United States General Accounting Office

GAO

Report to the Ranking Minority Member, Committee on Government Reform and Oversight, House of Representatives

June 1998

# AIR POLLUTION

# Delays in Motor Vehicle Inspection Programs Jeopardize Attainment of the Ozone Standard

GAO/RCED-98-175

GAO

**United States**
**General Accounting Office**
**Washington, D.C. 20548**

**Resources, Community, and**
**Economic Development Division**

B-279850

June 15, 1998

The Honorable Henry A. Waxman
Ranking Minority Member
Committee on Government Reform
and Oversight
House of Representatives

Dear Mr. Waxman:

Although the United States has significantly improved its air quality since the 1970s, air pollution problems, such as ozone and carbon monoxide, continue to threaten the health of millions of Americans.[1] Motor vehicles are responsible for up to half of the emissions of volatile organic compounds (VOC) that affect ozone levels and up to 90 percent of the carbon monoxide emissions found in urban areas.[2] Title I of the Clean Air Act Amendments of 1990 (P.L. 101-549, Nov. 15, 1990) requires the states with the most serious ozone and carbon monoxide problems—23 states have been identified—to implement enhanced inspection and maintenance (I&M) programs to reduce the emissions from motor vehicles.[3] Under the amendments, these states were required to have their programs implemented by November 1992. However, in November 1992, despite this requirement, the Environmental Protection Agency (EPA) issued a regulation that postponed the required implementation date until January 1995. I&M programs test vehicles' emissions to ensure that the vehicles are adequately maintained and working properly. If the vehicles pass these tests, they are assumed not to be emitting excessive amounts of VOCs and carbon monoxide.

Because of concerns about the implementation of the enhanced I&M programs, you asked us to determine the status of the states' programs. Specifically, we examined (1) the progress made by the 23 states that are required to implement enhanced I&M programs, including the difficulties that the states have encountered, and (2) the impact that delays in implementing enhanced I&M programs may have on the states' ability to comply with the national air quality standard for ozone. In order to

[1]The health effects of exposure to ozone and carbon monoxide include eye, nose, and throat irritation, as well as bronchitis, emphysema, and other serious lung diseases.

[2]Volatile organic compounds are a major contributor to the formation of ground-level ozone (urban smog). Ozone is formed by sunlight and high temperature acting on volatile organic compounds and nitrogen oxide.

[3]Twenty-two states and the District of Columbia are required to implement enhanced I&M programs. Hereafter, we refer to the District as one of the 23 states.

address these issues, we used a mail survey to obtain information from the 23 states. (App. I presents the survey we used.) We also met with officials from EPA's program and regional offices, as well as with officials from two states, to discuss the implementation of the enhanced I&M programs.

## Results in Brief

Two of the 23 states had begun testing vehicles by the January 1995 deadline that EPA set for implementing enhanced inspection and maintenance programs, and 12 had begun testing vehicles as of April 1998. A number of factors have contributed to delays in implementing programs. Opposition to EPA's enhanced inspection and maintenance regulation—including the reluctance of some state legislatures to provide the legislative authority and funding needed to implement these programs—caused most of the 23 states to delay implementation. In addition, the states had difficulty in obtaining new testing equipment and software support from vendors.

The delays in implementing enhanced inspection and maintenance programs have jeopardized the states' ability to meet the deadlines for attaining the national ozone standard. EPA has allowed the states to claim credit for future reductions in emissions of volatile organic compounds from their enhanced inspection and maintenance programs, provided they demonstrate that they will achieve the required reductions as soon as practical after November 1996. If states cannot demonstrate that reductions in volatile organic compounds can be obtained from the mandatory enhanced inspection and maintenance programs, they may have to look to other mobile sources as well as stationary sources to meet their goals for reducing these emissions. However, achieving further reductions from other sources will be costly and take longer than achieving the reductions from enhanced inspection and maintenance programs.

## Background

EPA determined that 23 states needed enhanced I&M programs in order to meet national air quality standards. Figure 1 shows the 23 states that are required to implement enhanced I&M programs.

**Figure 1: States Required to Implement Enhanced I&M Programs**

Source: GAO's analysis of EPA's and states' data.

Because the ozone levels in many areas exceeded the national ozone standard, the Congress recognized that reducing ozone levels would be a long-term effort for some states and established interim goals and milestones in title I of the Clean Air Act Amendments of 1990. Areas that exceeded the national ozone standard were classified as "nonattainment areas," and according to the severity of their ozone problems, states were given future dates ranging from 3 to 20 years to attain the ozone standard. Title I required most ozone nonattainment areas to develop plans for EPA's

approval that showed which control measures they would need to achieve a 15-percent reduction in VOC emissions by November 1996. Furthermore, the states with serious to extreme nonattainment areas were required to prepare plans showing how they would achieve additional VOC reductions beyond 1996.

Enhanced I&M programs are designed to measure the pollution that vehicles release when they are operated under simulated driving conditions. EPA issued an enhanced I&M regulation in November 1992 that required the states to meet or exceed a stated performance standard based on a model program that included IM-240 testing equipment.[4] Although the amendments required the states to implement their enhanced I&M programs by November 1992, EPA's regulation postponed the required start date to January 1995 and required full implementation of the program by January 1996. Appendix II describes the statutory and regulatory requirements for the enhanced I&M program.

In August 1996, EPA recognized that the states' delays in implementing their enhanced I&M programs would prevent many of them from achieving the 15-percent reduction in VOC emissions. Subsequently, in February 1997, EPA issued guidance to allow the states that revised their enhanced I&M programs under the September 1995 revised enhanced I&M regulation or the National Highway System Designation Act of 1995 (P.L. 104-59, Nov. 28, 1995) to have more flexibility in developing and implementing their programs. In order for the states to operate under the relaxed requirement, they had to demonstrate that their 15-percent reduction in VOC emissions would be achieved as soon as possible after November 1996, but no later than November 1999. The guidance allowed states to resubmit their VOC reduction plans to show that they would achieve the required reductions from the implementation of their enhanced I&M programs by November 1999. According to EPA, the states that had not implemented their enhanced I&M programs as of November 1997 may be unable to demonstrate how they will achieve required VOC reductions.

## Many States Have Not Implemented Enhanced I&M Programs

None of the 23 states met the November 1992 statutory date for implementing their enhanced I&M programs, and only 2 had begun testing vehicles by EPA's January 1995 deadline for starting their programs. In total, 12 states had begun testing vehicles under enhanced I&M programs by April 1998. A number of factors account for the delays in implementing

[4]IM-240 is computer-controlled equipment that simulates actual driving conditions and measures vehicles' tailpipe emissions for 4 minutes—240 seconds—on a dynamometer—a treadmill-like device.

enhanced I&M programs, including opposition to the stringent requirements of EPA's enhanced I&M regulation, the reluctance of some state legislatures to provide authority and funding for the programs, and difficulties in obtaining test equipment and software support.

