

**Vehicle Emissions Program
Department of Revenue
Department of Public Health and
Environment**

**Performance Audit
September 2010**



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Members of the Legislative Audit Committee:

This report contains the results of a performance audit of the Vehicle Emissions Program, which is part of the Automobile Inspection and Readjustment Program administered by the Department of Revenue and the Department of Public Health and Environment. The audit was conducted pursuant to Section 2-3-103, C.R.S., which authorizes the State Auditor to conduct audits of all departments, institutions, and agencies of state government. The report presents our findings, conclusions, and recommendations, and the responses of the Department of Revenue and the Department of Public Health and Environment.

Sally Symanski

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Glossary of Terms and Abbreviations

AIR Program - Automobile Inspection and Readjustment Program. The program is operated by the State of Colorado to control pollutants emitted by automobiles.

Commission - Air Quality Control Commission. A citizen board in Colorado state government with authority to develop air pollution control policies, regulate pollution sources, and conduct hearings involving violations of the State's air pollution laws.

Department - Department of Revenue. A principal department in Colorado state government responsible for administration of the State's tax laws, issuance of drivers' licenses, titling and registration of motor vehicles and which, in cooperation with the Department of Public Health and Environment, is responsible for administering the AIR Program.

DPHE - Department of Public Health and Environment. A principal department in Colorado state government responsible for protecting and preserving the health and environment of the people of Colorado and which, in cooperation with the Department of Revenue, is responsible for administering the AIR program.

Emissions Program - A program within the Department of Revenue responsible for overseeing vehicle emissions testing facilities and assisting customers with the AIR program.

Envirotest - A private company under contract with DPHE and the Department of Revenue that conducts emissions tests on all 1982 and newer vehicles registered in the AIR Program area.

EPA - Environmental Protection Agency. A federal agency with authority to promulgate air pollution standards.

Rapid Screen - A type of emissions test conducted by remote sensors placed at roadside locations, which tests vehicle emissions as vehicles pass by in traffic.

State Implementation Plan - A planning document required by the EPA that each state is required to develop to demonstrate how the state will attain compliance with national air quality standards.



SALLY SYMANSKI, CPA
State Auditor

**Vehicle Emissions Program
Department of Revenue
Department of Public Health and Environment
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Purpose and Scope

The purpose of this audit was to review the oversight of vehicle emissions testing facilities and the contracts with Envirotest, the State's principal emissions test contractor, by the Department of Revenue (Department) and the Department of Public Health and Environment (DPHE). The audit focused on the Department's procedures for auditing emissions testing facilities and the Department's and DPHE's contract procurement and monitoring activities. We performed audit work from January 2010 through August 2010. We gratefully acknowledge the assistance and cooperation extended by management and staff at the Department and DPHE.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Overview

The General Assembly established the Automobile Inspection and Readjustment Program (AIR Program) in 1980 to meet federal air quality standards established by the Environmental Protection Agency (EPA). Under the AIR Program, vehicles undergo periodic emissions testing to ensure that the vehicles do not emit excessive emissions gases, such as carbon monoxide. The Department and DPHE jointly administer the AIR Program. Within the Department, the Vehicle Emissions Program (Emissions Program) enforces testing regulations through audits of testing facilities. Within DPHE, the Air Quality Control Commission promulgates program rules and regulations and oversees the State Implementation Plan, the State's overall plan for bringing the State's air quality into compliance with EPA standards. DPHE is also responsible for procuring a contractor to provide emissions testing in the AIR Program area, which includes Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, Jefferson, Larimer, and Weld counties.

The General Assembly created two main types of vehicle emissions tests. Most vehicles are tested for emissions through a network of centralized emissions testing facilities provided by Envirotest. Vehicles can also pass emissions through Rapid Screen, a mobile roadside testing system also operated by Envirotest. In Calendar Year 2009, about 1 million vehicles were tested for emissions through centralized and Rapid Screen emissions testing.

For further information on this report, contact the Office of the State Auditor at 303.869.2800.

The Department's Emissions Program oversees emissions testing and enforces program rules through audits of all testing facilities and inspectors, oversight of the Envirotest contracts, licensure of facilities and inspectors, and review of applications for emissions test waivers. The State's costs for the Emissions Program are entirely cash-funded, primarily through vehicle registration fees. The Emissions Program expended about \$1.1 million in Fiscal Year 2010 and employed 15 FTE. The State does not receive any of the \$25 fee that customers pay to Envirotest for their emissions tests; the fee is retained by Envirotest to cover the cost of its operations. We estimate that Envirotest collected about \$22 million in fees during Calendar Year 2009 from vehicle owners in Colorado.

Key Findings

Vehicle Emissions Audits

EPA regulations require that states establish quality assurance programs to ensure that emissions testing facilities and inspectors conduct accurate and reliable emissions tests. Accordingly, the Emissions Program conducts five types of audits of testing facilities. Overt performance audits observe and evaluate inspectors conducting emissions tests, while covert performance audits send unmarked vehicles that have been tampered with for testing at emissions facilities. Equipment audits check emissions testing equipment and are performed at the same time as overt performance audits. Record audits review facility testing records to identify evidence of fraud, abuse, incompetence, or data entry errors. Finally, Rapid Screen audits test roadside testing equipment. The Emissions Program must perform each audit within prescribed timelines.

We reviewed the Emissions Program's practices for ensuring that the State's quality assurance program meets its goal that facilities and inspectors perform accurate and reliable emissions tests. We identified problems in the following areas:

- **Issuance of Sanctions for Identified Violations.** Out of 69 overt performance audits reviewed, Emissions Program auditors noted violations in 6 audits (9 percent) but did not issue fines to the stations involved.
- **Overt and Covert Performance Audit Coverage.** Emissions Program auditors did not conduct the required number of overt performance audits on 24 percent of all lanes or the required number of covert performance audits on 45 percent of all lanes during Calendar Year 2009. The statutory requirement that the number of overt and covert performance audits be based on lanes is difficult to attain and does not appear relevant since these audits are intended to evaluate the performance of inspectors, who may conduct tests on any lane, not the equipment in a specific lane. In addition, the Emissions Program's current scheduling of covert performance audits does not ensure that larger facilities, which are at higher risk of violation, are audited more frequently than smaller facilities.
- **Frequency of Equipment and Overt Performance Audits.** Statute requires the Emissions Program to conduct more equipment and overt performance audits than is required by EPA regulations. These additional audits may not be necessary to ensure that

equipment is working properly or that inspectors perform tests correctly because other mitigating controls exist.

- **Procedures for Record Audits.** Emissions Program record audits do not meet EPA requirements to review electronic records for evidence of unusual patterns and statistical inconsistencies that could indicate fraud or incompetence. In addition, staff did not conduct about 3 percent of all required monthly record audits during Calendar Years 2007 through 2009.
- **Resource Management.** Emissions Program staff do not accurately record audit time, and audit visits take substantially less time than recorded on employee timesheets. For example, Emissions Program auditor timesheets recorded an average of 7.9 hours for each equipment and overt performance audit completed during July through September 2009. In contrast, our review of audit time records showed that these audits take an average of only 3.4 hours each to complete, a difference of 4.5 hours. Similarly, for Rapid Screen audits, auditor timesheets recorded an average of 2.4 hours while audit time records showed that these audits take only 1.4 hours to complete, a difference of 1 hour. Further, the Department requested one more FTE than needed for the expansion of the AIR Program area into Larimer and Weld Counties in a November 2009 budget request. In total, we estimate that the Emissions Program, which was appropriated 12 FTE for Fiscal Year 2011 to complete its current audit responsibilities, may have about 2.8 (23 percent) more FTE than needed to perform these duties.

Contract Management

DPHE and the Department entered into two new contracts with Envirotest in March 2010 to continue emissions testing in the AIR Program area; one contract provides for testing in the Denver Metropolitan Area and the other contract covers the expanded program area in Larimer and Weld Counties. The new contracts continue the \$25 emissions testing fee, and we estimate that Envirotest will likely collect more than \$100 million in testing fees from Colorado vehicle owners over the 4½-year duration of the contracts. We reviewed DPHE's and the Department's contract administration and enforcement efforts and found that they could improve their efforts to protect the interest of consumers.

- **Contract Procurement.** DPHE has not obtained cost information from Envirotest that would allow DPHE to determine whether the \$25 fee is appropriate and ensures Envirotest's profit margin is reasonable.
- **Customer Wait Times.** DPHE lacked complete data on historical wait times when it established new wait-time requirements in the 2010 contracts with Envirotest. Additionally, the Department could not justify its decisions to dismiss wait-time violations issued against Envirotest for 9 (24 percent) of 38 wait-time dismissals from January through June 2009.

Our recommendations and the responses of the Department of Revenue and the Department of Public Health and Environment can be found in the Recommendation Locator and in the body of this report.

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RECOMMENDATION LOCATOR

Rec. No.	Page No.	Recommendation Summary	Agency Addressed	Agency Response	Implementation Date
1	25	Improve the Vehicle Emissions Program’s quality assurance function with respect to overt and covert performance audits by (a) developing procedures that require auditors to document and enforce sanctions for all violations of program rules identified, providing periodic training, and monitoring staff to ensure sanctions are issued for all violations; and (b) determining whether some program rules are not necessary to ensure that inspectors perform proper tests and working with the Air Quality Control Commission to eliminate those rules.	Department of Revenue	Agree	July 2011
2	28	Improve the effectiveness of Vehicle Emissions Program overt and covert performance audits by (a) working with the Air Quality Control Commission and DPHE to modify the State Implementation Plan and seeking statutory change to eliminate the requirement that auditors select a particular lane within a station when conducting overt and covert performance audits, and (b) developing a risk-based approach for scheduling covert performance audits that accounts for variations between stations.	Department of Revenue	a. Agree b. Agree	a. May 2011 b. July 2010
3	32	Reassess the level of coverage needed for Vehicle Emissions Program equipment and overt performance audits (a) seeking changes to the State Implementation Plan and statute to align overt performance and equipment audit requirements with EPA requirements, and (b) using the flexibility provided through the revisions in part “a” to determine the level of audit coverage that will ensure adequate station performance most cost-effectively.	Department of Revenue	a. Agree b. Agree	a. May 2011 b. Ongoing

RECOMMENDATION LOCATOR

Rec. No.	Page No.	Recommendation Summary	Agency Addressed	Agency Response	Implementation Date
4	35	Improve the effectiveness of Vehicle Emissions Program record audits by (a) conducting record audits monthly as required by EPA regulations and including a review of electronic facility records as part of the audits, and (b) eliminating record audit procedures designed to monitor facility maintenance or incorporating them into other audits.	Department of Revenue	Agree	April 2011
5	41	Ensure that staff resources are used effectively in the Vehicle Emissions Program by (a) accurately tracking and monitoring staff time and providing training to ensure that timesheets accurately reflect employees' use of work time, and (b) periodically comparing timesheets to other records to ensure that time is reported accurately, analyzing the results, and taking action as appropriate.	Department of Revenue	a. Agree b. Agree	a. December 2010 b. March 2011
6	44	Ensure that Vehicle Emissions Program staff are fully utilized and that budget requests reflect program need by (a) conducting a detailed analysis to determine program staffing needs, reassigning or reducing staff as necessary to ensure that all staff are fully utilized, and suspending additional staff hires for the northern Front Range expansion area until the analysis is completed; and (b) revising its budget request to the Governor's Office and General Assembly, as necessary, if the analysis in part "a" indicates that the program has been appropriated more FTE than necessary.	Department of Revenue	a. Agree b. Agree	a. September 2011 and Ongoing b. September 2011

RECOMMENDATION LOCATOR

Rec. No.	Page No.	Recommendation Summary	Agency Addressed	Agency Response	Implementation Date
7	45	Improve controls over cash advances within the Vehicle Emissions Program by reducing the amount of cash advances provided to auditors to the minimum amount necessary for covering out-of-pocket costs incurred to complete covert performance audits.	Department of Revenue	Agree	July 2010
8	51	Ensure that when procuring an emissions testing contractor, prospective contractors are required to provide cost information sufficient to conduct a cost analysis. In the next procurement, (a) analyze potential contractors' operating costs and determine if those costs and the contractors' proposed testing fees and estimated profit margins are reasonable, and (b) consider the cost analysis, the procurement circumstances, and Colorado's emissions testing needs, and negotiate a testing fee that provides the contractor with a fair and reasonable profit margin.	Department of Public Health and Environment	Agree	March 2014
9	54	Ensure that the 2010 contractual provisions reduce wait times and provide reasonable wait-time standards by (a) collecting wait-time data on the full customer wait time, and (b) using the data collected to determine whether total wait times increase under new contractual standards, whether 20 minutes is a reasonable standard, and seeking to amend the contract if necessary.	Department of Public Health and Environment	Agree	December 2011
10	55	Ensure that customers have adequate information regarding wait times by working with Envirotest to consider ways to post additional information regarding current wait times on Envirotest's AIR Care Colorado website.	Department of Public Health and Environment	Agree	July 2011

RECOMMENDATION LOCATOR

Rec. No.	Page No.	Recommendation Summary	Agency Addressed	Agency Response	Implementation Date
11	57	Improve its enforcement of sanctions for all contractual wait-time violations identified by Vehicle Emissions Program management by establishing a written policy that provides an objective basis for evaluating wait-time violations.	Department of Revenue	Agree	September 2010
12	59	Work with Envirotest on an ongoing basis to improve inspectors' performance of emissions control system inspections and, as part of this process, consider increasing training requirements for inspectors, increasing fines when tests are not performed properly, or both.	Department of Revenue Department of Public Health and Environment	Agree Agree	September 2010 and Ongoing Ongoing

Overview of the Vehicle Emissions Program

Chapter 1

In 1980 the General Assembly established the Automobile Inspection and Readjustment Program (AIR Program) to meet federal air quality standards created by the Clean Air Act [42 U.S.C. 7401, et seq.]. The AIR Program's goal is to improve air quality and public health by identifying vehicles with excessive emissions and requiring the owners of high-emitting vehicles to have their vehicles repaired. As such, statute requires that vehicles within the program area, described below, undergo periodic emissions testing to ensure that the vehicles are not emitting excessive emissions gases, such as carbon monoxide, hydrocarbons, and oxides of nitrogen, which can pose a public health risk.

