

**ATTACHMENT B**  
**STATE OF COLORADO**

Bill Ritter, Jr., Governor  
James B. Martin, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department  
of Public Health  
and Environment

September 19, 2007

The Honorable Stephanie Takis, Chairperson  
Legislative Audit Committee  
c/o Office of the State Auditor  
200 East 14<sup>th</sup> Avenue  
Denver, CO 80203-2211

**Subject: Status of Implementation of the Recommendations Set Forth in the Colorado Automobile Inspection and Readjustment Program Performance Audit, Dated November 2006**

Dear Senator Takis:

In response to the Office of the State Auditor's letter dated July 19, 2007, attached is the Colorado Department of Public Health and Environment's (the department's) status report of our implementation of the recommendations, as set forth in the Colorado Automobile Inspection and Readjustment Program Performance Audit, dated November 2006.

The attached status report includes all of the auditor's recommendations to the department with our responses and implementation dates as presented in the audit report, together with the current implementation status of the auditor's recommendations.

Should you have any comments or questions regarding our responses, please contact Paul Tourangeau, Director of Air Pollution Control Division (APCD), at 303-692-3114 or our Internal Auditor, Scott Toland, at 303-692-2105.

Sincerely,

  
James B. Martin  
Executive Director

Attachment

cc: Martha Rudolph, Director, Environmental Programs, CDPHE  
Paul Tourangeau, Director, APCD, CDPHE  
Chuck Bayard, Director, Administration and Financial Services Division (AFSD), CDPHE  
Adam Eichberg, Director, Policy and External Affairs, CDPHE  
Garrison Kaufman, Program Manager, Mobile Sources, APCD, CDPHE  
Douglas Lempke, Administrator, Air Quality Control Commission, CDPHE  
Scott Toland, Internal Auditor, AFSD, CDPHE



**Colorado Automobile Inspection and Readjustment Program Performance Audit  
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**Auditor Recommendation No. 1**

The Colorado Department of Public Health and Environment should:

- a. Maintain the current AIR Program until April 15, 2008, the ozone demonstration date under the *Early Action Compact*, to help ensure attainment of the ozone standard.
- b. Analyze data evaluating the extent to which AIR Program emissions reductions will be needed beyond 2007 to ensure compliance with National Ambient Air Quality Standards and to preserve the health of Front Range Area residents. If the Department determines the AIR Program is no longer needed, the Department should work with the Air Quality Control Commission to evaluate eliminating the Program and, depending on the Commission's actions, with the federal Environmental Protection Agency to eliminate the AIR Program from Colorado's State Implementation Plan.

**Department of Public Health and Environment's Response to the Auditor**

- a. Agree. Implementation date: December 2008. The current AIR Program should continue in support of achieving attainment status for ozone, at a minimum, through the summer of 2007. The current AIR Program is part of the Ozone Early Action Compact with the U.S. Environmental Protection Agency. The EAC will survive intact until affirmatively amended or replaced by a different plan to be proposed by the Air Pollution Control Division and presented to the Air Quality Control Commission. The plan to be developed will be dependent on the Denver area's 2007 compliance with the National Ambient Air Quality Standard (NAAQS) for Ozone. If the Denver area complies with the NAAQS for ozone, the Division plans to present an Ozone Maintenance Plan (i.e., a revision to the State Implementation Plan) to the Commission by the end of 2008.
- b. Agree. Implementation date: December 2008. The Department agrees to analyze data to evaluate the need for AIR Program emissions reductions beyond 2007. After the summer of 2007, the Department will know the attainment status of the Denver area with regard to the National Ambient Air Quality Standard (NAAQS) for Ozone. The Department has been planning to reevaluate emissions control strategies at that time in order to develop a plan to ensure long-term compliance with the standard. NAAQS are established by the U.S. Environmental Protection Agency to protect public health.

If the Front Range Area is in attainment for ozone after 2007, the Department will work with the Air Quality Control Commission and the EPA, among others, to evaluate the necessity and benefit of continuing the AIR Program, and will propose to eliminate this Program and remove the Program from the State Implementation Plan (SIP) if it is deemed not to be a necessary element to maintain compliance with the ozone standard. The Department will undertake any such evaluation consistent with the provisions of HB06-1302 and other state statutes that relate to the Program. The Air Pollution Control Division will conduct this analysis during the 2008 calendar year and, assuming compliance with the National Ozone Standard, will present the evaluation of the need to retain the Program by December 2008 to the Air Quality Control Commission for its consideration in an Ozone Maintenance Plan.