The 12 states that are testing vehicles account for 43 percent of the 52 million vehicles subject to the enhanced I&M testing.[5] Furthermore, several of the other 11 states are scheduled to start testing vehicles within the next few months.[6] For example, California and Georgia, which have 9.4 million vehicles that will be subject to enhanced I&M testing, are scheduled to start testing in June 1998 and July 1998, respectively. Appendix III shows the implementation and approval status and the number of vehicles subject to enhanced I&M testing for each of the 23 states.

## States Have Encountered Difficulties in Implementing Programs

According to EPA, states opposed EPA's enhanced I&M regulation because the regulation did not allow them enough flexibility in designing and implementing their programs. The 1992 regulation required all enhanced I&M programs to meet or exceed a performance standard based on a model program that used computer-controlled test equipment and centralized "test-only" inspection centers. Some states believed that centralized programs resulted in fewer inspection centers, often making the testing programs less convenient for vehicle owners and potentially resulting in longer delays than previous I&M programs. Furthermore, the states believed that consumers would be inconvenienced by the 1992 enhanced I&M regulation because of the test-only feature of the model program, which required the owner of any vehicle that failed the inspection to go elsewhere to have repairs made and to return to the same inspection center for retesting. While the 1992 enhanced I&M regulation permitted the states to implement decentralized programs that allowed inspection centers to test and then repair vehicles, EPA determined that these programs were less effective in identifying and repairing vehicles with excessive emissions.

Because of the opposition to the stringency of the 1992 regulation, EPA issued a revised enhanced I&M regulation in September 1995, and the Congress enacted the National Highway System Designation Act of 1995,

[5]EPA's Nov. 1992 technical support document for the 1992 enhanced I&M regulation estimated that 56 million vehicles would be subject to enhanced I&M testing.

[6]While some of these states are testing vehicles under an I&M program, their testing does not meet all of the requirements to qualify as testing under an enhanced I&M program.

which gave the states more flexibility to develop and implement their programs. For example, the revised regulation allowed the states to implement less stringent enhanced I&M programs if they could demonstrate emission reductions from other sources. The regulation also allowed the states more leeway in inspecting and repairing failed vehicles. Eight of the 23 states took advantage of the flexibility allowed by the revised regulation by implementing less stringent enhanced programs. Additionally, the National Highway System Designation Act of 1995—which prohibited EPA from requiring the states to have centralized IM-240 enhanced I&M programs—allowed the states to revise their programs to include decentralized testing and provided an 18-month interim approval period for them to demonstrate that their revised programs could achieve the needed emissions reductions.[7] Eight of the 23 states have implemented or plan to implement the more flexible enhanced I&M programs under the act.

Even though the revised enhanced I&M regulation and the National Highway System Designation Act of 1995 allowed more flexibility, nine states indicated in response to our survey that difficulties in obtaining legislative authority delayed the implementation of their enhanced I&M programs. For example, Massachusetts had planned to start inspecting vehicles under an enhanced I&M program in July 1997. However, as of November 1997, the date to which Massachusetts had committed to begin program operations, the state legislature had not enacted the needed legal authority for an enhanced I&M program, and vehicle testing had not begun. In December 1997, EPA notified Massachusetts that its enhanced I&M program was disapproved. Currently, Massachusetts is planning to begin testing vehicles in May 1999. Similarly, the Maryland legislature attempted to make the enhanced I&M program voluntary instead of mandatory, as required by the Clean Air Act Amendments of 1990, and this attempt delayed the implementation of the state's program. However, the governor's veto of this legislation paved the way for Maryland to start testing vehicles under its enhanced I&M program in the fall of 1997.

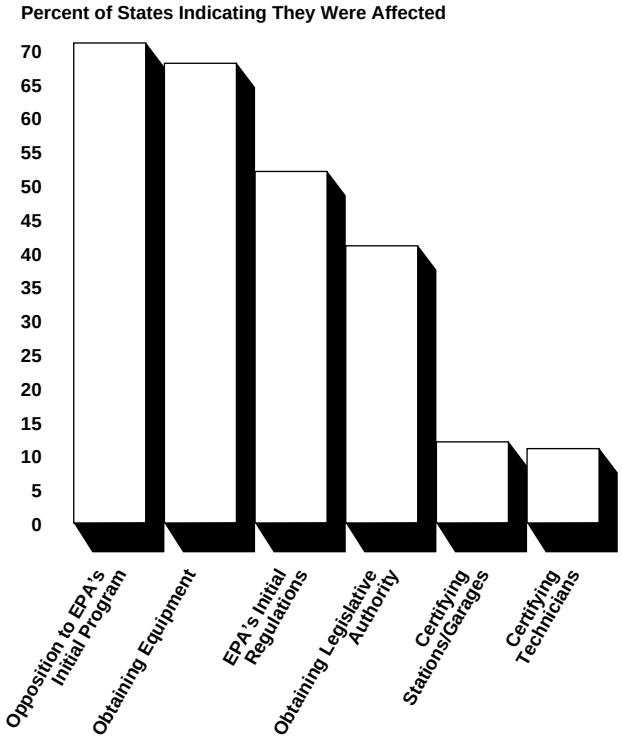
In response to our survey, 13 states indicated that they have experienced problems with obtaining needed testing equipment or software support from vendors, which have delayed the implementation of their programs. These problems were especially apparent in late 1997 and early 1998, when several states were scheduled to start testing vehicles. According to EPA officials, only a limited number of vendors supply the testing equipment and the computer software needed for enhanced I&M inspection

[7]An "interim approval" is a time-limited approval action created by the enhanced I&M provisions of the National Highway System Designation Act of 1995.

centers. With the high demand for the equipment in recent months, vendors have been unable to fill all orders. For example, Georgia had planned to have 300 inspection centers operating under an enhanced I&M program by July 1997. However, because of the vendor's problem with delivering the equipment and providing software support, Georgia now plans to start testing vehicles in July 1998—a year later than originally planned.

Overall, our survey of the 23 states identified a number of factors that delayed the states' efforts to implement enhanced I&M programs. These included opposition to the stringent requirements of EPA's initial program, difficulties in obtaining testing equipment, delays by EPA in issuing the initial regulation, difficulties in obtaining authority from state legislatures, and difficulties in certifying inspection centers and technicians. Figure 2 shows the factors cited by states as reasons for their delays.

