

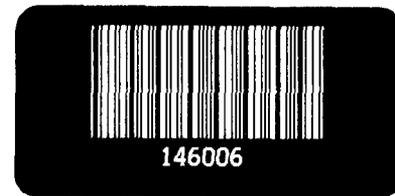
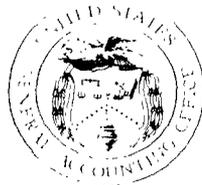
GAO

Briefing Report to the Chairman,
Subcommittee on Oversight and
Investigations, Committee on
Energy and Commerce, House of
Representatives

January 1992

AIR POLLUTION

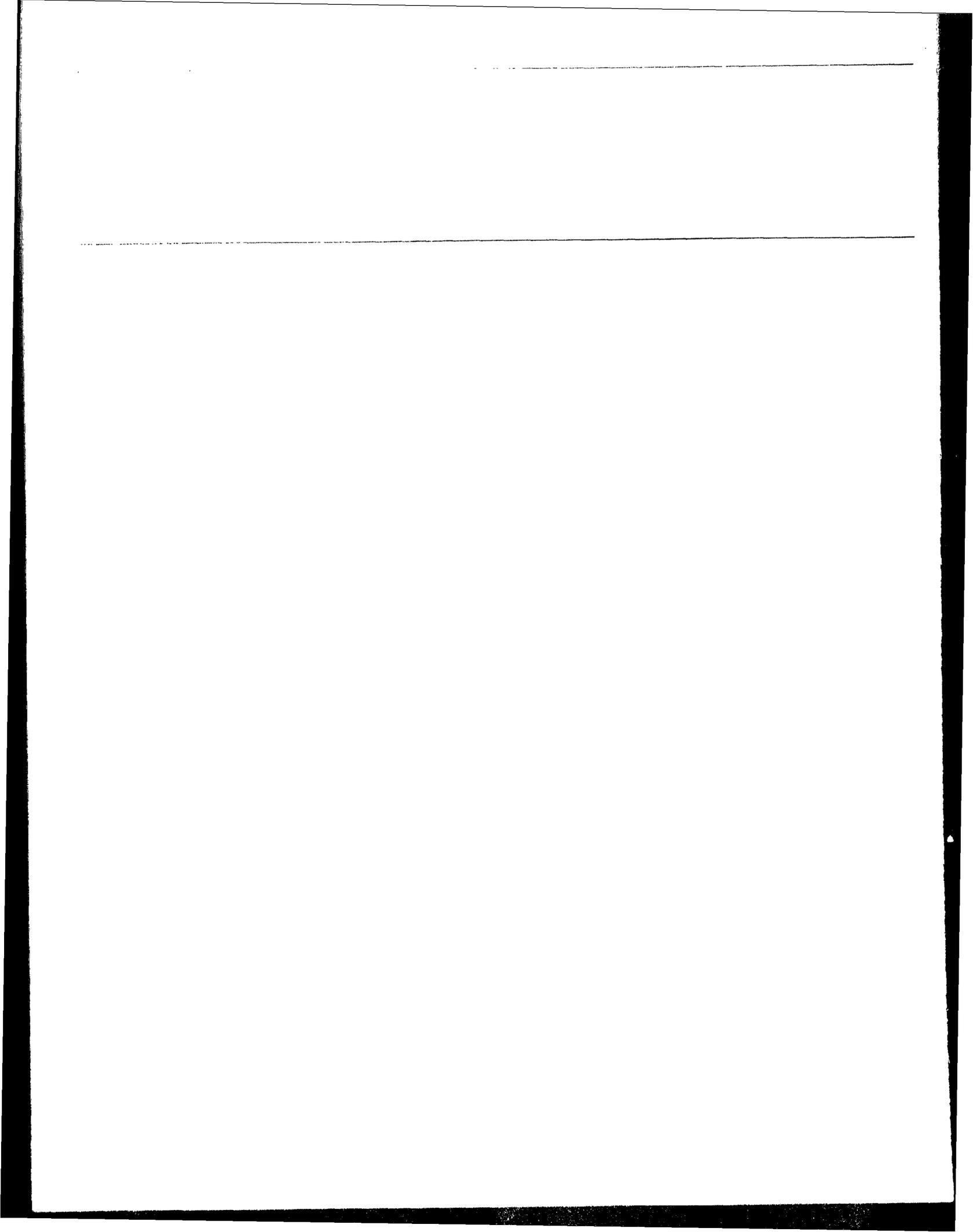
EPA's Actions to Ensure Vehicle Compliance With Emission Standards



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Resources, Community, and
Economic Development Division

B-246778

January 13, 1992

The Honorable John D. Dingell
Chairman, Subcommittee on
Oversight and Investigations
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

On September 10, 1990, you requested that we follow up on the Environmental Protection Agency's (EPA) response to the recommendations made in our July 1990 report on the effectiveness of EPA's motor vehicle testing program.¹ Our report identified a number of weaknesses in EPA's programs for emission standards and made recommendations aimed at ensuring that vehicles comply with emission standards over the useful life of the vehicle. In response to your request, we briefed your staff on our follow-up results on December 5, 1991. This report contains the information we presented during that briefing.