The Department of Revenue (Department) and the Department of Public Health and Environment (DPHE) jointly administer the AIR Program. Within the Department, the Vehicle Emissions Program (Emissions Program) provides daily oversight of emissions testing facilities, enforces testing regulations through audits of testing facilities, licenses facilities and inspectors, and assists the public with issues related to emissions testing. Within DPHE, the Air Quality Control Commission (Commission) promulgates program rules and regulations, including emissions standards, testing requirements, and regulations for training and licensing emissions inspectors. The Commission is also responsible for overseeing the State Implementation Plan, the State's overall plan for bringing Colorado's air quality into compliance with Environmental Protection Agency (EPA) standards. DPHE assists the Commission with its duties, gathers data from emissions testing in the state, conducts research on vehicle emissions, and helps develop standards and regulations for emissions testing and oversight of testing facilities. In addition, DPHE is responsible for procuring a contractor to provide emissions testing in the program area.

Emissions Testing Requirements

EPA regulations, statute, and state regulations provide emissions testing requirements for vehicles in Colorado. Emissions testing is required for the approximately 2 million vehicles located within the AIR Program area, which through December 2009 included Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson counties. In 2008 the Commission voted to expand the AIR Program boundaries. Further, Senate Bill 09-003 required an

additional expansion, beyond that approved by the Commission in 2008. As a result, both Larimer and Weld counties were added to the AIR Program in January 2010 with the requirement that vehicles in the expanded program area pass emissions tests beginning in Calendar Year 2010. According to the Department, this expansion will require approximately 376,000 additional vehicles to receive emissions testing.

Statute requires vehicles within the program area to pass periodic emissions tests as part of the registration process to ensure that the vehicles comply with applicable emissions standards. Generally, vehicles registered within the program area must pass emissions testing every two years. However, vehicles less than four model years old are exempt from emissions testing, and vehicles from model years prior to 1981 must receive tests every year. Because vehicle emissions control systems have improved over time, allowable emissions levels vary according to the model year of each vehicle tested. For example, a 1985 vehicle can pass the emissions test emitting a substantially higher level of pollution than a 2006 vehicle. In Calendar Year 2009, 91 percent of vehicles tested passed emissions testing and 9 percent failed.

The General Assembly created two main types of vehicle emissions tests. First, House Bill 93-1340 established a centralized emissions testing network for most vehicles in the program area and authorized DPHE, in consultation with the Department, to procure a contractor to conduct tests and provide testing equipment and facilities. Accordingly, in 1993 DPHE selected Envirotest, a private company, to establish a network of testing facilities and to conduct emissions testing in the program area. Currently Envirotest provides centralized, facility-based emissions testing under two contracts with the State, one for the Denver Metro Area and one for Larimer and Weld counties. Envirotest is the only testing provider licensed by the Department to conduct emissions inspections for gas-fueled vehicles for model years 1982 and newer. The second type of vehicle emissions test was established by House Bill 01-1402, which authorized roadside Rapid Screen testing, also performed by Envirotest, as an alternative to traditional emissions tests. Rapid Screen testing is conducted from vans that are driven to various locations to measure vehicle emissions remotely as vehicles pass by in traffic. This test allows vehicles to be assessed for emissions requirements without the vehicle owner's having a test performed at a traditional testing facility. The traditional and Rapid Screen inspections comprise almost all emissions inspections for the AIR Program.

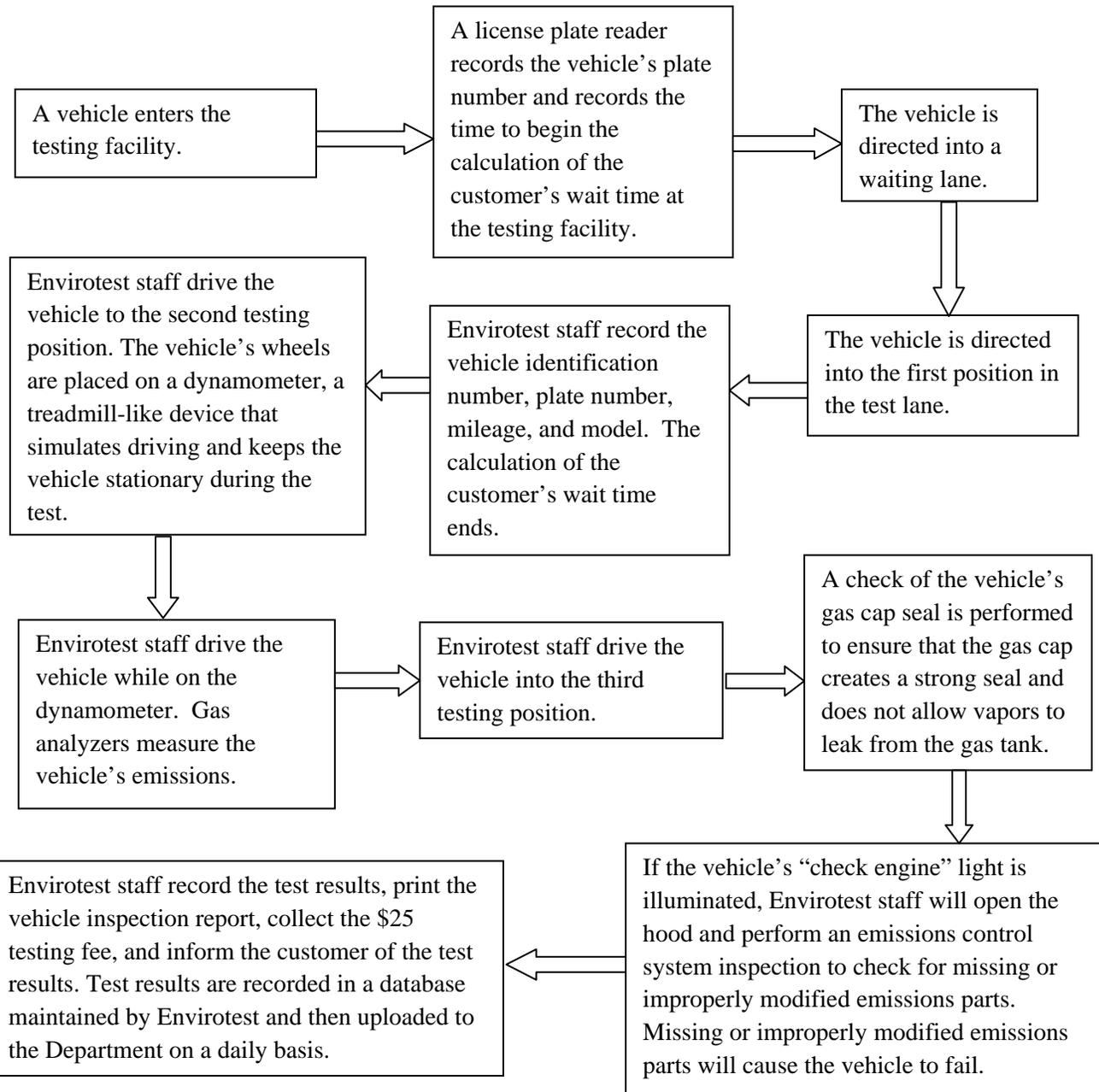
There are several exceptions to the requirement that vehicles receive emissions testing within Envirotest's centralized emissions testing network. Older vehicles (1981 and older) can receive emissions tests at an Envirotest station or at one of five licensed independent facilities. Statute also allows licensed businesses and government entities with large vehicle fleets to conduct their own vehicle inspections in-house, rather than taking their fleets to outside testing facilities. In

addition, statute requires diesel vehicles to undergo emissions testing; however, diesel vehicle testing is overseen by the State's Diesel Opacity Inspection Program, which is not part of the AIR Program.

Testing Procedures

Envirotest operates 14 emissions testing facilities within the program area. The facilities are capable of testing all models of gas-fueled vehicles, and each facility has multiple test lanes that allow inspectors to test more than one vehicle at the same time. Although emissions tests can vary depending on the type of vehicle, inspectors move most vehicles through three positions within each test lane to complete the test. The flowchart on the following page outlines the most typical procedures for model year 1996 and newer vehicles.

Vehicle Emissions Test Procedures at Envirotest Facilities for 1996 and Newer Vehicles As of June 2010



Source: Office of the State Auditor's observations and information from the Department of Revenue and Envirotest.

As the flowchart shows, after completing the emissions test, Envirotest staff print the vehicle inspection report, inform the customer of the test results, and collect a \$25 fee from the customer. Fee revenue from the emissions test is retained by Envirotest and does not pass through the State's accounting system. If the vehicle passes, Envirotest staff provide the customer with a certificate of emissions compliance and upload the test result to a Department database. At this point the customer has satisfied the emissions testing requirement for registration purposes. If the vehicle fails, staff inform the customer why it failed and provide a diagnostic report and literature on vehicle repairs. Once repairs are completed, the customer may have the vehicle retested free of charge within 10 days of the initial failure. In addition to recording whether the vehicle passed or failed, Envirotest facilities record detailed test information in a centralized database that is available to both the Department and DPHE for further analysis.

Rapid Screen Testing

As previously mentioned, the AIR Program allows roadside emissions testing as an alternative to the traditional vehicle inspection. In 2009, under the roadside program, known as Rapid Screen, Envirotest employed 18 vans with remote-sensing devices that measure tailpipe emissions at roadside locations throughout the program area. When a vehicle drives past a Rapid Screen location in traffic, a camera records the vehicle's license plate number and the analyzer measures the gas emissions. If a vehicle drives past a Rapid Screen location and demonstrates passing emissions levels on either one or two occasions (depending on the vehicle model), the vehicle's county of registration will notify the owner that no additional emissions testing is required. This notification is printed on the vehicle registration card that is sent to the owner. When the owner registers the vehicle, he or she is still required to pay a \$15 or \$25 emissions testing fee, depending on the vehicle's model year, which is collected by the county and forwarded to Envirotest less a small processing fee retained by the county. In Calendar Year 2009 about 29 percent of all gas-fueled vehicles due for emissions testing redeemed Rapid Screen test results, meaning that the owner used passing Rapid Screen test results to register the vehicle and did not take the vehicle to a traditional facility. If a vehicle tested at a Rapid Screen location does not demonstrate passing emissions levels, it will not necessarily fail emissions testing. In that case, the vehicle would have to undergo testing at a traditional facility to be assessed for emissions requirements, and the vehicle owner is not charged for the Rapid Screen test.

The following table provides the number of traditional emissions inspections for vehicles within the AIR Program for each type of facility, including both passing and failing inspections, and provides the number of vehicles that used Rapid Screen to satisfy testing requirements from Calendar Years 2007 through 2009. As shown, Envirotest stations conducted about 98 percent of all traditional

emissions tests in 2009. In addition, Rapid Screen testing, also provided by Envirotest, increased by 129 percent from 2007 through 2009.

Traditional Emissions Inspections By Facility Type and Redeemed¹ Rapid Screen Tests Calendar Years 2007 through 2009							
Facility Type	2007		2008		2009		Percent Change 2007-2009
	Number of Tests	Percent	Number of Tests	Percent	Number of Tests	Percent	
Envirotest Stations ^{2,3}	858,000	98%	771,000	98%	786,000	98%	-8%
Fleet Inspections ²	5,000	1%	5,000	1%	4,000	1%	-20%
Independent (1981 and older gas-fueled) ²	11,000	1%	9,000	1%	8,000	1%	-27%
Total Traditional Inspections	874,000	100%	785,000	100%	798,000	100%	-9%
Redeemed Rapid Screen (Envirotest) ¹ Tests	90,000	-	185,000	-	206,000	-	129%
Total Traditional Inspections and Redeemed Rapid Screen Tests	964,000	-	970,000	-	1,004,000	-	4%
Source: Office of the State Auditor's analysis of data from the Department of Public Health and Environment and Department of Revenue.							
¹ Includes the number of vehicles that were registered using passing Rapid Screen results. Vehicles that passed Rapid Screen testing, but the owner did not use the Rapid Screen result to satisfy emissions testing requirements, are not included.							
² Includes both passing and failing emissions inspections.							
³ Includes some vehicles that also passed Rapid Screen tests, but the vehicle owners did not redeem the Rapid Screen results for registration purposes.							

Vehicle Emissions Program

The Emissions Program within the Department of Revenue is responsible for overseeing emissions testing facilities and inspectors, enforcing program rules, issuing waivers of emissions tests for vehicles that meet certain criteria, and assisting the public with emissions testing within both the Air Program and a separate Diesel Opacity Inspection Program. In accordance with statute [Section 42-4-301 et seq., C.R.S.], the Emissions Program performs several key functions, including the following:

- **Auditing all testing facilities and inspectors.** Emissions Program staff conduct several types of audits to ensure that testing facilities perform emissions tests properly and in accordance with statute, EPA and state regulations, and the State's contracts with Envirotest.
- **Overseeing the contracts with Envirotest.** Emissions Program staff oversee and enforce the contracts with Envirotest. These activities include evaluating Envirotest's performance and issuing warnings, suspensions, and fines for violations of program regulations and contractual requirements.
- **Licensing facilities and inspectors.** Emissions Program staff license facilities and inspectors to conduct emissions tests. Before the Emissions Program issues licenses to inspectors, Envirotest must certify that it has provided them with training as required by program regulations and contractual requirements.
- **Reviewing applications for extensions and waivers.** Vehicle owners can apply for testing extensions for vehicles temporarily located outside the state or waivers for vehicles that have undergone more than \$715 in emissions repairs yet continue to fail emissions testing. Emissions Program staff review applications for extensions and waivers and determine whether the owner meets the statutory criteria.
- **Assisting the public.** In addition, the Emissions Program provides assistance to the general public regarding emissions testing. Emissions Program staff answer questions about the program and oversee the customer complaint process to ensure that complaints associated with emissions tests are handled promptly and fairly.