**Figure 2: Factors Delaying Implementation of Enhanced I&M Programs**




Source: GAO's analysis of states' responses to GAO's survey.

## Public Acceptance of Enhanced I&M Programs Is Important

The states recognize the importance of informing the public about the reasons for enhanced I&M programs. In fact, 14 states said that it was very or extremely important to educate the public about their enhanced I&M programs. Furthermore, seven said that they tried to educate the general public to a great or very great extent about the frequency of testing, the costs of tests, testing locations, and other pertinent information about the program. Seven states also said that they tried to educate the general public to a great or very great extent about the reasons for implementing enhanced I&M programs.

For example, in implementing an enhanced I&M program, Georgia contracted with an advertising agency to develop and disseminate information through television and radio spots and distributed printed materials through community groups and organizations. A recent survey of the effectiveness of Georgia's public information campaign for its I&M program showed that consumers believe that cars are the largest contributing factor to air pollution. The study also showed that 88 percent of Georgia's consumers were aware of the current I&M program, and 76 percent believed that the program was doing a good job.

In contrast, Maine initially tried to implement an enhanced I&M program in 1994 with little or no public relations efforts. After very strong public opposition to the program, the governor cancelled it. According to EPA, the opposition to the program was caused, in part, by the perception that the enhanced I&M program was being implemented as an alternative to imposing control measures on certain stationary sources. As of April 1998, Maine's enhanced I&M program had been disapproved because the state's revised plan for it did not meet all of EPA's requirements. Even though some states have been more successful than others in overcoming public opposition and other obstacles to implementing their enhanced I&M programs, EPA has made only a limited effort to identify the practices these successful states have used and to share them with other states that are in the early stages of developing and implementing their programs.

## Delays in Implementing Enhanced I&M Programs Have Slowed Efforts to Reduce Ozone Levels

Because of delays in implementing enhanced I&M programs, 19 of the 23 states are in jeopardy of not meeting deadlines for attaining the national ozone standard.[8] The 19 states are relying on the enhanced I&M programs to reduce VOC emissions. In August 1996, EPA recognized that the states could not achieve a significant portion of their 15-percent VOC reductions by November 1996 because of delays in implementing enhanced I&M programs. It therefore examined other available control measures for reducing VOC emissions. EPA required the states to demonstrate in their VOC reduction plans that enhanced I&M programs were the most practical way for them to achieve the 15-percent reduction in VOC emissions. EPA then allowed the states to revise their enhanced I&M programs to claim credit for the emissions reductions that are based on the future implementation of their programs, provided they demonstrated that the required VOC reductions would be achieved as soon as possible after November 1996 but no later than November 1999. EPA also allowed the states to resubmit their VOC reduction plans to show that they would achieve the required VOC reductions from implementing their enhanced I&M programs by November 1999. EPA encouraged the states to customize their revised VOC reduction plans to include other control measures that would be the most practical for their areas to implement in achieving the required reduction in VOC emissions.

Even with the relaxed requirement, 11 of the 19 states are at risk of not meeting the required VOC reductions specified under title I of the Clean Air Act Amendments of 1990 because they had not started testing vehicles as of April 1998. According to EPA, the states that had not implemented their enhanced I&M programs as of November 1997 may be unable to demonstrate how they will achieve required VOC reductions, and are at risk of having their VOC reduction plans disapproved because of the anticipated shortfall in VOC reductions. For example:

- EPA's conditional interim approval[9] of New Jersey's enhanced I&M program, which accounts for 26 percent of the state's planned reductions in VOC emissions, required the program to begin by November 15, 1997, in order for all vehicles to be tested by November 1999 and for the state to receive

[8]Four states do not have to meet deadlines for attaining the national ozone standard. Colorado, Nevada, and Washington are required to implement enhanced I&M programs to reduce carbon monoxide emissions to help them attain the national carbon monoxide standard, and Vermont is required to have an enhanced I&M program because of VOC emissions that are transported from other states.

[9]A "conditional interim approval" is a formal action taken on an enhanced I&M program plan submitted under the National Highway System Designation Act of 1995 that meets most but not all requirements for enhanced I&M programs.

full credit for the VOC reductions from the program. New Jersey officials advised EPA that they would not select a contractor to operate the program until April 1998. In December 1997, EPA notified New Jersey that its 15-percent reduction plan was disapproved because the state failed to meet the required November 1997 start date for its enhanced I&M program. According to a New Jersey official, it is unclear how the state will make up the shortfall in VOC reductions caused by its failure to implement an enhanced I&M program.

- The District of Columbia is required to reduce VOC emissions by 133 tons per day to attain the ozone standard by November 1999. Even though the District is relying heavily upon its enhanced I&M program to provide 48 percent of the overall VOC reductions, it does not plan to start inspecting vehicles under an enhanced I&M program until April 1999. While control measures are available to the District for reducing VOC emissions from other mobile and stationary sources, many of these measures have already been implemented, and, according to EPA officials, imposing further controls on these sources will not produce the reductions that the District is expecting to achieve with an enhanced I&M program.

Many of the states that are required to implement enhanced I&M programs must achieve the required VOC reductions by November 1999 but still do not have final approval for their VOC reduction plans. Table 1 shows the approval status of the states' VOC reduction plans as of April 1998.

**Table 1: Approval Status of the States' VOC Reduction Plans, as of April 1998**

| State | Testing vehicles | Approval status of VOC reduction plans | |
|---|---|---|---|
| | | 15-percent reduction plan | Post-1996 reduction plan |
| California | No | Approved[a] | Approved |
| Connecticut | Yes | Proposed conditional approval[b] | Submitted—complete |
| Delaware | Yes | Conditional approval | Submitted—complete |
| District of Columbia | No | Submitted—complete | Submitted—complete |
| Georgia | No | Proposed conditional interim approval | Submitted—complete |
| Illinois | No | Approved | Submitted—complete |
| Indiana | Yes | Approved | Submitted—complete |
| Louisiana | No | Approved | Submitted—complete |
| Maine | No | Submitted—complete | Not required |
| Maryland | Yes | Conditional approval | Submitted—complete |
| Massachusetts | No | Proposed conditional interim approval | Proposed conditional interim approval |
| New Hampshire | No | Proposed approval | Submitted—complete |
| New Jersey | No | Disapproved | Disapproved |
| New York | No | Submitted—complete | Submitted—complete |
| Pennsylvania | Yes | Conditional interim approval | Not submitted |
| Rhode Island | No | Limited disapproval | Submitted—no action |
| Texas | Yes | Approved—Beaumont/Port Arthur<br>Proposed conditional interim approval—Dallas/Ft. Worth, El Paso, and Houston | Proposed disapproved |
| Virginia | Yes | Conditional approval | Submitted—complete |
| Wisconsin | Yes | Approved | Submitted—complete |

[a]All but one of California's nine nonattainment areas that are required to submit 15-percent VOC reduction plans have had their plans approved. The ninth nonattainment area—Mojave Desert—has submitted a plan, but EPA has not yet acted on it.

