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## **ENVIRONMENTAL PROTECTION**

### **ENVIRONMENTAL REGULATION**

#### **OFFICE OF AIR QUALITY MANAGEMENT**

##### **Control and Prohibition of Air Pollution from Diesel-Powered Motor Vehicles**

###### **(Diesel Powered Motor Vehicle Inspection and Maintenance Program)**

**Adopted Amendments:** N.J.A.C. 7:27-14.2, 14.4, and 14.6, and 7:27B-4.5

**Proposed:** June 16, 2008 as 40 N.J.R. 3541(a)

**Adopted:** April 3, 2009 by Mark N. Mauriello, Acting Commissioner,  
Department of Environmental Protection.

**Filed:** April 9, 2009 as R.2009 d.159, with substantive and technical changes not requiring additional public notice and comment (See N.J.A.C. 1:30-6.3).

**Authority:** N.J.S.A. 13:1B-3(e), 13:1D-9, 26:2C-8 et seq., specifically 26:2C-8, 8.1 through 8.5, and 8.11, and 39:8-61.

**DEP Docket Number:** 05-08-05/94

**Proposal Number:** PRN 2008-196

**Effective Date:** May 4, 2009

**Operative Date:** June 2, 2009

**Expiration Date:** Exempt

The Department of Environmental Protection (Department) is adopting amendments to N.J.A.C. 7:27-14, Control and Prohibition of Air Pollution from Diesel-Powered Motor

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Vehicles, to reduce the opacity cutpoints, strengthen the visible smoke standard for diesel-powered trucks and buses, and clarify the rules' exemption for emergency vehicles. The rules also represent a revision to the State Implementation Plan. The adopted amendments affect all heavy-duty diesel-powered motor vehicles, except United States Environmental Protection Agency (USEPA) regulated marine vessels and trains. The Department is adopting the amendments in order to encourage increased diesel engine maintenance and repairs, thereby reducing the amount of particulate matter, and other pollutants from diesel exhaust released into the ambient air.

In addition, the Department is amending N.J.A.C. 7:27B-4, Air Test Method 4: Testing Procedures for Diesel-Powered Motor Vehicles, specifically N.J.A.C. 7:27B-4.5, by phasing out the alternative opacity standard.

This rulemaking is a part of the Department's Statewide effort to reduce diesel exhaust emissions from diesel-powered vehicles.

**Summary** of Hearing Officer's Recommendations and Agency Responses:

A public hearing was held on July 30, 2008, at the Department's Public Hearing Room, Trenton. Margaret E. Hanna, Manager of the Department's Diesel Risk Reduction Program, Division of Air Quality, served as the Hearing Officer. No one provided comments at the public hearing. After reviewing the comments received during the public comment period, the Hearing Officer has recommended that the proposal be adopted with the changes described below in the Summary of Public Comments and Agency Responses. The Department accepts the Hearing Officer's recommendation.

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A record of the public hearing is available for inspection in accordance with applicable law by contacting:

Department of Environmental Protection

Office of Legal Affairs

ATTN: Docket No. 05-08-05/94

401 East State Street

PO Box 402

Trenton, New Jersey 08625-0402

This adoption document can also be viewed or downloaded from the Department's website at [www.nj.gov/dep](http://www.nj.gov/dep).

**Summary** of Public Comments and Agency Responses:

The Department received written comments on the proposed amendments from the following persons:

1. Gail E. Toth, New Jersey Motor Truck Association
2. Thomas D. Sims, U.S. Department of the Air Force
3. Kathleen R. Madaras, Fuel Merchants Association of New Jersey

A summary of the comments and the Department's responses follows. The number(s) in parentheses after each comment identifies the respective commenter(s) listed above.

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1. COMMENT: The commenter supports the proposed opacity cutpoint reductions. The cutpoints should be updated to keep up with new engine technologies, and the trucking industry has consistently been reducing diesel emissions with new technologies, evidenced by only 2.4 percent of heavy-duty diesel engines registered in the State failing their initial periodic inspections, a clear indication the New Jersey trucking industry is properly maintaining equipment. Because the proposed changes to the regulations will impact both in-State and out-of-State vehicles, the commenter also offered to assist the Department in educating out-of-State heavy-duty truck owners of any changes made to the existing program. (1)

RESPONSE: The Department acknowledges the commenter's support.