Through its performance of these functions, the Emissions Program helps ensure that vehicle owners are not unduly burdened when meeting emissions testing and

vehicle repair requirements and that testing facilities provide customers and the State with reliable emissions testing.

Financial Information

The State's costs for the Emissions Program are entirely cash-funded, primarily through vehicle registration fees. Of the annual vehicle registration fees assessed, \$1.50 from each vehicle in the program area funds the activities of the AIR Program. Of this amount, \$1 is provided to the Department to fund the Emissions Program's direct and indirect costs, and the remainder is provided to DPHE to fund its AIR Program functions. As mentioned earlier, the State does not receive fees that customers pay for emissions testing; these fees are retained by Envirotest to cover its expenses. Based on the volume of emissions tests it performed, we estimate that in Calendar Year 2009 Envirotest collected about \$22 million in revenue from vehicle owners in Colorado. As shown in the table below, the Emissions Program's expenditures have grown from about \$800,000 in Fiscal Year 2006 to \$1.1 million in Fiscal Year 2010, an increase of about 38 percent.

Department of Revenue Vehicles Emissions Program Expenditures and FTE Fiscal Years 2006 Through 2010						
	2006	2007	2008	2009	2010	Percent Change, 2006-2010
Expenditures	\$823,000	\$816,000	\$1,120,000	\$1,155,000	\$1,134,000	38%
Appropriated FTE	15.5	15.5	15.5	15.5	15.5	0%
Actual FTE	13.4	11.6	14.8	14.2	15.0	12%
Source: Office of the State Auditor's analysis of data obtained from the Colorado Financial Reporting System and the Department of Revenue.						

To accommodate the expansion in AIR Program boundaries to include Larimer and Weld counties, effective January 2010, the Emissions Program was appropriated an additional 2.8 FTE and \$178,000 for Fiscal Year 2011. The Emissions Program requested the additional staff and funding to conduct audits of testing facilities and Rapid Screen locations in the new program areas.

Audit Scope and Methodology

This audit focused on the Department's and DPHE's oversight of emissions testing facilities and the contracts with Envirotest. During the audit, we interviewed Department, DPHE, and Envirotest staff; observed emissions audits;

and reviewed the Department's audit, timekeeping, and customer wait-time records. In addition, we reviewed the contracts with Envirotest, and the Department's and DPHE's procurement and contract renewal activities.

In addition to this current audit, the Office of the State Auditor contracts for a review of the AIR Program every three years in accordance with statute [Section 42-4-316, C.R.S.]. This triennial review assesses the ongoing need for the AIR Program considering specific requirements set forth in statute, which include the program's effect on air quality, the cost to the public, the cost-effectiveness relative to other air pollution control programs, the need for further pollution reductions, and the application of the program to ensure compliance with warranties covering air pollution control equipment. The most recent review of the AIR Program, *Evaluation of the Colorado Automobile Inspection and Readjustment (AIR) Program Performance Audit*, September 2009, included several recommendations to DPHE.

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Vehicle Emissions Audits

Chapter 2

Emissions tests are a required component of Colorado's AIR Program. As such, vehicle owners must have their vehicles' emissions tested, either through a traditional emissions test or by Rapid Screen, and pay a testing fee before their vehicles can be registered. To ensure that vehicle owners receive proper value when they have their vehicles tested, the emissions testing process should produce accurate and reliable results and minimize customer inconvenience.

Environmental Protection Agency (EPA) regulations, under the Clean Air Act, require states to develop a quality assurance program to ensure that emissions testing facilities and inspectors conduct accurate and reliable tests according to federal requirements and each state's emissions program requirements. According to EPA regulations, the purpose of a state's quality assurance program is:

. . . to discover, correct, and prevent fraud, waste, and abuse and to determine whether procedures are being followed, are adequate, whether equipment is measuring accurately, and whether other problems might exist which would impede program performance.

As discussed in Chapter 1, the Emissions Program operates the State's quality assurance program of vehicle emissions testing in the program area, which includes conducting audits of emissions facilities and inspectors and enforcing sanctions against facilities and inspectors found to be in violation of requirements set forth in statute, EPA and state regulations, and the contract with Envirotec. The Emissions Program's quality assurance and enforcement activities are the State's primary mechanisms to ensure that emissions tests are conducted properly. If testing facilities do not follow established testing procedures, there is a risk that facilities will mistakenly pass or fail vehicles, which could prevent the AIR Program from achieving its expected pollution reductions and/or unduly burden customers. By issuing fines and other sanctions for violations observed during audits, the Emissions Program can provide emissions test providers with incentives to perform accurate tests and ensure good customer service.

In addition to requiring states with emissions programs to establish a quality assurance program, EPA regulations also provide that "quality assurance and quality control procedures shall be periodically evaluated to assess their effectiveness and relevance in achieving program goals." During the audit we reviewed the Emissions Program's audit procedures and scheduling, enforcement

of testing requirements and contractual provisions, and use of audit staff. Overall, we found that the Department needs to reevaluate the Emissions Program's quality assurance functions. Specifically, we found that sanctions are not issued for all violations, audit coverage could be improved to ensure that higher-risk stations are audited more frequently, and procedures could be strengthened to comply with requirements set forth in regulations to ensure that the Emissions Program fulfills the purposes outlined by EPA regulations. We also found that the Emissions Program has not adequately tracked and monitored its use of staff to ensure that staff responsible for audit functions are fully utilized and budget requests are accurate. Finally, procedures for cash advances need to be reviewed. Overall, the Emissions Program should make improvements to ensure that its quality assurance functions are as effective as possible at promoting accurate testing at facilities and that it has optimized its use of audit staff resources. We discuss these issues in the following sections.

Emissions Audit Requirements

EPA regulations require Emissions Program staff to conduct four types of audits of emissions testing facilities. These audits include overt and covert performance audits, equipment audits, and record audits. In addition, EPA regulations provide specific requirements regarding audit procedures and the frequency of audits. The General Assembly has mirrored most of these EPA requirements in statute. However, as will be discussed in the following sections, in some cases statute requires audits to occur with greater frequency or according to different standards than EPA requirements. For example, statute requires overt performance and equipment audits to occur once every 90 days on each test lane, while EPA regulations only require audits of each lane twice per year. These variations are permissible under EPA regulations and are incorporated in the State Implementation Plan, which is the State's overall plan for bringing Colorado's air quality into compliance with EPA standards. The EPA approved the sections of Colorado's State Implementation Plan related to audit requirements in 1994. In addition to the audits required by EPA regulations and statute, the State promulgated regulations requiring the Emissions Program to audit each Rapid Screen van. The EPA approved Rapid Screen requirements for the AIR Program as an addition to the State Implementation Plan in 2007. The table on the following page provides the audit procedures required under the State Implementation Plan as of August 2010.

State Implementation Plan Emissions Audit Requirements as of August 2010		
Audit Type	Required Procedures	Frequency
Overt Performance	Observe and evaluate inspectors conducting emissions tests to ensure that inspectors are performing tests in accordance with program regulations. The EPA requires that states conduct overt performance audits at the same time as the equipment audits described below.	Every 90 days on each testing lane at each testing facility.
Covert Performance	Send unmarked vehicles that have been tampered with and should fail the emissions control system inspection for testing at emissions facilities. Observe the emissions test and ensure that inspectors perform the test properly and identify the altered parts and fail the vehicle as required. Inspectors are not informed that an audit is in progress.	Twice per year for each testing lane at each facility.
Equipment	Check emissions testing equipment at each testing facility to ensure that the equipment functions properly and provides accurate test results. Performed at the same time as overt performance audits.	Every 90 days on each testing lane at each testing facility.
Record	Review facility testing records to identify evidence of fraud, abuse, incompetence, or data entry errors.	Once per month at each testing facility.
Rapid Screen	Check set-up of Rapid Screen locations and test equipment to ensure that it is functioning properly and accurately reading emissions gases.	Once every five days at a minimum.
Source: Office of the State Auditor's analysis of Colorado's State Implementation Plan.		

As shown in the table, each audit type tests a specific aspect of the emissions inspection process. Overt and covert performance audits assess emissions inspectors' ability to perform required testing procedures. By contrast, equipment and Rapid Screen audits test the accuracy of emissions testing equipment at facilities and Rapid Screen locations. The purpose of record audits is to review testing records for any evidence of improper testing or inaccurate recording of test data. Because testing facilities can each have up to eight test lanes, for some audits EPA regulations and statute specify the number of audits required at each test lane, as opposed to each facility. The following table provides the number of each type of audit that the Emissions Program conducted from Calendar Years 2007 through 2009.

Number of Vehicle Emissions Program Audits by Type of Audit Calendar Years 2007 through 2009				
	2007	2008	2009	Percent Change 2007-2009
Overt Performance Audits	895	901	900	1%
Covert Performance Audits	175	178	174	-1%
Equipment Audits	334	341	340	2%
Record Audits	230	221	226	-2%
Rapid Screen Audits ¹	264	861	1,523	477%
Source: Department of Revenue.				
¹ The number of Rapid Screen locations and testing vans increased over the period, and audit procedures were modified to allow for more frequent audits.				

The Emissions Program maintains detailed audit records as part of the audit process. When auditors are at emissions facilities, they use worksheets to manually record audit information, including the results of each audit procedure, the time the audit was conducted, and any violations of program rules they identified during the audit. For equipment, Rapid Screen, and record audits, Emissions Program auditors also enter this information into an Envirotest database using the facility's computer system and print an audit report at the conclusion of the audit. Although the Emissions Program has access to the Envirotest database, it maintains its own audit database to provide a record for covert and overt performance, equipment, record, and Rapid Screen audits. Following each audit, Emissions Program staff enter the information from audit worksheets and printed audit reports into the Emissions Program's database and retain hardcopy audit worksheets and audit reports.

During the audit we reviewed the Emissions Program's electronic and hardcopy audit records and audit procedures to determine whether (1) staff have fulfilled all audit requirements and (2) audit procedures and scheduling ensure that the State's quality assurance program meets its goals that inspectors perform tests properly, that equipment provides accurate test results, and that fraud, waste, and abuse are prevented. We found that some of the Emissions Program's audit procedures, as well as some statutory requirements and program rules, do not appear to contribute to, and in some cases may reduce, the Emissions Program's ability to ensure that emissions tests are accurate and performed properly. As discussed in the following sections, we identified four areas that the Emissions Program should reassess: (1) practices for issuing and enforcing sanctions for violations of program rules found during overt and covert performance audits, (2) audit coverage for overt and covert performance audits, (3) scheduling of covert performance and equipment audits, and (4) procedures for record audits.

Issuance of Sanctions for Identified Violations

According to EPA regulations, “enforcement against licensed stations or contractors, and inspectors shall include swift, sure, effective and consistent penalties for violation of program requirements.” Accordingly, when auditors find that inspectors or facilities are not conducting emissions tests according to regulations, statute [Section 42-4-313, C.R.S.] and the contract with Envirotest provide the Emissions Program with the authority and responsibility to issue warnings and fines, close testing lanes, and revoke or suspend testing licenses. The possibility of sanctions provides Envirotest with incentives to ensure that its inspectors perform emissions tests properly and that facilities meet testing requirements and contractual standards.

During Fiscal Year 2009 the Emissions Program issued a total of \$244,000 in fines against Envirotest and emissions inspectors for violations of program rules and contractual requirements. These violations included performing emissions tests improperly, exceeding contractual wait-time standards, and achieving fewer valid Rapid Screen tests than specified in the contract. Of this total, the program issued about \$131,000 in fines against Envirotest and its inspectors for 259 violations of program rules related to performing emissions tests improperly. In this section, we discuss our review of violations identified during overt and covert performance audits, which are the two types of audits intended to ensure that inspectors perform emissions tests properly. We discuss our review of wait time violations in Chapter 3. Envirotest was fined \$113,000 for these violations.

We reviewed hardcopy audit records for a sample of 69 overt performance audits conducted during Calendar Year 2009, and we observed 14 covert performance audits conducted during January and February 2010 to determine whether Emissions Program auditors issued sanctions for all violations that they identified. We found that auditors do not always use available sanctions for violations of program rules they identify during overt and covert performance audits. Out of the 69 overt performance audit reports we reviewed, we found that during six audits (9 percent) auditors noted a total of six violations of program rules based on their observations and did not issue fines to the stations involved. Further, based on our review of the Emissions Program’s audit database, during Calendar Years 2007 through 2009 auditors issued warnings or sanctions during only 2 percent of all overt performance audits. Similarly, during our observations of 14 covert performance audits we observed 5 audits (36 percent) during which the auditor did not record a violation that occurred during the audit. In total, auditors did not record five violations identified during these 14 covert audits. The violations of program rules for which sanctions were not enforced during overt and covert performance audits included failing to drive the vehicle properly on the

dynamometer and failing to provide the customer with a pamphlet explaining why his or her vehicle failed the emissions test.