[b]A "conditional approval" is a formal approval action taken on an enhanced I&M program plan that meets most but not all relevant requirements for enhanced I&M programs. A state must make a commitment to correct the deficiencies within 12 months of the conditional approval action.

Source: GAO's analysis of information provided by EPA and the states.

Even though most of the states are planning to have their enhanced I&M programs account for a significant amount of the required reductions in VOC emissions, EPA and the states will not know how much of the needed VOC reductions will be met by enhanced I&M programs until each program is fully approved and operational. Thus, further delays by the states in implementing enhanced I&M programs jeopardize their efforts to achieve the required VOC reductions.

While the states can use mobile and stationary sources in conjunction with the mandated enhanced I&M programs to attain the ozone standard these sources, especially stationary sources, have already made significant reductions in their VOC emissions, and, according to EPA, further reductions from them will be costly and take some time to achieve. In 1992, EPA estimated that the cost to reduce VOC emissions with an enhanced I&M program was $879 per ton compared with $5,000 per ton from stationary sources. According to EPA officials, with the less stringent requirements of many of the current programs, the cost per ton of VOC reductions from the enhanced I&M programs is probably higher, but not as high as further reductions from other mobile sources or stationary sources. However, EPA is not aware of any data that show current costs.

## Conclusions

While enhanced I&M programs are an integral part of the effort to significantly reduce emissions from motor vehicles, states' efforts to implement their programs have been slow and troubled by numerous delays. Recognizing that states have encountered a variety of challenges in implementing enhanced I&M programs, we believe that EPA could expand its efforts at helping some of the states that are experiencing the most significant problems by sharing the best practices, such as public relations campaigns, adopted by the states with approved and/or operating programs.

Furthermore, because of delays in implementing enhanced I&M programs, states have not realized the reductions in VOC emissions that they were statutorily required to achieve by 1996, nor are they likely to achieve additional reductions that EPA is now requiring by November 1999 to enable them to attain the national ozone standard. Therefore, states will have to look to other mobile sources as well as stationary sources to meet their goals for reducing VOC emissions. However, obtaining the required reductions from other sources will be difficult because many of them, especially stationary sources, have already made major reductions in their VOC emissions, and any further reductions may be costly and take some time to achieve.

## Recommendation

In view of the pivotal role that enhanced I&M programs play in reducing VOC emissions and the delays experienced to date in implementing these programs, as well as the possibility of future delays, we recommend that the Administrator of EPA compile information on the more successful practices, such as public relations campaigns, used by the states that have

implemented their enhanced I&M programs and share the information with those states that are in the early stages of developing and implementing their programs.

## Agency Comments

We provided copies of a draft of this report to EPA for review and comment. In commenting for the agency, the Director of the Office of Mobile Sources agreed with the information presented and suggested a few editorial changes to clarify points but did not comment on the recommendation. We included EPA's comments as appropriate.

## Scope and Methodology

We gathered data on the enhanced I&M programs in the 23 states required to implement the programs under the Clean Air Act Amendments of 1990. Data were obtained through the use of a survey mailed to the environmental offices in each of the 23 states. The survey was pretested by officials from the states of Georgia, Maryland, and Washington, and subsequently mailed in late January 1998. Completed surveys were returned by all 23 states. A copy of the survey is in appendix I.[10] In addition to our analyses of the data gathered from the survey, we asked EPA to update the data for some questions.

We also reviewed notices in the Federal Register that provided information on the status of the states' enhanced I&M programs as well as other pertinent documentation. Additionally, we visited EPA's regional offices in Boston, Massachusetts; Philadelphia, Pennsylvania; and Atlanta, Georgia to obtain background information on issues concerning the enhanced I&M programs. We also visited EPA's Office of Mobile Sources in Ann Arbor, Michigan, and the Office of Air Quality Planning and Standards in Durham, North Carolina, and interviewed officials about the enhanced I&M program as well as issues concerning attaining the ozone standard. We met with officials in Massachusetts and Georgia to discuss the implementation of their enhanced I&M programs. We measured progress in terms of the states with operating programs that were testing vehicles as of April 1998. We did not use EPA's approval status to measure progress because a state's approval status is subject to change.

We performed our work from July 1997 through May 1998 in accordance with generally accepted government auditing standards.

[10]Because much of the data are not reported in an aggregated format, and many of the questions asked for information unique to a particular state, data are not reported in the survey presented in app. I.

As arranged with your office, unless you announce its contents earlier, we plan no further distribution of this report until 15 days from the date of this letter. At that time, we will send copies to the appropriate congressional committees; the Administrator of the Environmental Protection Agency; and the Director of the Office of Management and Budget. We will also make copies available to others on request.

Please call me at (202) 512-6111 if you or your staff have any questions. Major contributors to this report are listed in appendix IV.

Sincerely yours,

Peter F. Guerrero
Director, Environmental
Protection Issues

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**Abbreviations**

| | |
|---|---|
| EPA | Environmental Protection Agency |
| I&M | inspection and maintenance |
| VOC | volatile organic compounds |

# Survey

ID# _____

United States General Accounting Office

**GAO**

## Survey of State Enhanced Inspection and Maintenance Programs

**Introduction**

The U.S. General Accounting Office is an agency that provides information to the U.S. Congress. We are currently surveying states to examine the progress made in implementing Enhanced Inspection and Maintenance (I&M) Programs. The results of our work will help Congress to assess the progress and effectiveness of this important air pollution control strategy.

We are requesting this information from all states that are required to implement Enhanced I&M Programs. Your participation in this survey is essential in order for us to present an accurate picture of the status of these programs.

We would appreciate receiving your response by February 6. Please return your completed survey in the enclosed postage-paid envelope. In the event the envelope is misplaced, the survey should be returned to:

Lynn Musser
U. S. General Accounting Office
441 G Street, NW, Room 1826
Washington, D.C. 20548

If you have any questions, please contact:
Mr. Harry Everett
(919) 899-3792
Fax: (919) 829-5516
or
Dr. Lynn Musser
(202) 512-2835
Fax: (202) 512-6171
e-mail: MUSSERL.RCED1@gao.gov

**Instructions**

Please provide information for your state's Enhanced I&M Program. If other state agencies share responsibility for implementing the Enhanced I&M Program, please coordinate your responses with officials from those offices.