2. COMMENT: N.J.A.C. 7:27-14.2 should be amended to include an exemption for military tactical vehicles (MTVs) because the Federal Clean Air Act §118(c) (42 USC § 7418(d)) exempts MTVs from vehicle inspection and maintenance programs, and, in absence thereof, N.J.A.C. 7:27-14.2(b) should be amended to include MTVs that are used in emergency situations, since MTVs are emergency vehicles as stated at N.J.A.C. 7:27-14.3(b)4. (2)

RESPONSE: N.J.S.A. 26:2C-8.1 authorizes the Department to develop test procedures and emission standards that are appropriate for the age and technology of different vehicle and engine classes. N.J.A.C. 7:27-14.2, Applicability, identifies the vehicles to which those test procedures and standards apply. However, N.J.S.A. 39:8-2 gives the Motor Vehicle Commission (MVC) the authority to determine which vehicle classes are subject to inspection, and at what

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intervals. The MVC regulations at N.J.A.C. 13:20-7.2(b) exempt military tactical vehicles from the inspection requirements. Accordingly, the test procedures and standards in N.J.A.C. 7:27-14 are not applied to MTVs. Moreover, the existing rule at N.J.A.C. 7:27-14.3(b)4 identifies military tactical vehicles in emergency situations as vehicles to which the idling restriction at N.J.A.C. 7:27-14.3(a) does not apply.

3. COMMENT: The amendments, with the lower smoke opacity for diesel-powered motor vehicles older than 1990, are too strict. The cutpoints should be based on three tiers of model engine years: 1990 and older, 1991 through 1996 and 1997 and newer, with an alternative standard, if needed, for model year 1973 or older. (3)

RESPONSE: The inspection data show that there are clear drops in measured opacity at the 1991 and 1997 engine model years, such that the opacity cutpoint levels will result in inspection failure rates rising from approximately 1.5 percent to approximately eight percent initially, and then falling back to around two percent as vehicle owners adjust to the new limits. This holds true for the 1990 and older vehicles highlighted in the comment, including those very few 1973 and older vehicles still left on the road. These two model years also represent points of significant change (improvement) in the emissions control technology being used by the industry. The inspection data support the Department's position that a 40 percent cutpoint is appropriate for 1990 and older HDDVs. The great majority of these vehicles, and those 1973 and older, meet the new cutpoint. In the ten years since the program was introduced in 1998, no one has applied for an alternative opacity standard.

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The existing alternative opacity standard application process requires that engine repairs be performed to bring the engine into conformance with its technical capability. The Department determines the extent of repairs to be done, and there is no cap on repair expenses. Required repairs could include a complete engine rebuild costing several thousands of dollars. No one has submitted an application for an alternative opacity standard, indicating the fleet has been able to meet or exceed the current cutpoints. This is supported by inspection data, and was the basis of the proposal to phase out the alternative opacity standard. The Department's phasing out the alternative opacity standard will, therefore, have no impact.

The Department proposed to phase out the alternative smoke opacity standard, expand its applicability to a broader range of vehicles, or retain the existing standard. In response, it received only this one comment. No commenter submitted documentation sufficient to justify the retention of the alternative opacity standard. Accordingly, for the reasons set forth herein, the Department is phasing out the alternative opacity standard at N.J.A.C. 7:27-14.6(l), and adopting proposed Alternative 3 at N.J.A.C. 7:27B-4.5(a), as described in the proposal summary at 40 N.J.R. 3545-3546. Adopted Alternative 3 has a six month deadline, after which the procedure to obtain an alternative standard under N.J.A.C. 7:27B-4.5(a) will no longer be available.

4. COMMENT: The proposed opacity levels are based on the presumption that owners and operators can afford to retrofit or retire their older fleet. The Department should include new programs that provide financial assistance or a tax credit incentive to enable owners and operators who cannot afford newer diesel-powered motor vehicles to either retrofit their existing vehicles or purchase newer ones. (3)

RESPONSE: Inspection data indicate that older vehicles are technically capable of complying with the new stricter cutpoints if they are maintained and repaired to the manufacturer's specification. No retrofitting with additional emission control devices is necessary to meet the new cutpoints. Therefore, there is no need for financial assistance or tax credit to retrofit existing vehicles or to purchase new vehicles in order to comply with the rules.

