transaction.



Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building  
P.O. Box 2063  
Harrisburg, PA 17105-2063  
August 21, 2001

The Secretary

Phone: 717-787-2814  
E-Mail: DavidHess@state.pa.us

Mr. Robert E. Nyce, Executive Director  
Independent Regulatory Review Commission  
14<sup>th</sup> Floor, Harristown #2  
333 Market Street  
Harrisburg, PA 17120

RE: Proposed Rulemaking: Heavy-Duty Diesel Emissions Control Program (#7-365)

Dear Bob:

Enclosed is a copy of a proposed regulation for review and comment by the Commission pursuant to Section 5(a) of the Regulatory Review Act. This proposal is scheduled for publication as a proposed rulemaking in the *Pennsylvania Bulletin* on September 1, 2001, with a 69-day public comment period. Three public hearings have been scheduled as indicated on the enclosed public notice. This proposal was approved by the Environmental Quality Board (EQB) on July 17, 2001.

This proposal establishes a new heavy-duty diesel (HDD) emissions control program that is consistent with Section 177 of the Clean Air Act. The program adopts California regulations to require 2005 and 2006 model year HDD engines to meet the same standards in effect for model years 2002 through 2004. The 2002-2004 standards resulted from consent decrees signed by the U.S. Department of Justice, the EPA and the California Air Resources Board (CARB) with seven of the largest HDD engine manufacturers who violated certification regulations by employing "defeat devices" in HDD engines for model years 1988 through 1998. The consent decrees require the manufacturers to meet new lower emission standards by October 1, 2002, for the two-year period. EPA has proposed supplemental standards and test procedures for 2004 and later model year engines, but won't be able to require them until model year 2007. Adopting the California regulations by Pennsylvania and other states, which is the only option available to states wanting to close the 2005 and 2006 model year gap, is expected to create a "de facto" national standard that would maintain the lower emission standards during that time.

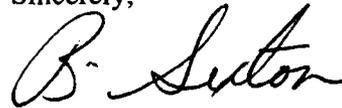
The Air Quality Technical Advisory Committee (AQTAC) endorsed the draft proposal on April 27, 2001, and requested that the proposal specifically clarify the program's applicability to engine rebuilds and replacements. Accordingly, the preamble clarifies that the proposal does not apply to rebuilds, but it is applicable to replacements. In 2004, a Federal rule will require

that both rebuilds and replacements be at least as clean as the original engine. The AQTAC also expressed the need for continued aggressive efforts with other states to support uniform Federal standards for HDD vehicles that will ensure significant reductions in truck emissions over the next several years.

The Department will provide the Commission with any assistance required to facilitate a thorough review of this proposal. Section 5(g) of the Act provides that the Commission may, within ten days after the expiration of the Committee review period, notify the agency of any objections to the proposed regulation. The Department will consider any comments or suggestions received by the Commission, together with Committee and other public comments prior to final adoption.

For additional information, please contact Sharon Trostle, Regulatory Coordinator, at 787-4526.

Sincerely,

A handwritten signature in cursive script, appearing to read "B. Sexton".

Barbara A. Sexton  
Acting Executive Deputy Secretary

Enclosures

**ENVIRONMENTAL QUALITY BOARD  
NOTICE OF PUBLIC HEARINGS**

**PROPOSED AMENDMENTS TO PENNSYLVANIA'S  
AIR QUALITY REGULATIONS AND THE STATE IMPLEMENTATION PLAN –  
HEAVY-DUTY DIESEL EMISSIONS CONTROL PROGRAM**

The Environmental Quality Board (EQB) will hold three public hearings to accept comments on a proposal to reduce exhaust emissions from heavy-duty diesel vehicles.