Emissions Program management indicated that some program rules are not enforced because these rules do not contribute to ensuring that facilities perform emissions tests properly. Specifically, for covert performance audits, auditors do not strictly enforce sanctions for some violations because they do not affect the accuracy of the test or the quality of the customer's experience. For example, according to Emissions Program management, if an inspector does not properly drive the vehicle on the dynamometer, the testing system will automatically shut down and force the inspector to repeat this part of the test. In addition, when a customer's vehicle fails, the customer is only affected minimally if the inspector does not provide the additional pamphlet separately, because the additional pamphlet duplicates much of the information available on the standard inspection report that is provided to the customer. Further, management indicated that the Emissions Program uses overt performance audits primarily to provide training and feedback to inspectors and station managers, and audit procedures are not designed to document and sanction violations that occur when the inspector performs emissions tests. As a result, auditors conducting overt performance audits do not normally issue sanctions for violations they identify.

As mentioned previously, EPA regulations indicate that a key purpose of a quality assurance program is to ensure that emissions testing providers follow required procedures. The possibility of sanctions provides Envirotest and its inspectors with an incentive to perform tests properly. Thus, when auditors do not fully enforce sanctions when they identify violations of program rules, Envirotest does not have incentives to perform all of the testing requirements properly, and the effectiveness of the quality assurance function of the Emissions Program is reduced. Moreover, by enforcing some program rules while not enforcing others, the Emissions Program is not ensuring consistent enforcement, as required by EPA regulations. Therefore, the Emissions Program needs to reevaluate its process for enforcing sanctions for violations identified during overt and covert performance audits and develop procedures necessary to document and enforce sanctions for all violations identified during both overt and covert performance audits. In addition, the Emissions Program should periodically provide its audit staff with training on the procedures and oversee auditors to ensure that they enforce program rules consistently. If the Department believes that some program rules are not relevant to its quality assurance goals, the Department should work with the Commission to remove these program rules.

Recommendation No. 1:

The Department of Revenue should improve the Vehicle Emissions Program's quality assurance function with respect to overt and covert performance audits by:

- a. Developing procedures that require auditors to document and enforce sanctions for all violations of program rules identified during overt and covert performance audits, providing periodic training on the procedures for audit staff, and monitoring staff to ensure that sanctions are issued for all violations.
- b. Determining whether some program rules are not necessary to ensure that inspectors perform proper tests and working with the Air Quality Control Commission to eliminate those rules.

Department of Revenue Response:

- a. Agree. Implementation date: July 2011.

The Department will develop procedures to ensure that violations identified during overt and covert performance audits are documented and enforced. The current forms used in the audits will be reviewed and updated as necessary to provide a clear record of the violations encountered and the sanctions imposed. An ongoing training program will be developed by the Department that will provide procedures to follow and assistance in identifying violations. The training will be documented and maintained by the Department. Audit staff will be monitored and evaluated by program management for consistent application and to ensure that sanctions are appropriately issued for the violations identified during the audits.

- b. Agree. Implementation date: July 2011.

The Department will initiate a review of the program rules to determine what rules are obsolete, not enforceable, or add no value to the program. The Department will then pursue regulatory change to eliminate those rules that are determined to be unnecessary.

Overt and Covert Performance Audit Coverage

As discussed, statute, which was incorporated into the State Implementation Plan, requires overt performance audits to be conducted once every 90 days on each test lane, or about four times per year, and covert performance audits to be conducted twice per year on each lane. We reviewed Emissions Program audit records to determine whether the Emissions Program audits each test lane according to the statutory requirements and whether the program's current audit coverage is effective at ensuring that inspectors adequately perform emissions tests. We identified two problems with the Emissions Program's scheduling of overt and covert performance audits. First, the audit coverage standards set forth in statute are difficult to attain, because the requirements are focused on lanes rather than facilities and may not contribute to ensuring quality inspector performance. Second, the Emissions Program's current scheduling of covert performance audits does not optimize its ability to identify problems with inspector performance and ensure that inspectors are performing tests properly.

During the audit we reviewed Emissions Program records of overt and covert performance audits conducted at Envirotest stations during Calendar Year 2009. We found that in total, auditors conducted overt performance audits on all three positions within lanes 308 times and conducted covert performance audits 169 times. These totals exceed the total amount of audits required by statute. Statute requires four overt performance audits per lane at 75 test lanes (300 audits) and two covert performance audits per lane at 75 test lanes (150 audits). However, Emissions Program auditors did not audit some of the 75 lanes as frequently as required by statute. For overt performance audits, we found that auditors did not conduct the required four audits for 18 lanes (24 percent). Similarly, for covert performance audits, we found that auditors did not conduct the required two audits for 34 lanes (45 percent).

Emissions Program management indicated that auditors are not able to meet the required number of audits on a per lane basis because conducting overt and covert performance audits according to test lanes is a difficult practice to implement. In the case of covert performance audits, which are unannounced, auditors cannot request a specific lane when they arrive at a testing facility without identifying themselves as auditors and significantly compromising the audit. For overt performance audits, management indicated that although auditors could select a specific lane, auditing a particular lane would increase audit time and inconvenience customers. For example, if the lane that was scheduled for an audit was closed when the auditor arrived, the station would have to open the lane and pull inspectors off of other lanes for the audit to occur. Further, the purpose of both overt and covert performance audits is to evaluate the performance of

inspectors and not the equipment in the lane. Because inspectors constantly move between lanes at a facility, conducting audits according to lane does not improve inspector coverage and does not contribute to the audits' ability to ensure that inspectors perform emissions tests properly.

Our review of covert and overt performance audit procedures and observation of audits confirmed that the requirement that audit coverage be based on lanes is not relevant to the quality assurance purposes outlined in EPA regulations for either covert or overt performance audits. Further, for covert performance audits, the requirement is difficult for the Emissions Program to attain, because conducting audits according to lanes would require auditors to compromise the covert nature of the audit or conduct many more audits in an attempt to meet the requirement, which would not be an efficient use of resources. However, the Emissions Program cannot disregard statutory requirements. Consequently, it should seek statutory change to eliminate the provisions that auditors conduct covert and overt performance audits according to lanes. As discussed below, this change could include requiring audits according to facility-based risk factors.

The second problem we found with audit scheduling was that the Emissions Program's process for scheduling covert performance audits is not as effective as it could be at achieving adequate coverage to identify violations of testing requirements and ensure that inspectors are performing their jobs. Although the statutory requirement to conduct audits according to test lanes is difficult to attain, the requirement suggests that larger stations, with more test lanes, should be audited more frequently. The Emissions Program's current practice is to conduct covert performance audits at each station once per month, which causes larger facilities to receive less coverage on a per-lane basis. On the basis of our analysis of Emissions Program data, we believe this approach is not the most effective way to identify violations of testing requirements. We found that the number of test lanes, vehicles tested, and inspectors, as well as the frequency of problems found at each Envirotest facility, varies widely. By auditing each facility the same number of times each year, the Emissions Program does not take into account any of these differences. For example, in Calendar Year 2009 the Emissions Program audited a facility with two test lanes that conducted about 14,000 inspections as frequently as the program inspected a facility with eight test lanes that conducted more than 92,000 inspections. Further, from August 2005 through December 2009 the Emissions Program audited a station at which auditors found problems during 45 percent of covert performance about as frequently as a station at which auditors found problems during 24 percent of audits. In addition, facilities with more lanes and a higher volume of vehicles are at a higher risk for errors. Because emissions facilities with more lanes employ substantially more emissions inspectors but are audited the same number of times as smaller stations, inspectors at larger stations are less likely to be audited. This disparity may explain the higher rate of violations per audit discovered during audits at larger facilities. We found that four of the five stations with the highest rate of violations identified

during covert performance audits from August 2005 through December 2009 were larger stations with seven or eight test lanes, where inspectors were less likely to be audited. Thus, the Emissions Program may be able to increase the effectiveness of its covert performance audits in improving the quality of inspections by developing scheduling procedures that are based on risk and take into account significant differences among emissions facilities, such as the rate of violations discovered during previous audits, size of the facility, the number of inspectors working at the facility, and the volume of vehicles tested. By targeting covert performance audits to stations that present the highest risk of testing violations, the Emissions Program can improve its efforts to ensure that inspectors perform tests properly.

To adopt a risk-based approach for conducting overt and covert performance audits, the Department will need to work with DPHE and the Air Quality Control Commission on appropriate revisions to statute and the State Implementation Plan. The revisions should include the size of facilities as a risk factor and ensure consistency with the overall purpose of the quality assurance function as outlined in EPA regulations.

Recommendation No. 2:

The Department of Revenue should improve the effectiveness of Vehicle Emissions Program overt and covert performance audits by:

- a. Working with the Air Quality Control Commission and DPHE as necessary to modify the State Implementation Plan and seeking statutory change to eliminate the requirement that auditors select a particular lane within a station when conducting overt and covert performance audits. This change could include establishing audit coverage requirements based on facilities, instead of specific lanes.
- b. Developing a risk-based approach for scheduling covert performance audits that accounts for variations among stations, such as the number of lanes, the volume of vehicles inspected, the number of violations identified during previous audits, and the number of inspectors.

Department of Revenue Response:

- a. Agree. Implementation date: May 2011.

During the next Legislative Session, the Department will pursue statutory change to remove the requirement that auditors select a particular lane within a station when conducting overt and covert performance audits.

The Department agrees to work with the Air Quality Control Commission and DPHE as necessary to modify the State Implementation Plan to coincide with these proposed legislative changes.

- b. Agree. Implementation date: Implemented, July 2010.

On July 1, 2010, the Department implemented a procedure that uses a risk-based approach based on station size, inspection volume, and the number of inspectors for scheduling covert performance audits. The Department will continue to augment the procedure to include risk assessments of the numbers and types of previous violations, wait times, and consumer complaints.

Frequency of Equipment and Overt Performance Audits

EPA regulations require the Emissions Program to conduct equipment and overt performance audits at the same time and to conduct them twice per year for each test lane within a facility. However, statute requires that the Emissions Program conduct audits every 90 days on each lane, or about four times per year. Our review of equipment and overt performance audits found that the Emissions Program conducts audits according to the frequency provided in statute, or twice as many as required by EPA regulations. We found several indications that statute may require more audits than necessary to meet quality assurance goals, such as ensuring that equipment is measuring emitted gases accurately and inspectors perform tests properly. Further, we found the Emissions Program may be able to increase the effectiveness of its equipment and overt performance audits in meeting quality assurance goals by seeking a reduction in the minimum number of audits required and instead focusing efforts on the poorest-performing facilities.

For equipment audits, our review of testing requirements and audit results indicates that Envirotest equipment is currently providing accurate emissions tests and that using additional resources to conduct more audits than required by the EPA may not reduce the likelihood that vehicle owners will receive erroneous test results. According to program rules and the State's contract with Envirotest, emissions testing facilities are required to have their own quality assurance controls designed to prevent inaccurate test results. For example, facilities are required to recalibrate gas analyzers and perform frequent equipment checks to ensure that the equipment is reading accurately. If a facility does not perform the quality assurance procedures as required, the testing equipment automatically locks itself and prevents further emissions testing of vehicles until the

recalibration and equipment checks occur. The Emissions Program has access to electronic records for all facilities showing the results of these quality assurance procedures and regularly monitors this information when it conducts equipment audits.

Our review of audit results indicates that gas analyzers typically provide accurate readings and there is a low risk that test results will be affected, even when gas analyzers are operating outside of established tolerance levels. During audits conducted in 2009, Emissions Program auditors found that all testing equipment was functioning properly 74 percent of the time. Problems found during the other 26 percent of audits are important to correct; however, our analysis suggests that these problems would be unlikely to have a significant effect on the overall accuracy of emissions test results. For example, program rules require gas analyzers to read emissions gases within 2.5 percent of the actual value. The most common problem auditors found during equipment audits was that gas analyzers read emissions gases outside of the established 2.5 percent tolerance, which occurred about 10 percent of the time. In our interviews with DPHE staff, they stated that it is reasonable to expect some readings outside of established tolerances, because it is the nature of the equipment to slowly drift out of calibration. However, DPHE staff said that a reading outside of established tolerances does not necessarily indicate that the analyzer would be likely to record passing readings for a failing vehicle or failing readings for a passing vehicle. Specifically, we found that, on average, vehicles that fail emissions testing emit gas levels that exceed program standards by more than 129 percent, and vehicles that pass emit gas levels averaging 75 percent below program standards. Therefore, testing equipment would have to drift far outside of the standards used during audits to create a significant risk of providing erroneous results. We reviewed test readings from a sample of 20 of the 39 analyzers that failed audits during Calendar Year 2009 and found that, on average, the failing analyzers had drifted by about 4 percent, and no analyzer drifted by more than 13 percent. Thus, considering the pollution levels emitted by the average passing and failing vehicle, it appears unlikely that these analyzers would provide incorrect test results. Because testing equipment has built-in quality controls and appears to be providing accurate test results, the Emissions Program may be able to reduce the number of equipment audits it conducts to the level required by EPA regulations and still adequately ensure that testing equipment is providing accurate test results.

As mentioned, EPA regulations also require equipment and overt performance audits to be conducted at the same time; therefore, any decrease in the number of equipment audits would require a corresponding decrease in the number of overt performance audits. Because the Emissions Program does not typically enforce sanctions for testing violations it discovers during overt performance audits, which we discussed in Recommendation No. 1, data on violations identified during overt performance audits are not available to assess the performance of

inspectors. However, our review of emissions testing procedures indicates that controls in place at the facilities help to minimize the risk that inspectors will perform tests poorly and that the Emissions Program may be able to reduce the number of audits it conducts while continuing to ensure that inspectors perform tests properly. Specifically, inspectors are required to follow computer-generated prompts to complete each procedure as they move the vehicle through the test lane, making it less likely that they will skip steps. Further, during the critical emissions gas reading component of the test, the testing system has controls that can sense when the test is being conducted improperly, such as when the inspector drives the vehicle improperly on the dynamometer. When improper testing occurs, the testing system requires the inspector to conduct the test again. Although there is some risk for human error, such as data entry errors and improper visual inspections, the controls built into the testing system appear to reduce the need for more frequent overt performance audits than EPA regulations require.