**Section I: Progress in Implementing Enhanced I&M Program**

1. As of January, 1998, what is the approval status of your State Implementation Plan (SIP) for your state's Enhanced I&M Program? (*Check one response.*)

   1. ☐ Approved
   2. ☐ Interim approval
   3. ☐ Conditional approval
   4. ☐ Conditional interim approval
   5. ☐ Disapproved
   6. ☐ Other *Please specify:* _____

2. Please give the date and page for the *Federal Register* notice for the current approval status of this program.

   Date: _____

   Page(s): _____

3. Did your state choose to revise this program under the National Highway System Designation Act (NHSDA) of 1995? (*Check one response.*)

1. ☐ No
2. ☐ Yes –> When did the 18-month demonstration period begin? (*Please give month and year.*)

Month: _____
Year: _____

4. What percentages of VOC, CO, and NOx reductions from the mobile source inventories are specified in the SIP for the Enhanced I&M Program? (*Please give percentages for each.*)

VOC: _____%
CO: _____%
NOx: _____%

5. Since submitting the SIP for the Enhanced I&M Program, has your state revised the estimates for VOC, CO, and NOx reductions (given in question 4)?

1. ☐ No
2. ☐ Yes –> What are current estimates of reductions? (*Please give percentages for each.*)

VOC:_____%
CO:_____%
NOx:_____%

6. What is the status of vehicle testing under the current Enhanced I&M Program? (*Check all that apply and then give month and date for items that are checked.*)

1. ☐ Vehicle testing has already begun. Start date was:

Month: _____ Year: _____

2. ☐ Vehicle testing has not yet begun. Planned start date is:

Month: _____ Year: _____

3. ☐ Vehicle testing is being phased in. Planned date for full implementation is:

Month: _____ Year: _____

4. ☐ Other *Please specify:* _____

_____

**Section II: Operation of Your State's Enhanced I&M Program**

7. When fully operational, what type of Enhanced I&M Program will be in effect? (*Check all that apply.*)

1. ☐ Centralized: Test-only stations run by government agency or single contractor
2. ☐ Decentralized: Test-only stations operated by privately-owned facilities
3. ☐ Decentralized: Both test-only and test-and-repair stations operated by privately-owned facilities
4. ☐ Other *Please specify:* _____

_____

_____

8. When fully operational, what will be the enhanced level (performance standard) of this program? (*Check one response.*)

   1. ☐ High enhanced
   2. ☐ Low enhanced
   3. ☐ Ozone-transport region – enhanced
   4. ☐ Other *Please specify:* _____

   _____

   _____

9. When your state's I&M Program is fully implemented, how many test stations and test lanes will there be? (*If it is not possible to give a precise number, please give approximate number or range.)*

   Total Number of Test Stations: _____

   Total Number of Test Lanes: _____

10. As of January, 1998, how many test stations and test lanes are operational? (*If it is not possible to give a precise number, please give approximate number or range.)*

    Total Number of Test Stations: _____

    Total Number of Test Lanes: _____

11. When your state's Enhanced I&M Program is fully operational, what will be the frequency of vehicle inspections? (*Check one response.)*

    1. ☐ Annual
    2. ☐ Biennial
    3. ☐ Other *Please specify*:

    _____

12. What will be the total number of vehicles (all types) that will be inspected during each inspection cycle (specified in question 11)?

    Number of vehicles: _____

13. What types of tests are currently (January 1998) being used in your Enhanced I&M Program and what fees are charged? (*Please check all that apply and specify fees for tests that are checked.)*

| Type of Test | Amount of Fee |
|---|---|
| 1. ☐ IM240 | $_____ |
| 2. ☐ ASM1 | $_____ |
| 3. ☐ ASM2 | $_____ |
| 4. ☐ METT | $_____ |
| *Please specify type of METT test:* _____ | |
| 5. ☐ Two-speed idle | $_____ |
| 6. ☐ Single-speed idle | $_____ |
| 7. ☐ Other _____ | $_____ |
| *Please specify type of test:* _____ | |

14. When fully operational, what types of tests will be used in your Enhanced I&M Program and what fees will be charged? *(Please check all that apply and specify fees for tests that are checked.)*

| Type of Test | Amount of Fee |
|---|---|
| 1.☐ IM240 | $_____ |
| 2.☐ ASM1 | $_____ |
| 3.☐ ASM2 | $_____ |
| 4.☐ METT | $_____ |
| *Please specify type of METT test:* _____ | |
| 5.☐ Two-speed idle | $_____ |
| 6.☐ Single-speed idle | $_____ |
| 7.☐ Other _____ | $_____ |
| *Please specify type of test:* _____ | |

15. When fully implemented, will any of the following be performed in addition to or in lieu of the Enhanced I&M test(s) indicated in question 14?

1.☐ Gas cap pressure test
2.☐ Other evaporative pressure test(s) *Please specify:* _____
3.☐ Visual inspection *Please specify type*(s): _____
4.☐ On-board diagnostic check
5.☐ Other *Please specify:* _____ _____

16. What is the minimum amount that must be spent on repairs before the I&M requirements will be waived?

1. 1st year of program:$_____.00
2. 2nd year of program:$_____.00
3. 3rd year of program:$_____.00
4. Subsequent years: $_____.00
   Will the amount for subsequent years be adjusted annually based on the Consumer Price Index (CPI)?
   1.☐ No
   2.☐ Yes

17. Will repair estimates be acceptable in lieu of actual repair expenditures?

1.☐ No
2.☐ Yes

18. Will any of the following vehicles be exempted from testing? (*Check all that apply.*)

1. ☐ Untitled vehicles
2. ☐ Newer vehicles –> What age vehicles are exempt? (*Check one response.*)
   1. ☐ One year old or newer
   2. ☐ Two years old or newer
   3. ☐ Three years old or newer
   4. ☐ Four years old or newer
   5. ☐ Five years old or newer
3. ☐ Older vehicles –> Which vehicles are exempt? (*Check all that apply.*)
   1. ☐ Pre-1968 vehicles
   2. ☐ Antique or classic vehicles
   3. ☐ Other *Please specify:*

   _____
4. ☐ Clean vehicles, identified by remote sensing or other methods
5. ☐ Other categories (*Check all that apply.*)
   1. ☐ Low mileage vehicles belonging to senior citizens
   2. ☐ Vehicles belonging to senior citizens
   3. ☐ Vehicles with low annual mileage
   4. ☐ Other *Please specify*:

   _____

19. If an IM240 centralized test is not used, what is the percentage of credit claimed for the alternative type of tests? (*Check all types of tests that are used, then specify percent credit for types that are checked.*)

| Type of Tests | Percent Credit Compared to IM240 VOC | NOx | CO |
|---|---|---|---|
| 1. ☐ ASM1 | ___% | ___% | ___% |
| 2. ☐ ASM2 | ___% | ___% | ___% |
| 3. ☐ Two-speed idle | ___% | ___% | ___% |
| 4. ☐ Single-speed idle | ___% | ___% | ___% |
| 5. ☐ Other | ___% | ___% | ___% |

*Please specify type of test*:

_____

20. What type of test equipment is or will be used to meet the 0.1 percent mass-based emission transient testing (METT) evaluation requirement? (*Check all that apply.*)

1. ☐ IM240
2. ☐ ASM1
3. ☐ ASM2
4. ☐ Remote sensing
5. ☐ Other *Please specify*:_____

_____

21. When will the equipment be in place and operational for the METT evaluation? (*Please give month and year.*)

Month: _____ Year: _____

22. What type of equipment will be used to meet the 0.5 percent on-road testing requirement? (*Check all that apply.*)

1. ☐ Remote sensing
2. ☐ Mobile testing equipment
3. ☐ Other *Please specify*:

_____

23. What is the start date for on-road testing? (*Please give month and year.*)

Month: _____ Year: _____

24. How will remote sensing be used in the Enhanced I&M Program? (*Check all that apply.*)

1. ☐ To identify high-emitting vehicles
2. ☐ To identify clean vehicles
3. ☐ Other *Please specify*:

_____

**Section III: Factors Affecting Implementation of Enhanced I&M Programs**

25. To what extent did EPA's timing in issuing the initial Enhanced I&M regulations delay implementation of your program? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

26. EPA's initial model Enhanced I&M Program required centralized testing with high tech, computer-controlled IM240 equipment. To what extent did opposition to this model program delay implementation of your state's Enhanced I&M Program? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

27. What effect did EPA's 1995 revised regulations, that allowed for more flexibility for Enhanced I&M Programs, have on your state's ability to implement your program? (*Check one response.*)

1. ☐ Greatly decreased our ability to implement our program
2. ☐ Somewhat decreased our ability to implement our program
3. ☐ Had no effect on our ability to implement our program
4. ☐ Somewhat increased our ability to implement our program
5. ☐ Greatly increased our ability to implement our program

28. To what extent did obtaining state legislative authority delay the implementation of the current Enhanced I&M Program? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

29. To what extent has obtaining the participation of independent service stations/garages delayed the implementation of the current Enhanced I&M Program? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

30. To what extent did establishing certification procedures for service stations/garages delay the implementation of the current Enhanced I&M Program? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

31. To what extent did establishing training and certification programs for Enhanced I&M test or repair technicians delay implementation of the current Enhanced I&M Program? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

32. To what extent did obtaining equipment, materials, or services from vendors delay implementation of the current Enhanced I&M Program? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

33. To what extent did your state try to educate the general public (via television, newspapers, public meetings, etc.) about the reasons for implementing your state's current Enhanced I&M Program? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

34. To what extent did your state try to educate the general public about their participation (e.g., frequency of testing, cost of tests, testing locations, etc.) in the Enhanced I&M Program? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

35. In general, how important is public education/public relations to your current Enhanced I&M Program? (*Check one response.*)

1. ☐ Not at all important
2. ☐ Somewhat important
3. ☐ Moderately important
4. ☐ Very important
5. ☐ Extremely important

36. If there were other factors that influenced the implementation (either positively or negatively) of your Enhanced I&M Program, please provide a brief description of these factors.

_____

_____

_____

_____

**Section IV: Efforts to Comply with National Ozone Standards**

37. Is your state required to implement an Enhanced I&M Program to address any of the following? (*Check all that apply.*)

1. ☐ Ozone non-attainment areas
2. ☐ Ozone transport regions
3. ☐ Other *Please specify*:

_____

38. Is your state required to have an Ozone Attainment Demonstration Plan? (*Check one response.*)

1. ☐ Yes
2. ☐ No – > *Please skip questions 39 to 42, and proceed to question 43*

39. Has your State Ozone Attainment Demonstration Plan been submitted to EPA? (*Check all that apply.*)

1. ☐ No –> *Please skip questions 40 and 41, and proceed to question 42.*
2. ☐ Yes –> Was it found to be complete?
   1. ☐ Yes
   2. ☐ No –> *Please skip questions 40 and proceed to question 41.*
   3. ☐ Other *Please specify*:

_____

40. What is the current (January 1998) approval status of your State Ozone Attainment Demonstration Plan? (*Check one response.*)

1. ☐ Approved
2. ☐ Conditional approval
3. ☐ Disapproved
4. ☐ Other *Please specify*:

_____

41. To what extent, if any, did delays in approval of an Enhanced I&M Program delay your submission of your State Ozone Attainment Demonstration Plan? (*Check one response.*)

1. ☐ To little or no extent
2. ☐ To some extent
3. ☐ To a moderate extent
4. ☐ To a great extent
5. ☐ To a very great extent

42. What percentages of the emission reductions needed to bring ozone non-attainment areas into attainment are expected to come from the Enhanced I&M Program? (*List all ozone non-attainment areas for your state. Then give the estimated reductions in VOC and NOx from the Enhanced I&M Program for each non-attainment area.*)

| Ozone Non-attainment Area | Percentage Reduction VOC | NOx |
|---|---|---|
| *Areas Classified as Serious:* | | |
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| *Areas Classified as Severe:* | | |
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| *Areas Classified as Extreme:* | | |
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| _____ | ___% | ___% |

43. What is the current (January 1998) approval status of your state's 15 Percent VOC Reduction Plan? (*Check one response.*)

1. ☐ Approved
2. ☐ Interim approval
3. ☐ Conditional approval
4. ☐ Conditional interim approval
5. ☐ Disapproved
6. ☐ VOC Reduction Plan required, but not submitted
7. ☐ VOC Reduction Plan not required –> *Please skip questions 44 to 51 and proceed to Section V.*

44. What is the current (January 1998) approval status of your state's VOC-NOx Post 1996 Rate of Progress Plan?

1. ☐ Approved
2. ☐ Interim approval
3. ☐ Conditional approval
4. ☐ Conditional interim approval
5. ☐ Disapproved
6. ☐ VOC-NOx Rate of Progress Plan required, but not submitted
7. ☐ VOC-NOx Rate of Progress Plan not required