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**Implementation Status**

- a. In progress. Expected implementation date: December, 2008. The current Inspection and Maintenance (I/M) program is being maintained, and will continue at least until a revision to the State Implementation Plan is considered by the Air Quality Control Commission at the end of 2008, and reviewed by EPA for approval.
  
- b. In progress. Expected implementation date: December 2008. The Department continually monitors ambient ozone levels in the program area to determine the area's attainment status. Based on the data from the ambient monitors for 2007, we believe that the area will be designated as out of attainment with the current 8-hour ozone standard. The Department has conducted quality assurance checks on this ozone data. The Department will provide this data to EPA, which will make a final, formal designation in November 2007. Understanding that the area is likely to be in non-attainment for ozone, the Lead Planning Agencies are working together to develop an Attainment Plan by September 2008 to be submitted to the Air Quality Control Commission for their consideration and approval in December 2008, and subsequent legislative review in January 2009. The Lead Planning Agencies, in conjunction with the Department will evaluate existing ozone control strategies, including the current AIR program, as well as new strategies, in the development of an Ozone Attainment Plan. The Denver Metro/North Front Range area will need to rely on multiple emission control strategies to reduce ozone levels, and retention of a vehicle emissions inspection program will likely be necessary to ensure long-term compliance with the federal standard for ozone.

**Auditor Recommendation No. 2**

The Colorado Department of Public Health and Environment should conduct its own evaluation of the effectiveness of using Rapid Screen to identify high-emitting vehicles, incorporating current Rapid Screen data. If based on this evaluation the Department determines that Rapid Screen does not effectively identify high-emitting vehicles, the Department should work with the General Assembly to determine the appropriate policy direction to take with respect to the Program, and if necessary, seek statutory change to eliminate the requirement that Rapid Screen be used for this purpose.

**Department of Public Health and Environment's Response to the Auditor**

Agree. Implementation date: Ongoing. The Department agrees that it should conduct its own evaluation of the feasibility and effectiveness of using Rapid Screen for high emitter identification. The Department acknowledges that available and published studies, data, and literature in this area conflict on the effectiveness of remote sensing high emitter identification. The General Assembly has, however, directed the Department, in HB06-1302, to develop a plan to significantly increase the use of the remote sensing program, specifically focusing on the development of a high emitter identification program. The Department is in the process of doing so. HB06-1302 contemplated the challenges inherent to implementing a high emitter identification program, and directed the Department to undertake efforts to address these challenges. HB06-1302 provides flexibility to the Department and the Air Quality Control Commission in addressing challenges that may exist with developing and implementing remote sensing high emitter programs. If upon completion of the Department's evaluation it is shown conclusively that these challenges cannot effectively, and cost-effectively, be overcome, then the

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Department will work with the Air Quality Control Commission and, as necessary, the General Assembly to propose the elimination of the requirement to implement a high emitter program within the bounds of HB06-1302 or by seeking to revise those statutory provisions.

The Department is in the process of developing the high emitter identification program and does not believe a specific month and year to evaluate an, as yet, undeveloped program can be identified or committed to with any certainty. The Department does commit to expedite an evaluation of the program once it has been implemented and there are data to evaluate.

**Implementation Status**

In progress. Expected implementation date: December 2008-June 2009. The Department is in the process of analyzing historical data in order to develop administrative provisions and regulatory requirements that will maximize the effectiveness of a Rapid Screen High Emitter Program. The Department's evaluation of the relevant data cannot be fully complete until after implementation of a mandatory High Emitter Identification Pilot Project. The pilot project is one of the key elements of the Implementation Plan that the Air Quality Control Commission adopted in December 2006 pursuant to the requirements of HB06-1302. The pilot project will provide the data necessary to determine the effectiveness and efficiency of using Rapid Screen to identify high emitting vehicles. The Air Quality Control Commission has scheduled an October 2007 hearing to consider adopting regulatory revisions necessary to implement the pilot project. If the Air Quality Control Commission adopts these revisions during the October hearing, the Department will begin implementation of the pilot project before the end of 2007, consistent with the Air Quality Control Commission's Implementation Plan. Once the High Emitter Identification Pilot has been implemented, the Department will analyze its effectiveness and efficiency considering a number of factors including: the number of high emitting vehicles identified; the cost of the identification process; any data or administrative challenges; and the environmental benefit derived from the repair or replacement of such vehicles. As currently proposed, the Department will complete the pilot project no later than July 1, 2009. Upon completion of the pilot project, the Department will evaluate the effectiveness and efficiency of using Rapid Screen to identify high emitting vehicles, and make any recommendations to the Air Quality Control Commission, and as appropriate General Assembly, based on the data. At this stage, the Department is not in a position to consider making a recommendation regarding a statutory change.