We found that in addition to requiring more audits than may be necessary to meet program goals, current statutory requirements do not provide the Emissions Program with the flexibility to vary the number of equipment and overt performance audits it conducts to better respond to identified equipment problems and potential testing violations. Currently the Emissions Program must annually conduct four equipment and overt performance audits on every test lane at each facility. However, our analysis of equipment audit results indicated that auditors are much more likely to find problems at some facilities than others. For example, from Calendar Years 2005 through 2009 auditors discovered equipment problems at the worst-performing station 44 percent of the time, but only 19 percent of the time at the best-performing station. If statute was aligned with EPA requirements regarding the frequency of audits and required fewer audits, the Emissions Program would have more flexibility to reduce the number of audits at high-performing stations and focus its efforts on stations with the most problems using its current staff resources.

By reducing the required number of equipment and overt performance audits and targeting resources to high-risk areas, the Emissions Program could make more effective use of staff resources to meet program goals. In Calendar Year 2009 auditors conducted about 300 equipment and overt performance audits at Envirotest facilities as required by statute. Based on our review of audit time records, staff timesheets, and staff interviews, we estimate that auditors spend an average of 3.4 hours to complete one combined equipment and overt performance audit. Thus, by reducing the number of audits performed to the EPA requirement of twice per year, we estimate that the Emissions Program could reduce or reallocate as much as 510 hours of staff time per year, which is equivalent to about .25 FTE, or about \$14,650, based on auditor staffing cost estimates provided by the Department. The Emissions Program could use this staff time to

increase the number of audits at poorly performing stations or redirect staff to other program functions.

Emissions Program management indicated concern that reducing the number of audits could negatively affect the accuracy of emissions test results and inspector performance. However, if the minimum number of audits required was reduced, the Emissions Program would have the flexibility to adjust the number of audits it conducts at each station. If the program found that problems increased at some facilities, it could increase the number of audits performed at those facilities.

The Emissions Program should reevaluate the frequency of its equipment and overt performance audits, taking steps necessary to determine whether it can reduce the number of equipment and overt performance audits while continuing to ensure that testing equipment is measuring accurately and inspectors are conducting tests properly. To make this determination, the Emissions Program will need to seek changes to statute and the State Implementation Plan to align statute with EPA requirements. This change will provide the Emissions Program with flexibility to determine the most cost-effective number of equipment and overt performance audits that will ensure facility performance. One option the Emissions Program could consider is piloting a reduced audit schedule at one or two stations to determine whether decreasing the number of audits affects facility performance. The Emissions Program could use the results of this pilot to determine whether conducting additional equipment and overt performance audits is necessary and significantly improves its efforts to ensure that the equipment provides accurate test results and inspectors follow testing procedures.

As discussed in the previous section, because changes to statutory audit requirements also require changing the State Implementation Plan, the Department will need to work with the Air Quality Control Commission and DPHE in seeking changes to its audit requirements. In working with the Commission and DPHE, the Department should consider the statutory revisions recommended in this comment with those discussed previously in Recommendation No. 2. EPA regulations require equipment and overt performance audits to be performed together and, therefore, the Department should consider both of these recommendations in determining the frequency of Emissions Program audits.

Recommendation No. 3:

To ensure adequate facility performance, the Department of Revenue should reassess the level of coverage needed for Vehicle Emissions Program equipment and overt performance audits. Specifically, the Department should:

- a. Seek changes to the State Implementation Plan and statute to align overt performance and equipment audit requirements with the EPA minimum of twice per year while still meeting requirements established by the EPA.
- b. Use the flexibility provided through the revisions in part “a” to determine the level of audit coverage that will ensure adequate station performance most cost-effectively. This could include piloting a reduction in the frequency of audits at some stations to determine whether reducing the number of performance and equipment audits would negatively impact station performance.

Department of Revenue Response:

- a. Agree. Implementation date: May 2011.

During the next Legislative Session, the Department will pursue statutory change to align overt performance and equipment audits with the EPA requirements. The Department agrees to work with the Air Quality Control Commission and DPHE as necessary to modify the State Implementation Plan to coincide with these proposed legislative changes.

- b. Agree. Implementation date: Ongoing.

The Department will implement the statute and State Implementation Plan changes upon the effective date and will use the flexibility provided through the revisions in part “a” to determine the appropriate level of audit coverage that will ensure adequate station performance most cost-effectively. Once the revisions in part “a” are in place, the Department may begin a pilot program to reduce the number of audits on a specified number of stations. The Department will then assess any possible deterioration in inspector performance or equipment reliability; this will include monitoring any increase or decrease in inspector violations or equipment failures.

Procedures for Record Audits

EPA regulations require monthly record audits to “assess station performance and identify problems that may indicate potential fraud or incompetence.” Similarly, statute [Section 42-4-305, C.R.S.] requires monthly record audits to include a review of emission testing facilities’ records. As part of record audits, the EPA requires states to conduct an electronic records analysis to search for unusual

patterns and statistical inconsistencies that could provide evidence of fraud or incompetence. Envirotest is required by contract to maintain detailed electronic records of all vehicle test results, as well as the results of required quality assurance tests performed on equipment. Envirotest stores these records in a centralized database and provides Emissions Program staff with remote access to this database.

We found that the Emissions Program does not review electronic records as part of its record audits as required by EPA regulations. Additionally, the Emissions Program does not conduct these audits on a monthly basis as required. Specifically, the Emissions Program's record audits primarily consist of procedures that ensure that facilities are properly maintained, such as checking ceiling tiles, facility landscaping, and bathrooms for cleanliness and proper maintenance. Emissions Program management indicated that auditors did not conduct record audits from Calendar Years 1996 through 2006 due to a decrease in staffing. When the Emissions Program resumed conducting record audits in Calendar Year 2007, management implemented the same procedures used in 1996, which did not include the procedures required by the EPA. As a result, since restarting record audits in Calendar Year 2007, auditors have not conducted any audits of electronic records to identify unusual patterns that would indicate fraud or incompetence. Further, based on our review of record audits, most of the procedures that auditors currently perform have little value, because they rarely result in sanctions and do not identify significant problems. Out of the 166 records audits conducted during Calendar Year 2009, Emissions Program auditors noted a total of 28 problems during 25 audits. All the problems were relatively minor, such as lanes missing wheel gauges, missing customer information pamphlets, and loose ceiling tiles.

In addition to not conducting portions of the required record audit procedures, we found that Emissions Program auditors do not always perform records audits at each station on a monthly basis as required. We reviewed record audits conducted at a sample of 16 stations during Calendar Years 2007 through 2009 and found that Emissions Program staff did not conduct 20 (3 percent) of the 576 audits required. Management indicated that record audits have a lower priority for auditors than other duties and that the auditors occasionally miss required record audits to complete other more important duties, such as assisting the public with waiver requests and conducting other types of audits.

The Emissions Program can better utilize its staff resources and ensure compliance with EPA and statutory requirements by changing its record audit procedures so that the audits focus on reviewing electronic records to identify unusual patterns or inconsistencies that could indicate fraud, abuse, or incompetence. For example, Emissions Program staff could review electronic records to identify whether there are instances where inspectors are conducting tests outside of normal hours or on holidays, which could indicate fraudulent

testing and would require further investigation. Because the Emissions Program has access to Envirotest's emissions testing database, required record reviews can be conducted by reviewing electronic testing records. Thus, the Emissions Program could save staff time by not having to send an auditor to each test facility to perform maintenance checks. Further, reviewing electronic records would help ensure that staff complete all required monthly record audits. According to Emissions Program management, procedures designed to check facility maintenance could be incorporated into equipment and overt performance audits without additional cost by having auditors perform the checks while waiting for Envirotest to open lanes for those audits.

Recommendation No. 4:

The Department of Revenue should improve the effectiveness of Vehicle Emissions Program record audits by:

- a. Conducting record audits monthly as required by EPA regulations. Audits should include a review of electronic facility records to identify any unusual data patterns that would indicate fraud or incompetence and follow up as appropriate.
- b. Eliminating record audit procedures designed to monitor facility maintenance or incorporating them into other audits, if this can be accomplished without a negative impact on meeting other audit requirements.

Department of Revenue Response:

- a. Agree. Implementation date: April 2011.

The Department will develop and implement procedural changes to expand its current record audit to include EPA requirements to review the electronic facility records and expand the Department's ability to identify unusual data patterns that would indicate fraud or incompetence and follow up as appropriate. The Department will analyze and investigate any anomalous test records found in the inspection database and take action as necessary.

- b. Agree. Implementation date: April 2011.

The Department will coordinate with the Air Quality Control Commission to move the facility maintenance portion of the record audit to the overt performance audit. This change will not compromise

the auditor's ability to conduct the overt performance audit and will allow the auditor to focus on analyzing electronic data while conducting record audits.

Resource Management

Proper allocation and monitoring of staff resources are key factors in administering a program to achieve maximum efficiency, avoid waste, and provide the greatest benefit to the State. With respect to the Emissions Program, management has a responsibility to ensure that staff are fully utilized and only use work time for activities that contribute toward meeting quality assurance requirements and completing other AIR Program functions. Program management is responsible for monitoring employees' use of work time and continually assessing staffing needs. Management should have controls in place to determine whether employees do not have enough work to fill the day in their assigned functions. If this problem exists, management should either reallocate staff to areas that need additional resources or reduce the number of staff.

The Emissions Program employs 15 staff, which includes three managers, three administrative staff, and nine staff assigned to audits and other program functions. Due to Commission rulemaking and Senate Bill 09-003, which expanded the AIR Program boundaries to include Weld and Larimer counties, beginning in Calendar Year 2010 the Emissions Program will be required to conduct additional audits of emissions testing facilities and Rapid Screen locations in these counties. Under the 2010 Long Bill and Senate Bill 09-003, the Emissions Program has been appropriated an additional 2.8 FTE for Fiscal Year 2011 to cover work related to the expanded program area.

During the audit, we reviewed documentation and interviewed program staff to assess the Emissions Program's allocation and monitoring of staff time. As discussed in the following sections, we found problems with Emissions Program management's tracking and monitoring of audit staff and with its methods for assessing current and future staffing needs. These problems indicate the Department needs to reevaluate the Emissions Program's overall staffing needs.

Monitoring of Staff Time

As mentioned previously, program management and staff are responsible for ensuring that all work time is dedicated to activities related to job duties. According to statute [Section 24-50-101, C.R.S.] and state personnel rules, management is responsible for ensuring proper use of staff resources. In order to

ensure that staff use time appropriately, the Emissions Program requires staff to submit weekly timesheets for approval by management.

Our review of the Emissions Program's use of staff primarily focused on auditors assigned to equipment, overt performance, and Rapid Screen audits. We did not include covert performance audits or administrative duties in our analysis, because the Emissions Program's time and audit records for these functions did not contain sufficient information to estimate the time necessary to complete work recorded on staff timesheets. Based on our review, we found that the Emissions Program has not properly monitored and tracked staff time to ensure that its audit resources for equipment and overt performance audits and for Rapid Screen audits are fully utilized, as discussed in the following two sections.

Equipment and Overt Performance Audits

As mentioned previously, equipment audits consist of testing equipment used to conduct emissions tests to ensure that the equipment is functioning properly, while overt performance audits observe station inspectors to determine whether they perform the emissions test correctly. As required by EPA regulations and statute, Emissions Program auditors conduct equipment and overt performance audits during the same station visit. One auditor conducts both types of audits and typically completes one station visit per day. Because auditors indicated that they perform the tests contemporaneously, moving from one audit to another during the station visit, we considered the time utilized for these audits together when conducting our analysis.

We used several data sources to perform our analysis. We reviewed the time stamps recorded on hardcopy audit worksheets, described below, and reports from a sample of 42 of the 77 audit visits at Envirotest facilities that occurred from July through September 2009 to estimate the average amount of time each audit visit took and to assess the time of day that audits were completed. We also reviewed Emissions Program auditors' timesheets during the same period and compared these to the Emissions Program's electronic audit records. In addition, we accompanied audit staff during one audit visit and observed one equipment audit and three overt performance audits. Further, we interviewed audit staff on their typical audit practices and interviewed all 14 Envirotest station managers to obtain their perspective on the amount of time Emissions Program auditors typically spend at facilities during audits.

On the basis of evidence collected from each of these sources, we found that staff do not accurately record audit time and that audit visits take substantially less time than recorded on employee timesheets, as discussed below.

- **More time charged for audits than supported by hardcopy audit time records.** The beginning and ending times for equipment and overt performance audits are recorded through manual entries and time stamps recorded on hardcopy audit records. Emissions Program auditors write the beginning time on a manual audit worksheet that they use to record audit results, and when the audit is completed the station's testing system records the end time on the final audit report. Based on our review of a sample of 42 of these hardcopy audit time records, the distance between Emissions Program offices and testing stations, and interviews with audit staff, we estimate that each equipment and overt performance audit visit takes about 3.4 hours, including travel time, time needed for pre-audit assessment and planning, and time at stations waiting for staff to open lanes to audit. By contrast, auditors charged an average of 7.9 hours for each of the equipment and overt performance audit visits on their timesheets, which they completed manually on a weekly basis. Thus, it appears that, on average, auditors are recording an extra 4.5 hours for each audit, or about 132 percent more time than is spent conducting each audit. Further, for 27 (64 percent) of the 42 audit visits included in our sample, the final audit report was printed before 12:00 p.m., yet the auditor recorded between seven and nine hours for equipment and overt performance audits on his or her timesheet for the same day, indicating that auditors charged more time on their timesheets than supported by time records.
- **Audit time charged on days with no scheduled audits.** During the three months included in our review, which included 63 work days, we found that on 13 days (21 percent), two of the three auditors assigned to equipment and overt performance audits of Envirotest facilities recorded between five and nine hours for equipment and overt performance audits on their timesheets. However, based on our review of electronic audit records, no equipment or overt performance audits were performed on these days.