45. Did delays in obtaining approval of your Enhanced I&M Program delay the submission of your state's 15 Percent VOC Reduction Plan? (*Check one response.*)

1. ☐ No
2. ☐ Yes
3. ☐ Uncertain

46. Did delays in obtaining approval of your Enhanced I&M Program delay the submission of your VOC-NOx Post 1996 Rate of Progress Plan? (*Check one response.*)

1. ☐ No
2. ☐ Yes
3. ☐ Uncertain

47. For each ozone non-attainment area, what percentage of the required 15% VOC reductions and VOC-NOx Post 1996 Rate of Progress reductions are expected to come from the Enhanced I&M Program? (*Please list the ozone non-attainment areas for your state. Then give the percentage of reduction in VOC and NOx for each non-attainment area.*)

| Ozone Non-attainment Area | Percentage Reduction VOC | Percentage Reduction NOx |
|---|---|---|
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| _____ | ___% | ___% |
| _____ | ___% | ___% |

48. When are the planned VOC and NOx reductions from your Enhanced I&M Program expected to be achieved? (*Please give month and year.*)

VOC: Month: _____ Year: _____

NOx: Month: _____ Year: _____

49. If your state is unable to achieve planned VOC and NOx reductions because of delays in implementing Enhanced I&M Programs, will additional VOC and NOx reductions be required from any of the following mobile or stationary controls? (*Check all that apply.*)

1. ☐ Reformulated gasoline and other alternative fuel programs
2. ☐ State I and II vapor recovery programs
3. ☐ Off-road vehicle/equipment controls
4. ☐ Stationary source controls
5. ☐ Voluntary measures, federal measures, or other programs *Please specify.*

_____

6. ☐ No additional VOC and NOx reductions are expected from the mobile or stationary controls listed above –> *Please skip questions 50 and 51 and proceed to Section V.*

50. Will the use of the above mobile or stationary controls to obtain additional VOC and NOx reductions result in increased costs to your state? (*Check one response.*)

1. ☐ No
2. ☐ Yes *Please estimate cost per year.*

$_____/yr

3. ☐ Uncertain

51. Will the use of the above mobile or stationary controls to obtain additional VOC and NOx reductions cause delays in reaching attainment with the national ambient air quality standards for ozone? (*Check one response.*)

1. ☐ No
2. ☐ Yes
3. ☐ Uncertain

**Section V: Information About Individual(s) Completing This Survey**

*Please provide information on all individuals who completed or helped to complete this survey. Attach additional sheets if needed.*

Name: _____

Position/Title: _____

Address: _____

_____

Phone Number: _____ Fax Number: _____

Name: _____

Position/Title: _____

Address: _____

_____

Phone Number: _____ Fax Number: _____

Name: _____

Position/Title: _____

Address: _____

_____

Phone Number: _____ Fax Number: _____

***Thank you very much for taking time to complete this survey. If you would like to make additional comments concerning any of the questions or comment on topics not covered, please feel free to use the back of this page or to attach additional pages.***

Instructions for Editing Completed Questionnaires

## Survey of State Enhanced Inspection and Maintenance Programs

| | |
|---|---|
| Question 6 | New option (#5) added to indicate that there is no Enhanced I&M Program in place. Use if there is no current Enhanced I&M Program or if program is still a basic program . |
| Question 7 | Change option 4 'other' to 5. Add a new '4' which is 'Decentralized test and repair privately owned facilities.' |
| Question 9 | If number of test stations given is a range, enter the highest number. In column 41, enter a "1" (for range) or a '2' (if number is an estimate); otherwise leave column 41 blank.<br>If number of test lanes given is a range, enter the highest number. In column 47, enter a "1" (for range) or a '2' (if number is an estimate); otherwise leave column 47 blank. |
| Question 10 | If number of test stations given is a range, enter the highest number. In column 53, enter a "1" (for range) or a '2' (if number is an estimate); otherwise leave column 53 blank.<br>If number of test lanes given is a range, enter the highest number. In column 59, enter a "1" (for range) or a '2' (if number is an estimate); otherwise leave column 59 blank. |
| Questions 13&14 | Add option #8, 'No enhanced tests currently being used.' |
| Questions 25-35 | Add three new response options: 6 = Don't Know, 7 = Not Applicable, and 8 = Plan to do in Future. |
| Question 39 | Add an option #3, "Other," to first part of question. |
| Question 40 | Change other to '5.' Add a new category – '4' – 'Submitted and Under review.' |
| Questions 43&44 | First five numbers stay as is. New numbering is as follows:<br>6 = Partially Approved/Partially disapproved (new category, replaces 'old' 6,)<br>7 = Required but not submitted ('old' 6)<br>8 = Required and submitted (new category)<br>9 = Not required ('old' number 7) |

# Changes in Requirements for the Enhanced Inspection and Maintenance Program

This appendix describes the statutory and regulatory changes leading to the Environmental Protection Agency's (EPA) current requirements for enhanced inspection and maintenance (I&M) programs.

## The Clean Air Act Amendments of 1990

Title I of the Clean Air Act Amendments of 1990 (P.L. 101-549—Nov. 15, 1990) required the 23 states with the most serious ozone and carbon monoxide problems to implement enhanced I&M programs. Specifically, the states with serious, severe, or extreme ozone nonattainment areas with 1980 urban populations of 200,000 or more; serious and certain moderate carbon monoxide nonattainment areas with urban populations of 200,000 or more; and areas with a population of 100,000 or more in the Ozone Transport Region, regardless of their attainment status; were required to implement enhanced I&M programs.[11] The enhanced I&M programs were required to have centralized inspection centers and perform annual inspections unless the state demonstrated to EPA that a decentralized or biennial program would be equally effective. Title I also required EPA to issue regulations for the enhanced I&M program by November 15, 1991, and the states to implement their enhanced I&M programs by November 15, 1992.

Title I divided all of the ozone nonattainment areas into five categories—marginal, moderate, serious, severe, and extreme—and set time frames for each category to reach attainment. The attainment dates ranged from 3 years (marginal) to 20 years (extreme) after the act was enacted. Title I also required the states to demonstrate how they would reduce volatile organic compounds (VOC) emissions—one of the major pollutants that contribute to the formation of ozone. The states with moderate to extreme ozone nonattainment areas were required to prepare implementation plans by November 1993 that showed how they would reduce VOC emissions by 15 percent within 6 years after enactment. The states with serious to extreme nonattainment areas also had to prepare plans showing how they would achieve additional VOC reductions. The plans to reduce VOC emissions after 1996 were due by November 1994 and were to show how the states planned to achieve 3-percent VOC reductions annually until the nonattainment areas reach attainment.