**Auditor Recommendation No. 3**

The Colorado Department of Public Health and Environment should consider retaining the Rapid Screen clean screen component of the AIR Program if the Front Range Area does not meet the National Ambient Air Quality Standard for ozone in 2007, or if the Department's analysis indicates that emissions reductions are still needed in the future. If the Department determines that it is necessary to retain the Rapid Screen clean screen component of the AIR Program, the Department should consider proposing improvements to Rapid Screen and reducing the false pass rate by requiring only one valid observation in conjunction with the use of a high-emitter index.

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**Department of Public Health and Environment's Response to the Auditor**

Agree. Implementation date: December 2008. The Department agrees that it should consider retaining the clean screen component as an adjunct to the traditional emissions test even in an ozone non-attainment situation. This is consistent with the directives of HB06-1302 and is part of the 1302 implementation plan to be presented to the Air Quality Control Commission in December 2006.

Further, the Air Pollution Control Division is in the process of evaluating the use of an emissions index in conjunction with a single valid remote sensing reading as a program improvement, and this will be reflected in the HB06-1302 implementation plan to be presented to the Air Quality Control Commission in December 2006. It should be noted, however, that Colorado may be constrained from utilizing a single observation and/or a high emitter index under the terms of the existing Ozone Early Action Compact, a formal, enforceable State Implementation Plan (SIP) document with the EPA, which currently requires two valid observations. The Department will conduct an evaluation of using an emissions index and single valid remote sensing reading by the end of 2008.

**Implementation Status**

In progress. Expected implementation date: December 2008. The Department has evaluated the effectiveness of using a single Remote Sensing Device (RSD) observation along with a low-emitter index to increase vehicle participation and improve identification effectiveness. A final report containing the results of the evaluation was produced and submitted to the EPA in May 2007. Informal acceptance was received from the EPA in June 2007. In July of 2007, the Air Quality Control Commission adopted regulatory changes to allow use of Rapid Screen using a single RSD reading and a low emitter index commencing in October 2007. This modification will increase the number of vehicles that are clean screened and may also reduce the false pass rate.

The Department continues to operate the Rapid Screen clean screen element as part of Colorado's current I/M Program. As noted above, based on preliminary data from the ambient monitors for 2007, it appears that the area will be designated as out of attainment with the current ozone standard. If the area is designated as nonattainment, the Department will evaluate existing ozone control strategies including the current Clean Screen Program. As part of this evaluation, the Department will consider ways to improve the performance of the Clean Screen program from an emission reduction perspective, including possible incorporation of an index to exclude vehicles that are likely to be high emitters based on historical data.

**Auditor Recommendation No. 4**

The Colorado Department of Public Health and Environment should work with the Air Quality Control Commission to fully evaluate the impact of increasing model-year exemptions for the AIR Program greater than the current four model-years, including evaluating the economic benefits of increasing the model-year exemptions as well as the possible impact on remote sensing. The current four model-year exemption should be maintained until the Commission considers and acts upon the results of the Department's evaluation.

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**Department of Public Health and Environment's Response to the Auditor**

Agree. Implementation date: December 2006. This is a matter for the Air Quality Control Commission, which has noticed a public hearing on this specific issue to be considered on December 14 and 15, 2006. The Commission will consider the impacts of increasing the model year exemption by one, two, three, or four model years (or stay with the present exemptions). The Commission will make this policy determination for the Program after a public hearing and thorough consideration of the information presented. The Department will present an evaluation of relevant information to the Commission for its consideration at the hearing. The Air Pollution Control Division's analysis of air quality impacts using MOBILE6.2 demonstrates that exempting an additional four model years would increase hydrocarbon emissions by one ton per day in 2007, which is modest. The small increases in emissions due to increases in model year exemptions would have a significant positive impact on the cost effectiveness of the Program and would significantly reduce motorist inconvenience. This, combined with the decreasing need for the Program due to fleet turnover and overall reduced vehicle emissions, make the option of increasing model year exemptions a cost effective approach to continued Program operation. The Commission will hold its public hearing in December 2006, consider the information that will be presented by the interested stakeholders and the Department, and make the decision to increase model year exemptions or not. If the Commission adopts any increases beyond the current model-year exemptions, those would not take effect until approved by the EPA, which would be sometime after the Early Action Compact ozone demonstration date (April 15, 2008). The Air Quality Control Commission's consideration of a potential increase in model-year exemptions will occur on December 14, 2006.