In addition, the 14 Envirotest station managers that we interviewed indicated that Emissions Program auditors typically take one to two hours to complete equipment and overt performance audit visits, or well below the nearly eight-hour average recorded on auditors' timesheets. It is reasonable that the Envirotest managers' estimates are less than our estimate of 3.4 hours, because station managers only considered the time that auditors are at the stations in their estimates and did not include pre-audit activities or travel time, which were included in our estimate. Finally, during our interviews with Emissions Program auditors, they indicated that equipment and overt performance audit visits typically take two to four hours to complete, including planning, pre-audit, and travel time.

Rapid Screen Audits

As discussed, Rapid Screen audits ensure that Envirotest staff properly set up testing equipment at roadside Rapid Screen locations and that Rapid Screen equipment reads gases accurately. Typically, one auditor can complete each Rapid Screen audit without assistance from other auditors. During Calendar Year 2009 the Emissions Program conducted 1,523 Rapid Screen audits.

We performed a similar review of staff time for Rapid Screen audits as we did for equipment and overt performance audits. Similar to equipment and overt performance audits, auditors record the start time for each audit on an audit worksheet and the Rapid Screen system prints the end time on the final audit report. Because Emissions Program auditors typically complete several Rapid Screen audits each day, we performed our analysis by reviewing hardcopy time records for all Rapid Screen audits conducted for a sample of days, as opposed to time records for individual audits. Specifically, we compared employee timesheets to hardcopy time records for 18 days of Rapid Screen audits completed from July through September 2009.

As was the case for equipment and overt performance audits, we found that Rapid Screen auditors record more time on their timesheets for audits than is supported by hardcopy audit time records provided by the Emissions Program. On average, auditors manually recorded 2.4 hours on their timesheets for each Rapid Screen audit they completed. By contrast, we estimate that based on hardcopy audit time records and including additional time for planning and travel, audits take about 1.4 hours to complete. Thus, we estimate that, on average, auditors are recording an extra hour on their timesheets for each Rapid Screen audit completed, or about 71 percent more time than is supported by hard-copy time records. Further, on 10 of the 18 days included in our sample, a least one auditor had completed all the Rapid Screen audits for the day before 1:00 p.m. based on hardcopy time records, but recorded between six and nine hours for Rapid Screen audits on the timesheet.

Overall, the Emissions Program was unable to account for a substantial amount of time recorded on auditor timesheets for equipment, overt performance, and Rapid Screen audits. These timesheets submitted by auditors and approved by management provide the basis for time paid to audit staff. Based on our estimates of 3.4 hours for each station visit for equipment and overt performance audits and 1.4 hours for each Rapid Screen audit, we estimate that staff recorded about 960 more hours for performing audits during the three months in our review than the audits appear to have required. Over the course of one year, this would amount to 3,840 excess hours recorded, equivalent to about 1.8 full-time equivalent employees. Considering that the Department reports that each auditor costs the program about \$58,600 per year, including contributions to the Colorado Public

Employees' Retirement Association and Medicare, we estimated the cost of this excess time to be about \$105,000 each year.

Auditors confirmed that they record excess time for audits and explained that they record excess time because they are not assigned enough other work to fill their time. Although auditors reported occasionally completing other audit-related tasks not included in our analysis, such as refilling tanks with test gases used for equipment audits and repairing testing equipment, they reported often having no other specific work assignment to complete. During these times they reported that they attempt to find other work and record time to the audit function, because it is their understanding that Emissions Program management expects them to bill a certain percentage of their time to audits.

Although management regularly approved auditor timesheets, management indicated that it was unaware that audits take substantially less time to complete than reported on timesheets. According to management, some audit-related functions, such as refilling tanks with test gases, repairing equipment, and discussing audit results with station managers, were not included in our estimates of the time required for audits. Further, management indicated that staff may be recording time to audits that is used for some non-audit functions, because timesheets do not include a place to record all types of work an auditor might complete. However, management was unable to provide any documentation for how often these non-audit activities occur or how long they normally take. Furthermore, based on our interviews with audit staff, these activities are sporadic in nature and do not account for the substantial discrepancies we found in audit records and time records. In addition, we found that all job duties listed in auditors' job descriptions were also listed on timesheets and that auditors did occasionally record time to non-audit functions, such as administrative work and answering phones.

Our findings indicate that Emissions Program management does not properly track and monitor staff time or ensure that staff resources are used effectively. Because staff timesheets do not accurately reflect the actual work performed by staff, management is unable to account for the staff time it has approved and used as the basis for time paid to audit staff. To address this problem, program management needs to establish procedures to accurately track and monitor staff time and provide training to ensure that timesheets reflect actual work performed. Additionally, management should verify the time charged on timesheets and compare timesheets with other sources, such as time stamps and other audit records, to ensure that time is reported accurately. Management should analyze the results of this assessment and reallocate resources and take other corrective action as needed.

Recommendation No. 5:

The Department of Revenue should ensure that staff resources are used effectively in the Vehicle Emissions Program by:

- a. Accurately tracking and monitoring staff time and providing training to staff, including supervisors, to ensure that timesheets accurately reflect employees' use of work time.
- b. Periodically comparing timesheets to other sources, such as time stamps and other audit records, to ensure that time is reported accurately, analyzing the results, and taking action as appropriate.

Department of Revenue Response:

- a. Agree. Implementation date: December 2010.

The Department will expand the current timekeeping mechanism for staff to accurately track and monitor emissions staff activities. An ongoing training program will be developed by the Department that will provide procedures to follow and assistance in accurate timekeeping. The training will be documented and maintained by the Department. Audit staff will be monitored and evaluated by management for consistency and accuracy in timekeeping records.

- b. Agree. Implementation date: March 2011.

The Department will implement procedures to periodically compare timesheets to other sources, such as electronic audit records, audit reports, and any other sources that management deems necessary to ensure that time is reported accurately. Management will analyze the results and take appropriate action as needed.

FTE Needs and Expansion of Program Area

As previously discussed, management is responsible for managing and allocating resources, which includes monitoring the actual use of resources, to ensure that staff are fully utilized. In the section above, we discussed our concerns about the Emissions Program's lack of controls over monitoring the use of staff resources. As a result of these problems, we found that management did not have accurate and complete information to estimate its future staffing needs. As mentioned

earlier, due to an expansion of the AIR Program area covering the northern Front Range (effective January 2010), the Emissions Program will be required to perform additional audits of new emissions facilities and Rapid Screen locations in Larimer and Weld counties when testing begins in these counties during Calendar Year 2010. Although Senate Bill 09-003 appropriated the Emissions Program 0.8 FTE to address the program expansion, management determined that it needed a total of three staff to perform the increased number of audits. In November 2009 the Department submitted a budget request to the Joint Budget Committee for an additional 2.0 FTE and \$117,000 for Fiscal Year 2011. The General Assembly approved this request and, in total, provided an additional 2.8 FTE and \$178,000 for the Emissions Program in the Fiscal Year 2011 Long Bill appropriation.

We reviewed the budget request submitted by Emissions Program management to the Department's budget office in June 2009, which was ultimately included in the Department's November 2009 request to the Governor's Office and the Joint Budget Committee. Based on our review of time records from July through September 2009, we found that program management requested more audit staff than needed to complete the additional audits. Of the 2.0 FTE it requested, management reported that 1.5 FTE were needed to conduct additional Rapid Screen audits. The Department reported that each Rapid Screen audit requires four hours to complete. However, our analysis indicates that each Rapid Screen audit takes about 1.4 hours, including planning and travel time. Even using the time reported on auditors' timesheets, which we found to overstate the actual time needed to complete audits, audit staff reported an average of about 2.4 hours to complete each Rapid Screen audit, including planning and travel time. Finally, as a practical matter, according to electronic audit records, a single auditor completes an average of about 3.4 Rapid Screen audits each day, which would be impossible if each audit required four hours to complete, as stated by Emissions Program management.

Based on our estimates, the Department requested 2,018 hours per year, or one FTE, in excess of the additional staff needed to perform the functions listed in the Department's November 2009 budget request, at a cost of \$58,600 per year.

According to Emissions Program management, it had difficulty developing estimates of the FTE needed to accommodate the expanded program area because it was piloting new Rapid Screen audit procedures. Management's estimate of four hours for each Rapid Screen audit was based on its analysis of auditor timesheets from 2007 and 2008. After this estimate was calculated, the Emissions Program transitioned to new Rapid Screen audit procedures that, according to management, significantly reduced the amount of time needed for a Rapid Screen audit. As a result, management's original estimate of the time needed to conduct each Rapid Screen audit was no longer accurate. Despite being aware of these significant changes, management did not revise its budget request to reflect new

information. As of the end of our audit, management planned to hire the additional appropriated staff based on inflated estimates.

Evaluation of Staffing Needs

Overall, our findings indicate that Emissions Program management does not properly monitor and evaluate current and future staffing needs on a regular basis. As previously discussed, it has not established procedures necessary to accurately record audit time and has not adequately trained staff on the proper recording of work time. In addition, management has used unreliable and outdated information to estimate current and future staffing needs. As a result, current Emissions Program employees do not appear to be fully utilized, while at the same time management is planning to hire additional staff who do not appear to be needed.

Our audit findings indicate that for Fiscal Year 2011 the Emissions Program may be overstaffed by about 2.8 FTE (1.8 for its current equipment, overt performance, and Rapid Screen audit functions and 1.0 FTE for staff appropriated to provide additional Rapid Screen audits in the expanded program area) and may have an opportunity to save an additional .25 FTE by reducing the number of audits it conducts (see Recommendation No. 3). Thus, it appears that the Emissions Program could reduce its FTE appropriation by about 3.1 FTE and continue to fulfill program requirements, which would represent a cost savings of about \$182,000 per year. Considering that the Emissions Program is currently appropriated about 12 FTE to complete its current audit functions and accommodate the program expansion, 3.1 FTE represents about 26 percent of its audit staff. In addition, although we did not audit the Emissions Program's use of administrative and managerial staff, we believe the Department should consider whether the Emissions Program's current structure of three managers and three administrative staff to manage and support a program that currently employs nine auditors and a total of 15 FTE is necessary to accomplish program requirements.

Once the Department has established procedures for accurately tracking and monitoring staff time as previously discussed (see Recommendation No. 5), management needs to conduct an analysis of its overall staffing needs. This analysis should include a detailed review of the Emissions Program's staffing needs, including audit, administrative, and managerial staff, to substantiate the need for any additional hires. As part of this analysis, management should also consider opportunities to reduce staff time for overt performance and equipment audits as identified in Recommendation No. 3. If management determines that the Emissions Program has been appropriated more FTE than necessary to complete additional audits in the expanded AIR Program area, it should submit a revised budget request to the Governor's Office and General Assembly. In addition, the Emissions Program should reevaluate its staffing on an annual basis. Considering the seriousness of our audit findings related to the Emissions Program's

assessment of its staffing needs and use of staff, the Department should delay hiring any additional employees for the northern Front Range expansion area until Emissions Program management can demonstrate that it has procedures in place to accurately track and monitor employees' use of time and performs an analysis to determine whether additional staff are needed.

Recommendation No. 6:

The Department of Revenue should ensure that Vehicle Emissions Program staff are fully utilized and that budget requests reflect program needs by:

- a. Conducting a detailed analysis as soon as possible to determine program staffing needs and reassigning or reducing staff as necessary to ensure that all staff are fully utilized. The Department should suspend additional staff hires for the northern Front Range expansion area until the analysis is completed. This analysis and subsequent adjustments should be performed annually.
- b. Revising its budget request to the Governor's Office and General Assembly, as necessary, if the analysis in part "a" indicates that the program has been appropriated more FTE than necessary to complete additional audits in the expanded AIR Program area.

Department of Revenue Response:

- a. Agree. Implementation date: September 2011 and Ongoing.

The Department will conduct a detailed analysis of the program's staffing needs as soon as possible. In July 2010, the Department initiated an assessment by its Internal Audit Division to analyze the current equipment, overt performance, and Rapid Screen audit procedures. Additional measures to assist in this analysis will be utilized, such as the timesheet changes as indicated in the response to Recommendation No. 5 and recommended changes to audit procedures. Upon the completion of a detailed analysis of the program's staffing needs, the Department will determine staffing levels and reassign or adjust staff duties as necessary to ensure that all staff are fully utilized. The Department has suspended hiring for the northern Front Range expansion area until the analysis is completed. Subsequent analysis will be performed annually.

- b. Agree. Implementation date: September 2011.

The Department will revise its budget request to the Governor's Office and the General Assembly for staffing needs in the northern Front Range expansion area based on the results of the analysis in part "a."

Cash Advances

As mentioned previously, during covert performance audits Emissions Program staff take unmarked vehicles to testing facilities and, without identifying themselves as auditors, observe inspectors conducting emissions tests. Under the Department's procedures, Emissions Program auditors receive a \$600 cash advance each month to cover expenses incurred when conducting covert performance audits of facilities throughout the month, such as the cost of the emissions tests. State Fiscal Rules require that all departments have controls in place to safeguard state assets and properly account for them.

We found that the \$600 cash advance exceeds the amount needed to cover auditor out-of-pocket costs when conducting covert performance audits each month. Auditors complete about 14 covert performance audits per month and incur \$25 in expenses for each audit. Thus, out-of-pocket costs for the audits are about \$350 each month. Emissions Program management reported that the extra \$250 is intended to be used if an Envirotest inspector offers to pass an auditor's vehicle in exchange for a bribe. However, management indicated that no Envirotest employee has attempted to solicit a bribe from an Emissions Program auditor in recent years.

