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STATE OF NEW YORK
OFFICE OF THE STATE COMPTROLLER

April 26, 2013

Mr. Joseph Martens
Commissioner
Department of Environmental Conservation
625 Broadway
Albany, NY 12233-1011

Re: Pollution Testing on Exhaust
Emissions from Heavy-Duty Diesel
Vehicles
Report 2013-F-3

Dear Commissioner Martens:

Pursuant to the State Comptroller's authority as set forth in Article V, Section 1 of the State Constitution and Article II, Section 8 of the State Finance Law, we have followed up on the actions taken by officials of the Department of Environmental Conservation (DEC) to implement the recommendations contained in our audit report Pollution Testing on Exhaust Emissions from Heavy-Duty Vehicles (Report 2008-S-65).

Background, Scope and Objective

New York enacted the "Heavy Duty Vehicle Emissions Reduction Act" in 1998 and began the Heavy-Duty Vehicle Emissions Testing Program (testing program) in 1999. DEC shares responsibility for implementing the testing program with the Departments of Motor Vehicles (DMV) and Transportation (DOT). Our initial audit focused on DEC's responsibilities which include: certifying smoke meters for emissions testing, inspecting licensed truck inspection facilities, performing roadside tests, and certifying DEC employees for roadside testing. DEC's Bureau of Mobile Sources and Technology Development (Bureau) is responsible for monitoring the testing program and its regional offices are responsible for roadside testing.

Emissions tests are performed on most diesel-powered vehicles (generally trucks and buses) weighing more than 8,500 pounds to determine whether their exhaust emissions meet prescribed air quality standards. Certain vehicles such as emergency and military are exempt. Emissions testing includes mandatory annual tests of trucks and buses registered in the New York City metropolitan area (New York City, Long Island, and Westchester and Rockland Counties). Licensed private inspection facilities, such as repair shops and fleet garages perform the tests on

trucks and DOT tests the buses. Testing also includes random roadside emissions tests on vehicles. Roadside tests are usually performed by DEC's Environmental Conservation Officers (ECOs), but may be performed by DOT.

The emissions test, called a "snap test", includes inserting a sensor (smoke meter) into the exhaust pipe to measure the opacity of the emissions because smoke (minute carbon particles) is the most noxious part of diesel engine exhaust. To pass the test, emissions must not exceed a specified amount based on the year the engine was manufactured. If a vehicle does not pass the test, corrective actions must be taken and the vehicle's owner/operator may be fined.

Individuals performing the tests must be trained and certified by DMV, DOT, or DEC. DEC is responsible for certifying emissions testing equipment and inspecting more than 600 licensed truck inspection facilities to determine whether their emissions testing equipment is functioning properly and emissions tests have been properly documented. At the time of our follow up audit, DEC had 108 smoke meters and had certified seven manufacturers' models of smoke meters for use in emissions testing. DEC has 191 employees (mostly ECOs) certified to perform emissions tests. Two employees are responsible for inspecting facilities.

Our initial audit report, issued on March 22, 2010, examined whether DEC adequately fulfilled its testing program responsibilities. We found DEC generally fulfilled its responsibilities but could improve by maintaining critical performance data and coordinating with DMV and DOT to ensure such data was maintained for all aspects of the program. We also questioned whether DEC's coverage of inspection facilities was adequate because only 49 percent of facilities were inspected, and facilities that failed inspections were not always re-inspected. There were also indications that technological advancements in newer diesel engines may have made the State's testing process questionable on engines manufactured after 1996.

The objective of our follow-up was to assess the extent of implementation of the 12 recommendations in our initial report as of April 10, 2013.

Summary Conclusions and Status of Audit Recommendations

We found that DEC officials have made some progress in correcting the problems we identified. However, additional improvements are needed. Of the 12 prior audit recommendations: 4 were implemented, 5 were partially implemented, and 3 were not implemented.

Follow-up Observations

Recommendation 1

Amend the regulations to require licensed truck inspection facilities to perform diagnostic tests on their smoke meters at least once a day and retain documentation of the tests.

Status - Partially Implemented

Agency Action - DEC did not amend its regulations. However, DEC officials are collaborating with DMV officials on the NYVIP2 program. NYVIP2 is an automated emissions testing program which is expected to electronically maintain documentation, including inspection results and additional information agreed upon by the vendor and agencies during future development. DEC officials believe once NYVIP2 is fully implemented, which is anticipated in December 2013, conditions cited in the original audit report will be resolved. However, the database does not exist yet, and daily diagnostic testing is not yet a requirement. In the interim, DEC performs diagnostic tests and retains test documentation but procedures do not require the tests to be performed daily.

Recommendation 2

Ensure that employees obtain their certificates of completion before he/she performs an emissions test.

Status - Partially Implemented

Agency Action - Our review of records for six inspectors showed each had participated in the training and testing required for certification. However, in three cases, there was a lack of complete documentation such as a copy of the certificate of completion. We noted that the employee responsible for maintaining this documentation had retired and was not replaced.

Recommendation 3

Contact the DOT officials and the diesel engine manufacturer that question the effectiveness of the snap test on newer diesel engines, evaluate their concerns, and determine whether the test is, in fact, appropriate for such engines. If the test is still appropriate, document its effectiveness. If the test is no longer appropriate, develop a new test for these engines.