**Implementation Status**

Implemented December 2006. The Division analyzed possible rule changes to allow model year exemptions for five, six, seven, and eight years. The analysis included the impact on ambient air quality, the Rapid Screen clean screen program, and the cost effectiveness of the current AIR Program. The Division presented the results of this analysis to the Air Quality Control Commission in December 2006. During its December 2006 meeting the Air Quality Control Commission decided to maintain the four model year exemption provisions. The Division will continue to evaluate the number of model year exemptions as part of its ongoing efforts to improve the efficiency and effectiveness of the Inspection and Maintenance Program.

**Auditor Recommendation No. 5**

The Colorado Department of Public Health and Environment should evaluate options for integrating on-board diagnostic system testing into the AIR Program if the decision is made to continue the Program to further reduce emissions. Options might include adopting the Environmental Protection Agency's recommended approach, implementing a hybrid approach that incorporates both an on-board diagnostic system inspection and the IM240 test currently used by the AIR Program, or using on-board diagnostic system testing as a screening tool.

**Department of Public Health and Environment's Response to the Auditor**

Agree. Implementation date: December 2008. If the Department determines that the traditional AIR Program is necessary to obtain further emission reductions, then all emission control options in the Program should be explored. Such evaluation would work to balance the elements of

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HB06-1302 with the suggestions made in these recommendations (as well as other strategies). Any of these strategies, or a combination of these strategies, may be appropriate to obtain further emissions reductions for the Colorado vehicle fleet. When the State's ozone status becomes clearer towards the end of 2007, the needs of a maintenance plan or non-attainment State Implementation Plan (SIP) will dictate the duration of future programs. Assuming compliance with the National Ozone Standard, the Air Pollution Control Division expects to present an ozone maintenance plan to the Air Quality Control Commission by the end of 2008 for its consideration. This plan would consider alternatives of this nature.

**Implementation Status**

In progress. Expected implementation date: December 2008. During the Spring of 2007, the Department contracted with Eastern Research Group Inc. to conduct a study of the likely effectiveness of using on-board diagnostic system indicators as part of the AIR Program. The study looked at Colorado's historical I/M data, which includes an advisory on-board diagnostic system check, to determine the correlation between emission test failures and problems identified by the on-board diagnostic system. The Department is currently evaluating the results of the study.

**Auditor Recommendation No. 6**

If the Colorado Department of Public Health and Environment determines that the AIR Program is needed in the future to further reduce vehicle emissions, the Department should consider using the idle test for 1995 and older model-year vehicles, and using the idle test in conjunction with on-board diagnostic system testing for 1996 and newer vehicles, as discussed in Recommendation No. 5.

**Department of Public Health and Environment's Response to the Auditor**

Agree. Implementation date: December 2008. If the Department determines that the traditional AIR Program is necessary to obtain further emissions reductions, then all emissions control options in the Program should be explored. Such evaluation would work to balance the elements of HB06-1302 with the suggestions made in these recommendations (as well as other strategies). Any of these strategies, or a combination of these strategies, may be appropriate to obtain further emissions reductions for the Colorado vehicle fleet. When the State's ozone status becomes clearer towards the end of 2007, the needs of a maintenance plan or non-attainment State Implementation Plan (SIP) will dictate the duration of future programs. Assuming compliance with the National Ozone Standard, the Air Pollution Control Division expects to present an ozone maintenance plan to the Air Quality Control Commission by the end of 2008 for its consideration. This plan would consider alternatives of this nature.

**Implementation Status**

In progress. Expected implementation date: December 2008. We believe the area will be designated as non-attainment for ozone and therefore elimination of the current AIR program is not likely. As part of the Ozone Attainment Plan development process, the Department will consider possible changes to the program to increase its environmental benefit while improving its efficiency, including expanded use of the idle test. Changes to the AIR Program will require EPA approval, and must result in emission reductions that are sufficient to allow the area to meet the national ozone standards.