[11]The Ozone Transport Region includes 12 states in the northeastern United States that have significant ozone nonattainment problems because much of the ozone originates in other states and is transported to these states by the eastern air flow patterns. These states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia.

## Enhanced Inspection and Maintenance Program Regulation

EPA issued its regulation for the enhanced I&M program on November 5, 1992. The regulation required the states with areas switching from test-and-repair to test-only requirements to implement programs that would begin testing 30 percent of all vehicles that were subject to enhanced I&M in the nonattainment areas in January 1, 1995, and all areas to begin testing all vehicles by January 1, 1996. The regulation also required the states to meet or exceed a performance standard that was based on a model program for an annual, centralized enhanced I&M program that included IM-240 test equipment, or an equivalent test protocol approved by EPA, and covered all 1968 and later model cars and light-duty trucks. The states that elected to implement decentralized programs or a program consisting of centralized and decentralized inspection facilities were to have their emission reduction credits discounted by approximately 50 percent for the decentralized portion of their programs, unless they could demonstrate that their programs were as effective as a centralized program. The regulation also included the requirement under the Clean Air Act Amendments of 1990 that a minimum expenditure of $450 for emission-related repairs was required for vehicles to qualify for a waiver of further repairs. According to EPA, a typical urban area adopting the model program established by the regulation would, by 2000, reduce the levels of air pollutants more than they would have reduced them without an enhanced I&M program: for carbon monoxide, the additional reduction would be 31 percent, for VOCs, 28 percent, and for nitrogen oxides, 9 percent.

## Enhanced Inspection and Maintenance Flexibility Regulation

In response to strong public opposition to its initial enhanced I&M regulation, EPA issued a regulation known as the Inspection/Maintenance Flexibility Amendments on September 18, 1995. This regulation created a less stringent enhanced I&M program by allowing certain states more flexibility in implementing their programs. Specifically, the revised regulation allowed the states that can meet the requirements of the Clean Air Act Amendments of 1990 for VOC reductions and attainment without an enhanced I&M program as effective as the one adopted by EPA in the 1992 regulation to meet a less stringent low enhanced performance standard. The new standard, referred to as the low enhanced standard, did not include the IM-240 test as part of its model program. The regulation also modified other requirements of the 1992 regulation, such as extending the implementation of the minimum expenditure of $450 until January 1998.

## National Highway System Designation Act of 1995

The National Highway System Designation Act of 1995 (P. L. 104-59, Nov. 28, 1995) also responded to public opposition to the 1992 enhanced

I&M regulations. Specifically, the act prohibited EPA from requiring a centralized, IM-240 enhanced I&M program and stopped EPA's use of the 50-percent discount rate for decentralized or hybrid programs. Additionally, the act allowed states to submit, within 120 days after enactment, revisions to their enhanced I&M programs by proposing interim enhanced I&M programs. The act required EPA to approve enhanced I&M programs on an interim basis if the proposed credits for each element of the program reflected good-faith estimates and the revised programs complied with the Clean Air Act Amendments of 1990. The act further provided an 18-month period for the states to demonstrate that the credits they had proposed were appropriate, with no opportunity to extend the 18-month period.

## Enhanced Inspection and Maintenance Ozone Transport Region Flexibility Amendments Regulation

On July 25, 1996, EPA issued the Inspection and Maintenance Ozone Transport Region Flexibility Amendments regulation. The regulation created a special low-enhanced standard for areas within the Ozone Transport Region that would be exempt from I&M requirements if they were not located in the region. These areas included attainment areas, marginal ozone nonattainment areas, and certain moderate nonattainment areas with populations under 200,000 within the 12-state Ozone Transport Region. Emission reduction goals in these areas were lower than those required for low enhanced I&M and basic I&M programs. The regulation provided flexibility to certain Ozone Transport Region states to implement a broader range of I&M programs than allowed under earlier regulations. Elements of the program include performing annual tests of 1968 and newer vehicles, checking on-board computer equipment for 1996 and newer vehicles, conducting remote sensing tests of 1968 through 1995 model year vehicles, and visual inspection of various control components on 1968 and newer vehicles.

# States' Progress in Performing Mandatory Enhanced Inspection and Maintenance Testing, as of April 1998

| State | Approval status of enhanced I&M programs | Actual/planned testing start date | Number of vehicles (in millions) |
|---|---|---|---|
| **Testing vehicles as of April 1998[a]** | | | |
| Colorado | Approved | January 1995 | 1.69 |
| Connecticut | Conditional approval | January 1998 | 1.20 |
| Delaware | Conditional approval | October 1995 | 0.30 |
| Indiana | Approved | January 1997 | .56 |
| Maryland | Conditional approval | October 1997 | 2.40 |
| Nevada | Approved | January 1995 | 0.75 |
| Pennsylvania | Conditional interim approval | October 1997 | 6.00 |
| Texas | Conditional interim approval | July 1996 | 4.30 |
| Washington | Approved | June 1993 | 2.20 |
| Wisconsin | Approved | December 1995 | 1.10 |
| Vermont | Status pending | January 1997 | 0.50 |
| Virginia | Conditional Interim Approval | February 1998 | 1.30 |
| **Subtotal** | | | **22.30** |
| **Not testing[b]** | | | |
| California | Interim approval | June 1998 | 7.00 |
| District of Columbia | Status pending | April 1999 | 0.24 |
| Georgia | Disapproved | July 1998 | 2.40 |
| Illinois | Approved | December 1998 | 2.50 |
| Louisiana | Disapproved | Unknown[c] | 0.27 |
| Maine | Disapproved | Unknown[c] | 1.20 |
| Massachusetts | Disapproved | May 1999 | 4.20 |
| New Hampshire | Disapproved | January 1999 | 1.00 |
| New Jersey | Disapproved | October 1998 | 5.00 |
| New York | Interim approval | November 1998 | 5.50 |
| Rhode Island | Disapproved | Unknown[c] | 0.70 |
| **Subtotal** | | | **30.01** |
| **Total** | | | **52.31** |

[a]These states had begun testing vehicles under an enhanced I&M program.

[b]While some of these states are testing vehicles under an I&M program, their testing does not meet all of the requirements to qualify as testing under an enhanced I&M program.

[c]The state has not submitted a revised enhanced I&M program plan that show a planned start date.

Source: GAO's analysis of information provided by EPA and the 23 states.

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