Status - Implemented

Agency Action - DEC officials contacted DOT, the diesel engine manufacturer, and the Northeast States for Coordinated Air Use Management (NESCAUM). NESCAUM is a nonprofit association of air quality agencies that provides scientific, technical, and analytical and policy support to the air quality and climate programs in eight states. DEC provided evidence that NESCAUM states the “snap test” is a valid test for newer engines. DEC also provided results for nine emission tests on 2007 and newer engine models which demonstrate the “snap test” detected emission failures. Based on the evidence it gathered, DEC found that the “snap test” is appropriate for such engines.

Recommendation 4

Determine whether the ESP smoke meter should continue to be used in the emissions testing program.

Status - Partially Implemented

Agency Action - DEC did not provide research or analysis that supports the ESP smoke meter continues to be acceptable for use in the emissions testing program. However, DEC developed written procedures to instruct inspectors that if the ESP smoke meter fails its diagnostic test, it should not be used until it is repaired. As we noted in Recommendation 1, until NYVIP2 is implemented, it is unknown whether NYVIP2 will require daily diagnostic testing of smoke meters.

Recommendation 5

Develop appropriate time frames for the inspections of licensed truck inspection facilities, and perform the inspections in accordance with these time frames.

Status - Not Implemented

Agency Action - DEC's 90-day response states that a defined time frame for inspections would not be appropriate due to competing priorities and fiscal limitations. DEC's position has not changed. We note DEC's inspection rate has declined from 49 percent in the original audit to 41 percent since April 1, 2011.

Recommendation 6

Identify the staffing resources that would be needed to inspect all licensed truck inspection facilities within a reasonable period of time, and develop a plan for obtaining those resources. To maximize the resources, determine the extent to which the inspections could be performed by staff who are based in the areas of the facilities.

Status - Not Implemented

Agency Action - DEC's 90-day response stated that developing a budget and staffing level for a defined inspection time frame was neither feasible nor relevant given the state's fiscal constraints at the time and competing agency priorities. DEC's position has not changed. The Bureau of Mobile Sources & Technology Development (BMSTD) staff have been directed to activities mandated by the Federal Clean Air Act. With limited resources and workload constraints, DEC focuses resources on programs that are federally mandated. The Heavy Duty Inspection and Maintenance program is a State program, but is not a federal requirement. The same two inspectors are responsible for inspecting more than 600 facilities.

Recommendation 7

Establish suggested time frames for the re-inspections of facilities that fail their inspections, and perform re-inspections in accordance with these time frames.

Status - Partially Implemented

Agency Action - DEC's 90-day response stated re-inspection was not always necessary or an appropriate use of limited staff time and resources. It also stated that when smoke meters malfunction, stations provide documentation that the device has been repaired. DEC also said it would do re-inspections based on its experience and expertise, and its severe resource limitations. Therefore, DEC has not established such time frames. We reviewed a sample of five re-inspections and found DEC performed them within a reasonable time frame of 51 days, on average, from the original inspection date.

Recommendation 8

Ensure that all inspectors are equipped with a set of test filters and equipment for the calibration test when they are sent on inspections.

Status - Not Implemented

Agency Action - DEC's 90-day response stated one set of filters was adequate for two staff who shared the filters without incident. DEC's position remains the same.

Recommendation 9

Modify the inspection report format to provide space for a clear pass/fail statement.

Status - Implemented

Agency Action - DEC modified the format of its inspection form to provide space for a clear pass/fail statement. We reviewed two samples of completed inspection forms and found the inspector properly marked the fail/pass statement.

Recommendation 10

Develop written procedures describing how inspections should be performed and monitor the inspections to determine whether they are being performed in accordance with these procedures.

Status - Implemented

Agency Action - DEC established written procedures for an Official Diesel Emissions Inspection Station. We found the procedures are sufficient to guide a DEC Inspector through the inspection process. DEC officials have access to completed inspection forms and periodically review the forms to ensure inspectors are complying with the procedures.

Recommendation 11

Work with DMV to further coordinate DEC's and DMV's emissions testing inspection efforts in

ways that benefit New York State.

Status - Implemented

Agency Action - According to officials, DEC and DMV communicate regularly regarding the emissions testing inspection program. Officials also worked together to develop the Request for Proposal for the new NYVIP2 program as noted in Recommendation 1.

Recommendation 12

Facilitate an evaluation of program effectiveness for the State's Heavy-Duty Vehicle Emissions Testing Program by:

- establishing a process for capturing the results of all truck emissions tests and creating a database for the test results;
- coordinating with DOT to establish a similar process for capturing the results of bus emissions tests;
- coordinating with DMV and DOT in the analysis of the data on the two databases; and coordinating with DMV and DOT to produce public reports summarizing the activities and analyzing the effectiveness of the program.

Status - Partially Implemented

Agency Action - DEC did not facilitate an evaluation of program effectiveness. However, as described in Recommendation 1, it is expected that implementation of the NYVIP2 database will capture emissions data electronically. Also, the State has the option to require the vendor to include bus emissions data in NYVIP2. NYVIP2 is also intended to include ad-hoc reporting capabilities. Although the NYVIP2 database is in its early design stage, it is expected to capture the type of data necessary to evaluate program effectiveness.

Major contributors to this report were Stephen Goss, Deb Spaulding, Heidi Nark, and Cheryl Glenn.

Please extend our thanks to your management and staff for the courtesies and cooperation extended to our auditors during this follow-up review.

Very truly yours,



John Buyce, CPA
Audit Director

cc. Ann Lapinski, Director of Internal Audit
Thomas Lukacs, Division of the Budget