We did not find any instances where cash was missing or unaccounted for when we conducted a review of cash advances. However issuing cash advances in excess of anticipated needs is not a good use of state resources. Emissions Program management should reevaluate the amount needed for out-of-pocket costs related to covert performance audits and revise cash advance policies as appropriate.

Recommendation No. 7:

The Department of Revenue should improve controls over cash advances within the Vehicle Emissions Program by reducing the amount of cash advances provided to auditors to the minimum amount necessary for covering out-of-pocket costs incurred to complete covert performance audits.

Department of Revenue Response:

Agree. Implementation date: Implemented, July 2010.

On July 1, 2010, the Department implemented a procedure that improves controls over cash advances and reduces the amount of cash provided to auditors to the minimum amount necessary to complete covert performance audits. The amount of funds distributed to staff performing covert operations is commensurate with the planned number of covert audits as determined by management. Staff has been trained on the proper cash handling procedure.

Contract Oversight

Chapter 3

As the agencies responsible for administering and overseeing the contract with Envirotest, DPHE and the Department must ensure that Envirotest provides accurate emissions tests at a reasonable cost and greatest convenience to customers. As mentioned in Chapter 1, DPHE is primarily responsible for developing emissions testing standards, procuring the contract, and, in conjunction with the Department, negotiating contract terms. The Department is responsible for day-to-day oversight of emissions facilities and enforcement of the contract.

In March 2010 DPHE and the Department entered into two new contracts with Envirotest to continue emissions testing in the AIR Program area; these contracts replace a previous contract, which was executed in 2007 and was set to expire in December 2010. Although the terms of both of the new contracts are nearly identical, one contract provides for testing in the Denver Metropolitan Area, and the other contract covers the expanded northern Front Range program area, which includes Weld and Larimer counties. These contracts were effective as of March and April 2010 and run through December 2014. Consistent with the prior contract, the two new contracts establish a fee of \$25 to vehicle owners for performing emissions tests on most vehicles, regardless of whether the vehicle passes the emissions test at a traditional testing facility or through Rapid Screen testing. Considering that Envirotest performed nearly 1 million traditional and Rapid Screen emissions tests on vehicles during Calendar Year 2009, we estimate that Envirotest will likely collect more than \$100 million from vehicle owners over the 4½ -year duration of the contracts.

Statute requires that DPHE and the Department select a single contractor to provide both traditional and Rapid Screen emissions testing throughout the program area. As a result, Envirotest dominates the testing market in Colorado. Nearly all vehicle owners within the AIR Program must purchase emissions tests from Envirotest to register their vehicles because, for most vehicles, there are no other licensed testing providers available. As a result, absent DPHE's and the Department's contract administration and enforcement efforts, little incentive exists for Envirotest to control costs for providing tests or to ensure high-quality tests and customer service. Thus, DPHE's and the Department's oversight is critical. The contract provides the maximum emissions testing fee that Envirotest facilities may charge, subjects Envirotest to fines when wait times are excessive or staff do not perform tests properly, and requires Envirotest to properly train its inspectors. Through their contract administration and enforcement, DPHE and

the Department protect the interests of consumers, including minimizing testing fees, reducing customer wait times, and ensuring that tests are performed properly.

We found that DPHE and the Department could improve their efforts to protect the interests of consumers. Specifically, we found that DPHE could do more to ensure that it has adequate information during the procurement process to assess cost information and establish reasonable testing fees. In addition, we found that both DPHE and the Department could take additional steps to ensure that Envirotest meets statutory and contractual requirements regarding customer wait times and trains its inspectors to provide proper emissions tests.

Contract Procurement

During the past two contract cycles DPHE has taken the lead in procuring and renewing contracts with Envirotest, including establishing contract terms related to the fee that Envirotest may charge for each emissions test. On several occasions, the General Assembly has expressed interest in controlling the cost to the public of emissions tests and ensuring that the fee charged by emissions facilities is reasonable. For example, Section 42-4-311(6), C.R.S., adopted in 1993, capped emissions test fees at \$25 per test. Further, House Bill 01-1402 required that the emissions test fee be based on Envirotest's operating costs and disallowed the company from making a profit greater than 10 percent of its operating costs. Though the 10 percent limit applied only to an earlier contract renewal cycle during Calendar Year 2003 and does not currently apply, the 10 percent limit serves as an indication of the General Assembly's interest in ensuring that the fee is reasonable. Finally, House Bill 06-1302 required DPHE to consider a reduction in the fee in the context of Rapid Screen testing.

As mentioned in Chapter 1, statute requires the Office of the State Auditor (OSA) to audit the AIR Program every three years. The audits are required to include a review of ongoing need for the program considering several factors, including the cost of the program to the public. Accordingly, the OSA has procured contractors to conduct audits of the AIR Program every three years since 1999, the most recent of which was completed in September 2009. Although each of these audits included a review of the overall cost to the public, including total fees paid, repair costs, and wait-time costs, the audits did not review the process used to set the testing fee or assess Envirotest's actual operating costs to determine whether testing fees are reasonable.

During the current audit we reviewed the process DPHE used to determine the \$25 fee established in both the 2007 and 2010 contracts with Envirotest. As part of this review, we requested that DPHE provide information it used to determine Envirotest's operating costs and ensure that the company's costs justify the fee it

charges. We found that DPHE has not obtained cost information from Envirotest that would allow DPHE to determine a fee that is appropriate and ensure that Envirotest's profit margin is reasonable. Instead, DPHE indicated that its primary method of assessing whether the fee is reasonable has been to compare the fee in Colorado to fees charged for emissions inspections in other states with similar testing requirements. DPHE concluded that Colorado's fee was comparable to those charged in other states during both the 2007 and 2010 contract cycles.

Although DPHE is not required to request cost information from Envirotest as part of the procurement process, this information would improve DPHE's ability to ensure that the testing fee is set at an appropriate level and that Envirotest's profit margin is fair and reasonable. Although comparing other states' fees with Colorado's fee is a logical fee-setting approach and our 2009 audit indicated that Colorado's fee is comparable to the fee charged in other states, such a comparison alone may not provide an adequate basis for DPHE to determine a reasonable fee because Colorado has unique testing requirements. Specifically, Colorado is the only state that utilizes Rapid Screen technology, and only one other state requires the same type of tests conducted at Envirotest's traditional emissions testing facilities. Thus, the cost to provide emissions tests may be different in Colorado than in other states. To more completely assess the reasonableness of the testing fee, DPHE needs to obtain information on actual costs from Envirotest.

As mentioned previously, DPHE and the Department recently entered into a 4½-year contract with Envirotest. As a result, DPHE may not be able to request cost information from Envirotest until the next contract renewal period in 2014. However, if DPHE renews the contract with Envirotest or contracts with another testing provider without the benefit of competition in the future, DPHE should request cost information sufficient to conduct a cost analysis as part of the bidding process. The Procurement Code allows, and in some cases requires, a cost analysis when agencies are unable to establish contract prices through the bidding process or through established market prices. The purpose of the cost analysis would be to establish a reasonable contract price; DPHE would require prospective contractors to submit information on their operating costs and anticipated revenues and would use this information to determine whether the fee proposed by the prospective contractor is reasonable and does not give the contractor an excessive profit margin. DPHE was not required to conduct a cost analysis when it established Envirotest's fee for the two most recent contracts because of a Procurement Code exception that exists when a contract amount is established by a statute or by a governing body. Senate Bill 93-1340 triggered this exception by establishing the maximum fee of \$25 for emissions tests. However, because of the size of the contract with Envirotest (approximately \$100 million), the lack of established market prices or contract bidders, Envirotest's control over the emissions testing market in Colorado, and the General Assembly's interest in ensuring that testing fees are reasonable, we believe that conducting a cost analysis is a best practice that DPHE should employ to ensure

that Envirotest's costs justify the emissions testing fee and that consumer interests are protected.

In addition to helping DPHE ensure that the testing fee is reasonable, performing a cost analysis would provide two other important benefits. First, the cost analysis would establish a baseline for Envirotest's costs that DPHE could reference during future contract negotiations, especially if Envirotest requested an increase in the testing fee. Although an increase in the fee would require statutory change, if Envirotest claimed that an increase in fees was necessary for it to continue as the State's emissions testing provider, DPHE would currently have no basis to evaluate or substantiate Envirotest's claim. By requiring information on Envirotest's costs as part of the procurement process, DPHE would have a basis from which to assess the proposed change. Second, in our 2009 AIR Program audit we discussed several potential changes to emissions testing requirements, such as eliminating the dynamometer test and increasing the use of on-board diagnostic testing, and we recommended that DPHE consider making changes to improve the cost-effectiveness of the program. DPHE agreed to this recommendation. Information on Envirotest's costs would improve DPHE's ability to determine the cost-effectiveness of these potential changes. For example, understanding the labor and equipment costs associated with emissions tests would help DPHE determine the extent to which changes in testing requirements could justify a lower fee, if the changes in these requirements reduced the number of staff or changed the type of equipment needed to complete emissions tests.

In conducting the cost analysis, DPHE should complete the process outlined by the Department of Personnel & Administration's State Procurement Manual. Generally, in conducting a cost analysis, a purchasing agency requires prospective contractors to provide estimates of each component of their projected operating costs (e.g., labor rates, utilities, and facilities) and their anticipated revenues during the life of the contract. These cost estimates are used during contract negotiations to establish a contract price that will allow the contractor to earn a fair and reasonable profit on the contract. According to the State Procurement Manual, a general guideline is that the profit amount should not exceed 10 percent of the operating costs, although the State Procurement Manual recognizes that there are a number of factors applicable to a given contract that may warrant a higher or lower profit margin.

DPHE should conduct a cost analysis at the earliest opportunity. As noted earlier, because DPHE entered into a new contract with Envirotest in March 2010, DPHE may not be able to conduct the analysis until the next contract renewal period in 2014. However, if program changes require a new contract to be procured at an earlier date, DPHE should conduct the cost analysis at that time.

Recommendation No. 8:

The Department of Public Health and Environment, in cooperation with the Department of Revenue, should ensure that when procuring an emissions testing contractor, it requires prospective contractors to provide adequate operating cost information sufficient to conduct a cost analysis to evaluate the contractors' bids and inform its assessment of an appropriate emissions testing fee. In connection with the next procurement, the Department of Public Health and Environment should:

- a. Analyze potential contractors' operating costs, utilizing the information provided, and determine if those costs and the contractors' proposed testing fees and estimated profit margins are reasonable.
- b. Consider the cost analysis, the procurement circumstances, and Colorado's emissions testing needs, and negotiate a testing fee that provides the contractor with a fair and reasonable profit margin, in accordance with the State Procurement Manual.

Department of Public Health and Environment Response:

Agree. Implementation date: March 2014, unless an earlier procurement process occurs.

The DPHE agrees that efforts should be made to try to improve the process for procuring emissions testing contracts in order to benefit Colorado's citizens. While DPHE believes there is substantial information supporting the conclusion that the current test fees are reasonable and appropriate, it agrees with the assessment of the Office of the State Auditor that collecting and analyzing cost information from prospective emissions testing contractors as part of the procurement process could prove valuable. Accordingly, DPHE agrees to request and, as provided, analyze and use such cost information, as outlined in the recommendation above, during the next procurement process.

Customer Wait Times

According to our 2009 AIR Program Audit, in 2008 customers spent in total about 234,000 hours at testing facilities and incurred \$3.1 million in costs waiting to

have their vehicles tested. To minimize this burden to customers, the General Assembly provided wait-time requirements for emissions facilities. Statute [Section 42-4-306(17)(c), C.R.S.] states that emissions facilities “shall take appropriate actions, such as opening additional lanes, to avoid exceeding average motorist wait times of greater than 15 minutes.” In other words, statute requires Envirotest to take steps to prevent average customer wait times greater than 15 minutes from occurring. Accordingly, DPHE has ensured that Envirotest met this statutory requirement by including provisions in previous contracts between Envirotest and the State requiring Envirotest facilities to pay a fine when the average customer wait time during any two-hour period exceeded 15 minutes. The Department’s Emissions Program is responsible for enforcing these requirements. In Fiscal Year 2009 Envirotest exceeded this standard more than 2,200 times, resulting in \$113,000 in fines.

During the audit we reviewed statute, program rules, the contract with Envirotest, and Calendar Year 2009 wait-time data to assess DPHE’s and the Emissions Program’s efforts to oversee and enforce statutory and contractual wait-time requirements. As discussed in the following sections, we identified three areas where DPHE and the Department could strengthen practices to ensure that customer wait times are minimized. First, DPHE needs to collect and evaluate information on its new contractual wait-time standards, described below, to ensure that customer wait times do not increase under the new standards. Second, DPHE may be able to reduce wait times by working with Envirotest to provide customers with better information about wait times. Third, the Department needs to establish written policies related to the evaluation of wait-time violations.

Wait-Time Standards

As noted previously, in March 2010 DPHE and the Department entered into two contracts with Envirotest, one providing for testing in the Denver Metropolitan Area and the other providing for testing in the northern Front Range. The 2010 contracts replaced a 2007 contract with Envirotest and provided new standards for assessing fines against Envirotest when customer wait times are excessive.

The 2007 contract subjected Envirotest to fines whenever average customer wait times exceeded 15 minutes over a two-hour period, measured from the time a customer entered the testing facility until the customer’s vehicle pulled into the first position in a test lane to begin the emissions test. The only exception provided was that on the first two and last four days of each month, which are typically the busiest testing days, Envirotest facilities were exempt from fines if staffed at 60 percent, which is equivalent to staffing about two of the three separate testing positions in each lane within each facility for the entire day.

The 2010 contracts expanded the facility wait-time measurement to two time periods. First, customer wait times are measured from when a customer arrives at a facility until the test begins. Second, the time for the facility to complete the test is measured. In contrast to the 15-minute standard in the 2007 contract, under the new contract Envirotest is subject to fines if average wait times exceed 20 minutes for either wait-time period. In addition, Envirotest facilities are exempt from fines on any day of the month when staffed at 78 percent.