5. COMMENT: The Department should increase model year exemptions to four years and decrease the test frequency to biennial for vehicles with a gross vehicle weight rating of 8,500 pounds or greater, which would result in heavy-duty diesel trucks being tested three times during the first 10 years, compared to eight times under the current program. This will be an owner/operator friendly cost savings benefit and an incentive for retirement of older fleets. Alternatively, the Department should implement biennial testing for the first 10 years and then annual testing starting the 11th year. (3)

RESPONSE: Under N.J.S.A. 39:8-1b, the MVC rather than the Department has the authority to exempt motor vehicles from the inspection requirements. Under N.J.S.A. 39:8-2b(1) the MVC has the authority to establish inspection frequency of vehicle inspections; therefore, the comment is beyond the scope of this rulemaking.

6. COMMENT: The commenter supports the Department's progressive approach because there will be no new test methods, procedures or equipment involved, and because it supports best practices for vehicle maintenance. (3)

RESPONSE: The Department acknowledges the commenter's support. (3)

### **Federal Standards Statement**

Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. (P.L. 1995, c. 65) require State agencies that adopt, readopt or amend State regulations that exceed any Federal standards or requirements to include in the rulemaking document a Federal standards analysis.

The Department compared the adopted amendments at N.J.A.C. 7:27-14, Control and Prohibition of Air Pollution from Diesel-Powered Motor Vehicles, to Federal regulations at 40 CFR Part 86, Subpart I, Emission Regulations for New Diesel Heavy-Duty Engines; Smoke Exhaust Test Procedure. These Federal regulations were promulgated pursuant to the Clean Air Act and set forth the substantive Federal standards governing on-highway diesel-powered vehicles. The USEPA has established peak smoke standards of 50 percent for most new diesel heavy-duty engines during their engine certification process. The USEPA peak smoke value is determined by mounting the engine on a dynamometer, and measuring the smoke output of the engine during a Federal Testing Protocol (FTP) drive cycle. The engine manufacturers are responsible for meeting the certification values established by the FTP.

The New Jersey smoke opacity test utilizes a chassis-based, in-use smoke testing procedure for existing engines, with an optional on-road procedure. The vehicle/engine owners/operators are responsible for meeting the New Jersey smoke opacity cutpoints. Because the adopted New Jersey cutpoints are separate and distinct from the Federal standards, both in



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test method and person responsible, the adopted amendments neither conflict with, nor exceed, the Federal standard.

Moreover, the Federal requirement at 40 CFR Part 86, Subpart I, is a new vehicle standard, which the State is preempted from establishing or enforcing. New Jersey's existing and adopted amended rules are an in-use standard, aimed at addressing deterioration. As such, the two standards supplement each other, but are independent, and do not conflict.

The Department is including the within amendments in the New Jersey State Implementation Plan. Specifically, the adopted amendments will reduce emissions of diesel exhaust and oxides of nitrogen, which will assist in the meeting the PM<sub>2.5</sub> and Ozone National Ambient Air Quality Standards (NAAQS). The Federal Clean Air Act requires states to develop and implement plans to meet Federally established health and welfare standards, or NAAQS. The USEPA has not established standards for diesel inspection and maintenance programs. Therefore, the adopted amendments do not conflict with or exceed the Federal standards and, accordingly, no Federal Standards analysis is required.

**Full text** of the adoption follows (additions to proposal indicated in boldface with asterisks **\*thus\***; deletions from proposal indicated in brackets with asterisks \*[thus]\*):

## CHAPTER 27 AIR POLLUTION CONTROL

### SUBCHAPTER 14. CONTROL AND PROHIBITION OF AIR POLLUTION FROM DIESEL-POWERED MOTOR VEHICLES

#### N.J.A.C. 7:27-14 Control and Prohibition of Air Pollution from Diesel-Powered Motor Vehicles

N.J.A.C. 7:27-14.6 Inspection standards

(a) – (k) (No change from proposal.)

\*[ALTERNATIVE 1

(l) On and after (six months after the operative date of the rules) a diesel-powered motor vehicle that is equipped with an engine model year 1973 or older tested using the snap acceleration smoke opacity test, the rolling acceleration smoke opacity test or the power brake smoke opacity test, set forth at N.J.A.C. 7:27B-4, and for which an alternative smoke opacity standard has been established in accordance with the procedures set forth at N.J.A.C. 7:27B-4.5, shall not emit smoke in the exhaust emissions that exceeds the smoke opacity standard established as the alternative smoke opacity standard for that vehicle.