The proposal establishes a new heavy-duty diesel (HDD) emissions control program that is consistent with Section 177 of the Clean Air Act. The program adopts California regulations to require 2005 and 2006 model year HDD engines to meet the same standards in effect for model years 2002 and 2004. The 2002-2004 standards resulted from consent decrees signed by the U.S. Department of Justice, the EPA and the California Air Resources Board (CARB) with seven of the largest HDD engine manufacturers who violated certification regulations by employing "defeat devices" in HDD engines for model years 1988 through 1998. The consent decrees require the manufacturers to meet new lower emission standards and test procedures for 2004 and later model year engines, but won't be able to require them until model year 2007. Adopting the California regulations by Pennsylvania and other states, which is the only option available to states wanting to close the 2005 and 2006 model year gap, is expected to create a "de facto" national standard that would maintain the lower emission standards during that time.

The regulation, if approved, will be submitted to the Environmental Protection Agency (EPA) as a revision to the State Implementation (SIP).

The hearings will be held at 1:00 p.m. as follows:

- |                 |   |
|-----------------|---|
| October 1, 2001 | Department of Environmental Protection<br>Southcentral Regional Office<br>Susquehanna River Conference Room<br>909 Elmerton Avenue<br>Harrisburg, Pa. |
| October 4, 2001 | Department of Environmental Protection<br>Southeast Regional Park<br>Main Conference Room, Lee Park<br>555 North Lane<br>Conshohocken, Pa.            |

October 10, 2001    Department of Environmental Protection  
Southwest Regional Office  
Waterfront A&B Conference Room  
400 Waterfront Drive  
Pittsburgh, Pa.

### Public Comments

Persons wishing to present testimony at any of the hearings are requested to contact Debra Failor at the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787- 4526, at least one week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to ten minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chair at the hearing. Each organization is limited to designating one witness to present testimony on its behalf.

Persons with a disability who wish to attend the hearing and require an auxiliary aid, service or other accommodation in order to participate should contact Debra Failor at (717) 787-4526, or through the Pennsylvania AT&T Relay Service at 1-800-654-5984 (TDD), to discuss how their needs may be accommodated.

In lieu of or in addition to presenting oral testimony at the hearing, interested persons may submit written comments, suggestions, or objections regarding the proposed regulations to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15<sup>th</sup> Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments on the proposal must be received by November 9, 2001. Comments submitted by facsimile will not be accepted. Electronic comments may be submitted to [RegComments@dep.state.pa.us](mailto:RegComments@dep.state.pa.us). In addition to written or electronic comments, interested persons may submit a summary of their comments to the EQB. The summary cannot exceed one page in length and must also be received by November 9, 2001. One-page summaries will be provided to each member of the EQB in the agenda packet distributed prior to the meeting at which the final regulations will be considered.

### Copies of the Proposal

Copies of the proposal are available from Connie Cross, Division of Air Resource Management, Bureau of Air Quality, P.O. Box 8468, Harrisburg, PA 17105-8468, at (717) 787-9495 (email: [cocross@state.pa.us](mailto:cocross@state.pa.us)). The proposal is also available on the DEP Website at <http://www.dep.state.pa.us> (choose Public Participation Center, Proposals Open for Comment).

DAVID E. HESS  
Chairman

**TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO THE  
REGULATORY REVIEW ACT**

I.D. NUMBER: 7-365  
 SUBJECT: Heavy-Duty Diesel Emissions Control Program  
 AGENCY: DEPARTMENT OF ENVIRONMENTAL PROTECTION

**TYPE OF REGULATION**

- Proposed Regulation
- Final Regulation
- Final Regulation with Notice of Proposed Rulemaking Omitted
- 120-day Emergency Certification of the Attorney General
- 120-day Emergency Certification of the Governor
- Delivery of Tolled Regulation
  - a.  With Revisions
  - b.  Without Revisions

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 REGULATORY REVIEW COMMISSION  
 2001 AUG 21 PM 3:57

**FILING OF REGULATION**

DATE	SIGNATURE	DESIGNATION
8/16/01		HOUSE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
08-21		SENATE COMMITTEE ON ENVIRONMENTAL RESOURCES & ENERGY
8-21-01		INDEPENDENT REGULATORY REVIEW COMMISSION
		ATTORNEY GENERAL
8/16/01		LEGISLATIVE REFERENCE BUREAU

August 16, 2001