DPHE indicated that it changed the wait-time provisions in 2010 in an effort to reduce overall customer wait times. Because Envirotest will now be required to staff facilities at 78 percent to avoid fines, DPHE expects Envirotest to provide more inspectors on the lanes, which should increase the number of vehicles facilities can test at any given time and reduce wait times. Further, DPHE indicated that tracking the time it takes a vehicle to complete the entire test would enable the State to fully assess the customer's experience at a testing facility.

As mentioned previously, statute [Section 42-4-306(17)(c), C.R.S.] requires that emissions facilities "take appropriate actions, such as opening additional lanes, to avoid exceeding average motorist wait times of greater than 15 minutes." DPHE reported that during Calendar Year 2009 the average customer wait time at Envirotest facilities was about eight minutes, measured on an annual basis. Although Envirotest's eight-minute average wait time is well below the 15-minute standard set in statute, we are concerned that, contrary to DPHE's expectation, the new contractual wait-time standards could increase average customer wait times at Envirotest facilities. Specifically, we found that DPHE lacked complete data on historical wait times when it established the new wait-time requirements. Consequently, DPHE cannot ensure that the new wait-time provisions will improve wait times for customers. Prior to the 2010 contract customer wait times were measured based solely on the time customers spent waiting in line to begin the emissions test; customer wait times for the completion of the actual emissions test have not been comprehensively measured. Thus, DPHE lacked complete information to establish that 20 minutes is a reasonable standard for that time period. Further, because Envirotest no longer has an incentive to keep average customer wait times prior to the emissions test below 15 minutes, there is a risk that wait times could increase under the new standards.

To address the risk that wait times could increase under the new contract provisions, DPHE should conduct an analysis of wait-time data to determine whether wait times increase under the new standards. Specifically, DPHE should collect data for customer wait times both before and after the emissions test begins and conduct an analysis to determine whether 20 minutes is an appropriate standard for each wait-time period being measured. If customer wait times for the initial wait-time period appear unreasonable compared to prior years data, or if DPHE finds 20 minutes to be an unreasonable standard for either wait-time period, it should seek to amend the contract to reduce allowable wait times.

Recommendation No. 9:

The Department of Public Health and Environment should ensure that the 2010 contractual provisions regarding wait times are successful in reducing wait times and provide reasonable wait-time standards by:

- a. Collecting wait-time data on the full customer wait time, including the time to complete the emissions test after the test begins.
- b. Using the data it collects to determine whether total wait times increase under the new contractual standards and whether 20 minutes is a reasonable standard for assessing the time emissions facilities need to complete the emissions test. If DPHE determines that total wait times increase under the new contract provisions or that 20 minutes is not a reasonable wait-time standard, it should seek to amend the contract to provide appropriate standards that reduce allowable wait times.

Department of Public Health and Environment Response:

Agree. Implementation date: December 2011.

DPHE agrees that it should collect data to assess whether the new contractual provisions are successful in keeping down the total time that the customer spends at the facility. DPHE further agrees that it should compare data for the initial wait-time period under the old and new systems to ensure that the new 20-minute time requirement does not result in a degradation of the contractor's performance in expeditiously processing vehicles. Based on its analysis of the shortcomings of the old wait-time system, DPHE believes that the new system will improve customer convenience by reducing customers' overall time at the testing centers. If the data show, however, that total wait times have increased under the new system, DPHE will seek appropriate contractual amendments to reduce allowable wait times.

Wait-Time Information Provided to Customers

The contract between Envirotest and the State requires Envirotest to keep customers informed about the AIR Program. During our review of emissions programs in other states, we noted that several states posted current wait times or

current camera images of waiting lines on their program websites to give customers an idea of the relative wait times at testing facilities. We found that Envirotest does not post current wait times or station cameras on its AIR Care Colorado website for Colorado's AIR Program. Though the AIR Program's website provides a hotline number that customers can call to obtain wait-time information from Envirotest, the website does not state that wait-time information is available from the hotline. In addition, the hotline only provides wait-time information for one station at a time, making it difficult to compare station wait times.

Because customer wait times can vary widely among stations, providing information on current wait times would be valuable to customers and could help reduce overall wait times. We reviewed a sample of stations located within eight miles of each other and found that wait times, measured from the customer's arrival at the station to the beginning of the test, varied substantially. For example, in Calendar Year 2009 the Southeast Denver and Stapleton stations had a ten minute or greater difference in average wait times about 18 percent of the time. We identified similar differences between the Arvada and Golden stations and the Broomfield and Northglenn stations. Further, the Castle Rock, County Line, and Parker stations averaged wait times of four minutes or less, while wait times at the Arvada and Stapleton stations averaged 10 minutes or more. Thus, if DPHE worked with Envirotest to increase customers' access to wait-time information, customers could select stations with lower wait times and overall wait times could be reduced. Although our audit did not include a review of the potential costs of providing this information, DPHE should consider working with Envirotest to provide current wait-time information in a more easily accessible format to better inform customers and potentially reduce wait times.

Recommendation No. 10:

The Department of Public Health and Environment should ensure that customers have adequate information regarding wait times by working with Envirotest to consider ways to post additional information regarding current wait times on Envirotest's AIR Care Colorado website.

Department of Public Health and Environment Response:

Agree. Implementation date: July 2011.

Over the next year DPHE will work with the contractor and the Department to implement changes, where feasible, to the website, the

hotline, or both so as to provide additional information to customers regarding wait times at individual stations.

Enforcement of Wait-Time Fines

As discussed, the Department's Emissions Program is responsible for assessing fines against emissions facilities when customer wait times exceed limits established by contract. During the audit we reviewed the Emissions Program's enforcement of contractual wait-time standards. For the period we reviewed, Envirotest was still subject to the 2007 contractual provisions that provided for fines when average wait times exceeded 15 minutes over a two-hour period. The Emissions Program processes wait-time violations on a monthly basis. Each month, management reviews wait-time and staffing reports from each Envirotest station and determines whether average wait times exceeded the allowable limit during any two-hour period and whether staffing levels were sufficient to provide Envirotest with an exemption. For each facility, if the average wait time is excessive during any two-hour period and Envirotest does not meet staffing levels allowable for an exemption, the Emissions Program issues a wait-time violation. However, the Emissions Program also allows Envirotest to request that wait-time violations be evaluated if Envirotest believes that the time record was in error or that other factors beyond Envirotest's control caused the wait-time violation.

We reviewed wait-time records from January 2009 through June 2009 to assess the Emissions Program's enforcement of wait-time standards. We found that while the Emissions Program issued fines for most wait-time violations, it did not assess fines for some wait-time records that exceeded contractual standards for reasons not articulated in the contract, such as frozen equipment and incorrect license plate readings. Overall, during the period we reviewed, 38 (6 percent) of 667 possible violations of wait-time standards were not enforced. The Emission's Programs decision not to issue fines for these wait-time records that showed excessive customer wait times reduced fines by about \$4,000 during the period we reviewed, or by about 5 percent of the \$77,000 in fines that could have been issued.

During the audit we reviewed all 38 wait-time records from January through June 2009 that exceeded contractual standards, but for which management decided not to issue fines, to determine whether management's decisions were appropriate. We found nine records for which the Emissions program lacked clear justification for not enforcing sanctions. According to Emissions Program management, it did not issue fines for these apparent wait-time violations because it determined that the time records showing excessive wait times were caused by license plate reader errors as opposed to actual vehicle wait times. Management determined that these excessive readings were caused by license plate reader errors on the basis that the

wait-time readings were substantially higher for the vehicles during these recorded time periods than for other vehicles tested before and after the readings in question. However, Emissions Program management could not provide adequate documentation showing that the wait-time measurement was in error.

The Emissions Program has no written policy to guide management's evaluation of wait-time violations and to provide a method for determining when to dismiss apparent license plate reader errors. Instead, Emissions Program management determines whether to issue fines for apparent wait-time violations on a case-by-case basis. Although some of the reasons for not issuing fines provided by management appear reasonable (e.g., extreme weather conditions or AIR Program studies on lanes), without a written policy and documented methodology regarding the evaluation of wait-time violations there is a risk that the Emissions Program would not enforce sanctions for violations that should be enforced and would provide inconsistent enforcement of violations over time.

Recommendation No. 11:

The Department of Revenue should improve its enforcement of sanctions for all contractual wait-time violations identified by Vehicle Emissions Program management by establishing a written policy that provides an objective basis for evaluating wait-time violations.

Department of Revenue Response:

Agree. Implementation date: Implemented, September 2010.

On September 1, 2010, the Department implemented a procedure that improves its enforcement of sanctions of contractual wait-time violations and provides an objective basis for evaluating wait-time violations. The procedure requires the use of verifiable measures such as labor reports, vehicle count reports, queue time reports, lane video, and other computer-generated data records to evaluate false wait times.

Envirotest Inspectors' Performance

Contract and program rules require Envirotest to perform emissions control system inspections on model year 1995 and older vehicles and on model year 1996 and newer vehicles when the "check engine" light is illuminated during the standard emissions test. In addition, Envirotest is required to train its inspectors to perform system inspections. To conduct system inspections, emissions

inspectors look under the vehicle's hood and determine whether all required emissions parts for the vehicle model are correctly installed. DPHE staff indicated that these tests do not provide a significant pollution benefit, but they offer an important consumer protection role because emissions parts may have been removed by car dealers because they are not working properly or stolen because they contain valuable metals. Although consumers may become aware of the missing parts if the vehicle fails the emissions test for emitting excessive gases, it is possible for vehicles to demonstrate passing emissions readings without having all the required emissions parts.

We found that Envirotest inspectors are often unable to properly perform system inspections. Our review of Emissions Program audit records indicates that from August 2005 through December 2009, Envirotest staff did not properly perform system inspections about 31 percent of the time. In addition, during our observations of 14 covert performance audits over two days, Envirotest inspectors had difficulty performing proper system inspections and made mistakes that resulted in their passing failing vehicles and, in two instances, failing passing vehicles. In total, inspectors did not properly perform system inspections for eight of the 14 audits we observed. During one of these eight audits, the emissions inspector did not open the vehicle's hood or make any attempt to perform the system inspection.

According to DPHE, proper system inspections are important to protect consumers and ensure that they are not subjected to unnecessary costs. Specifically, DPHE staff said that system inspections protect consumers by identifying vehicles that have had emissions control systems components stolen or removed. Identifying these problems gives customers a chance to return recently purchased vehicles to dealers to provide a refund or replace the missing parts. Further, improper system inspections can result in significant and unnecessary costs to customers. When inspectors improperly fail vehicles, customers may incur unnecessary costs trying to repair a nonexistent, mistakenly identified problem. An inspector might improperly fail a vehicle because the inspector is not familiar with the required emissions control parts for that particular vehicle model and, thus, mistakenly identify as missing a part that is not required for that model.

The Emissions Program and DPHE indicate that Envirotest's error rate for performing systems inspections is high because Envirotest's inspectors do not always receive adequate training to properly perform these tests, and Envirotest has difficulty hiring and retaining qualified inspectors. According to DPHE, although inspectors are trained to conduct system inspections, emissions control systems can vary between vehicle models, which can make it difficult for inspectors to determine the required parts and the location of those parts. Further, the Department and DPHE indicated that Envirotest has difficulty finding and retaining well-trained staff because of the relatively low salaries paid to emissions

inspectors and because hiring mechanics with more extensive training would require Envirotest to pay salaries that are not realistic for the program.

Although limitations on inspectors' experience, salaries, and retention may make it unrealistic to expect no testing errors, the current 31 percent error rate indicates that there is a substantial risk that vehicles with missing or improperly altered emissions parts will pass emissions testing and that vehicles that should pass the emissions test will fail. According to statute, DPHE is responsible for setting training requirements for emissions inspectors, while the Emissions Program is responsible for issuing fines when inspectors do not perform emissions tests properly. Thus, the two agencies have the authority to take actions such as increasing training requirements and increasing fines to provide Envirotest a greater incentive to perform proper tests. Our review of audit fines found that Envirotest may not have adequate incentive to properly train its staff to conduct system inspections. Each time Emissions Program auditors determine that an inspector conducted an improper system inspection, Envirotest is typically fined \$1,000 to \$3,000, depending on the past performance of the station involved and whether the improper system inspection resulted in an erroneous overall test result. Total fines for covert performance audit violations in Fiscal Year 2009 were about \$92,000, most of which was related to improperly performed system inspections. By comparison, we estimate that Envirotest collects about \$22 million per year for performing emissions inspections in Colorado. We question whether fines that amount to less than one-half of 1 percent of Envirotest's revenue provide Envirotest with an adequate incentive to ensure that staff are properly trained in accordance with program rules.

Recommendation No. 12:

The Department of Public Health and Environment and the Department of Revenue should work with Envirotest on an ongoing basis to improve inspectors' performance of emissions control system inspections and reduce the error rate identified through audits. As part of this process, the Department of Public Health and Environment and the Department of Revenue should consider increasing training requirements for inspectors, increasing fines when tests are not performed properly, or both.

Department of Public Health and Environment Response:

Agree. Implementation date: Ongoing.

DPHE will work with the contractor and the Department to evaluate and implement methods designed to improve contractor performance in the area of emissions control system inspections.

Department of Revenue Response:

Agree. Implementation date: Implemented, September 2010 and Ongoing.

Beginning in September 2010 the Department will provide DPHE the monthly reports currently submitted to Envirotest, which includes results of identified violations performed by inspectors in the overt and covert performance audits and consumer complaints, so that current training may be modified to address these deficiencies. The current fine structure is part of the contracts and the Department will seek to increase fines upon the expiration of the contracts on December 31, 2014.

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