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**Auditor Recommendation No. 7**

The Colorado Department of Public Health and Environment should consider alternatives to strengthen the AIR Program if it is determined that further emissions reductions are needed in the Front Range Area to comply with the National Standards. Alternatives include inspecting vehicles for liquid fuel leaks, increasing the stringency of AIR Program standards, and annually inspecting 1995 and older vehicles that fail an inspection.

**Department of Public Health and Environment's Response to the Auditor**

Agree. Implementation date: December 2008. If the Department determines that the traditional AIR Program is necessary to obtain further emissions reductions, then all emissions control options in the Program should be explored. Such evaluation would work to balance the elements of HB06-1302 with the suggestions made in these recommendations (as well as other strategies). Any of these strategies, or a combination of these strategies, may be appropriate to obtain further emissions reductions for the Colorado vehicle fleet. When the State's ozone status becomes clearer towards the end of 2007, the needs of a maintenance plan or non-attainment State Implementation Plan (SIP) will dictate the duration of future programs. Assuming compliance with the National Ozone Standard, the Air Pollution Control Division expects to present an ozone maintenance plan to the Air Quality Control Commission by the end of 2008 for its consideration. This plan would consider alternatives of this nature.

**Implementation Status**

In progress. Expected implementation date: December 2008. In anticipation of a non-attainment designation, the Department has begun compiling a list of strategies designed to increase the environmental benefit of the AIR Program. The Department is evaluating these strategies, including the three identified in the recommendation, based on technical feasibility, environmental benefit and overall cost. Based on this analysis, the Department will work with the Lead Planning Agencies responsible for developing a proposed State Implementation Plan, and as appropriate will make recommendations to strengthen the AIR Program as part of Colorado's ozone attainment planning process.

**Auditor Recommendation No. 8**

The Colorado Department of Public Health and Environment should recommend to the Regional Air Quality Council that the Council evaluate whether to include vehicles in which the malfunction indicator lamp has been turned on due to emissions-related problems in the Repair Your Air Campaign to help increase program participation and benefits.

**Department of Public Health and Environment's Response to the Auditor**

Agree. Implementation date: March 2007. We will provide this recommendation to the Regional Air Quality Council, which is the implementing agency for the Repair Your Air Campaign. This program is not a part of the AIR Program and is operated by the Regional Air Quality Council. It is our understanding that the Congestion Mitigation Air Quality (CMAQ) grant received by the Regional Air Quality Council was provided based upon specific remote sensing criteria, which do not include on-board diagnostics (OBD)/malfunction indicator lamp (MIL)-related repairs. Moreover, the Colorado Air Quality Control Commission specifically

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omitted MILs as a failure indicator for the AIR Program. The Department will provide this recommendation to the Regional Air Quality Council in the first quarter of 2007.

**Implementation Status**

Implemented December 2006. The Department made this recommendation to the Regional Air Quality Council on December 22, 2006. The Regional Air Quality Council indicated that, because of restrictions on the grant used to fund the Repair Your Air Program, they could not include vehicles based on the fact that the malfunction indicator lamp has been illuminated.

**Auditor Recommendation No. 9**

The Colorado Department of Public Health and Environment should ensure that it has sufficient, accurate information related to the AIR Program and emissions in the Front Range Area to support decision-making by:

- a. Working with the Environmental Protection Agency to ensure that MOVES, the EPA's new mobile source emissions model, accurately reflects vehicle deterioration in the high-altitude areas.
- b. Using all available data and resources to evaluate the various components of the AIR Program and to support recommendations for Program enhancements and modifications.

**Department of Public Health and Environment's Response to the Auditor**

Agree. Implementation date: Ongoing. The Department agrees that accurate information is essential in support of evaluating the current AIR Program, developing future programs, and supporting the EPA in development of the upcoming MOVES model. Within the last month the Department has been in communication with the EPA regarding the development of MOVES. As a result, the Department has supplied Colorado inspection data to the EPA to help in the development of MOVES.

**Implementation Status**

- a. In Progress. Expected implementation date: Ongoing. The Department has provided the EPA in the past, and continues to offer, data from Colorado's I/M Program in support of the development of its new mobile source emissions model (MOVES model). Once a draft version of MOVES is released the Department will evaluate the model to ensure it accurately depicts Colorado's emissions inventories and I/M Program effectiveness.
- b. In Progress. Expected implementation date: Ongoing. The Department has, and continues to, analyze program data as part of our program oversight and in support of evaluating both additional mobile source control measures and improvements to existing measures. All data generated from Colorado's I/M Program is included as part of these evaluations.