ALTERNATIVE 2

(l) On and after (six months after the operative date of the rules) a diesel-powered motor vehicle that is equipped with an engine model year 1996 or older tested using the snap acceleration smoke opacity test, the rolling acceleration smoke opacity test or the power brake smoke opacity test, set forth at N.J.A.C. 7:27B-4, and for which an alternative smoke opacity standard has been established in accordance with the procedures set forth at N.J.A.C. 7:27B-4.5, shall not emit smoke in the exhaust emissions that exceeds the smoke opacity standard established as the alternative smoke opacity standard for that vehicle.

### ALTERNATIVE 3

(l) On and after (six months after the operative date of the rules) a diesel-powered motor vehicle tested using the snap acceleration smoke opacity test, the rolling acceleration smoke opacity test or the power brake smoke opacity test, set forth at N.J.A.C. 7:27B-4, and for which an alternative smoke opacity standard has been established in accordance with the procedures set forth at N.J.A.C. 7:27B-4.5, shall not emit smoke in the exhaust emissions that exceeds the smoke opacity standard established as the alternative smoke opacity standard for that vehicle.

END OF ALTERNATIVES]\*

#### CHAPTER 27B SAMPLING AND ANALYTICAL PROCEDURES

#### SUBCHAPTER 4 AIR TEST METHOD 4: TESTING PROCEDURES FOR DIESEL-POWERED MOTOR VEHICLES

\*[ALTERNATIVE 1

7:27B-4.5 Procedures for establishing an alternative smoke opacity standard for diesel-powered motor vehicles

(a) In the event that a heavy-duty diesel vehicle[, which is equipped with an engine model year 1973 or older] fails to pass an exhaust emissions inspection as part of either a periodic inspection or an inspection conducted as part of the roadside enforcement program, the owner or lessee of the heavy-duty diesel vehicle may request the Department to establish an

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alternative smoke opacity standard for that vehicle-engine-chassis combination, if the cause of the failure is due to the design of the vehicle, rather than to insufficient repair and maintenance. The procedures for obtaining this alternative smoke opacity standard are as follows:

1. – 4. (No change.)

(b) – (c) (No change.)

## ALTERNATIVE 2

7:27B-4.5 Procedures for establishing an alternative smoke opacity standard for diesel-powered motor vehicles

(a) In the event that a heavy-duty diesel vehicle fails to pass an exhaust emissions inspection as part of either a periodic inspection or an inspection conducted as part of the roadside enforcement program, the owner or lessee of the heavy-duty diesel vehicle may request the Department to establish an alternative smoke opacity standard for that vehicle-engine-chassis combination, if the cause of the failure is due to the design of the vehicle, rather than to insufficient repair and maintenance. The procedures for obtaining this alternative smoke opacity standard are as follows:

1. - 4. (No change.)

(b) If the Department determines that the vehicle cannot be repaired to meet the standards set forth at N.J.A.C. 7:27-14.4 and 14.6, it shall issue an alternative smoke opacity standard report to the owner or lessee which establishes an alternative smoke opacity standard for the specific vehicle-engine-chassis combination. The Department shall establish this alternative smoke

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opacity standard by adding five percentage points to the lowest smoke opacity percentage obtained from all testing of the vehicle performed subsequent to any tuning, repairing, or rebuilding of the engine pursuant to (a)2 above.

(c) (No change.)

(d) The alternative opacity standard granted to a specific vehicle and engine combination shall remain in effect until the vehicle's next required periodic inspection, at which time the opacity standard in effect for that engine model year shall be applicable.

ALTERNATIVE 3]\*

7:27B-4.5 Procedures for establishing an alternative smoke opacity standard for diesel-powered motor vehicles

(a)– (c) (No change from proposal.)

\*[END OF ALTERNATIVES]\*

Based on consultation with staff, I hereby certify that the above statements, including the Federal Standards Statement addressing the requirements of Executive Order No. 27 (1994) and N.J.S.A. 52:14B-23, permit the public to understand accurately and plainly the purposes and expected consequences of this adoption. I hereby authorize this adoption.

Date: \_\_\_\_\_

\_\_\_\_\_  
Mark N. Mauriello, Acting Commissioner  
Department of Environmental Protection