In summary, EPA indicated overall agreement with our recommendations. In fact, some of the recommendations have been addressed by provisions of the Clean Air Act Amendments of 1990. For example, section 182 of the act grants EPA the authority to require that states deny vehicle registration if owners have not complied with recalls. This provision is similar to our recommendation to include a recall provision in state vehicle registration or inspection/maintenance programs to increase the rate of owners' response to recalls. EPA has also initiated some actions that begin to address our other recommendations, but several years will be required for comprehensive implementation. For example, EPA's efforts to change its process for certifying that vehicles meet emission standards will not be effective until 1995.

¹Air Pollution: EPA Not Adequately Ensuring Vehicles Comply With Emission Standards (GAO/RCED-90-128, July 25, 1990).

While EPA's acknowledgement of the problems and the agency's initial steps are positive, it is also clear that EPA, the automobile manufacturers, and the states will need to continue efforts to ensure that vehicles comply with emission standards over the useful life of the vehicle. EPA's responses and our observations are described in sections 1 through 4.

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We conducted our review from August 1991 to December 1991 in accordance with generally accepted government auditing standards. To determine EPA's position and proposed actions to implement our recommendations, we examined agency letters dated December 21, 1990, and January 25, 1991, that responded to our report's recommendations. We discussed the status of EPA's proposed actions to implement the recommendations with officials at EPA's Office of Mobile Sources in Washington, D.C., and Ann Arbor, Michigan; where applicable, we also discussed ways in which the Clean Air Act Amendments of 1990 affect those actions. The Office of Mobile Sources is responsible for the Motor Vehicle Emission Testing and Inspection/Maintenance programs. We also discussed with representatives of automobile manufacturers their views on EPA's proposed actions. In addition, we reviewed documents and agency data supporting EPA's progress in implementing our recommendations.

As you requested, we did not obtain written agency comments on a draft of this briefing report. However, we discussed the factual information in this briefing report with the director of the Office of Mobile Sources and his staff. They agreed with the information presented, and we incorporated their comments where appropriate.

As agreed with your office, we plan no further distribution of this briefing report until 30 days from the date of this letter. At that time, we will send copies to the Administrator of EPA and other interested parties. We will also make copies available to others upon request. If you or your staff have any questions

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concerning this briefing report, please call me at (202) 275-6111. Major contributors to this briefing report are listed in appendix I.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "Richard L. Hembra".

Richard L. Hembra
Director, Environmental
Protection Issues

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ABBREVIATIONS

EPA	Environmental Protection Agency
GAO	General Accounting Office

SECTION 1

EMISSION SYSTEM DETERIORATION

RECOMMENDATION: EPA should change the method for determining the deterioration rates of emission systems to include the use of actual data from in-use vehicles to provide more accurate forecasts of whether vehicles will meet emission standards throughout their useful life.

Basis for Recommendation

EPA procedures are to help ensure that vehicles (passenger cars) meet federal emission standards when the vehicles are new and also over their 10-year/100,000-mile useful life, assuming that adequate maintenance is performed. (At the time of our July 1990 review, the useful vehicle life was 5 years or 50,000 miles.)

We had found that a substantial number of vehicles were not complying with emission standards after several years on the road:

- EPA test data representing about 37 percent of the 1986 model year vehicles on the road showed that 68 percent of these vehicles were not meeting one or more of the federal emission standards.
- Test data also showed that about 75 percent of the vehicles in use had failed to meet the emission standards since EPA's program began in 1981.

We also reported that projections of vehicle emissions were significantly underestimated, which raised questions about the adequacy of projections certifying that vehicles will comply with emission standards. For example:

- EPA projected that carbon monoxide emissions for vehicles from model years 1984-86 would increase by 13 percent over the useful life of the vehicle.
- EPA subsequently found that the carbon monoxide emissions from these vehicles increased by 122 percent.

EPA's Proposed Actions

EPA has proposed actions to implement our recommendation. However, EPA officials said (1) they will need time to study alternative procedures and (2) automobile manufacturers will need sufficient lead time to prepare for changes in the certification process:

- EPA plans to make substantial changes in certification test procedures beginning with model year 1996 vehicles. EPA's development efforts will focus, in part, on test procedures that better reflect actual driving conditions. The new procedures will incorporate emission data on actual vehicle use, according to EPA officials.
- In the interim, for model years 1994 and 1995, EPA is considering changing its regulations to allow automakers to use alternative certification procedures. One alternative developed by General Motors is an abbreviated, less expensive version of EPA's current certification procedure. General Motors' alternative could provide for testing in-use vehicles to validate its estimates of emission system performance developed for certification.

GAO's Observations

- EPA agrees that our recommendation should be implemented but says that comprehensive changes to the certification process will not occur for several years. EPA's goal is to revise the certification test procedure in time for model year 1996 vehicles.
- In the interim, EPA's suggestion that industry could use alternative certification test procedures should offer some degree of improvement over existing procedures.
- It is important, however, that EPA obtain information or test data to provide some assurance that manufacturers' alternative procedures result in more accurate projections. EPA officials agree and stated that manufacturers will be required to provide them with test data on the in-use emission performance of vehicles certified under an alternative procedure.
- It is also important that EPA monitor the results of changes it implements to ensure that these changes make it more likely that properly maintained in-use vehicles remain in compliance with emission standards. EPA plans to monitor the impact that proposed changes will have on emission projections for in-use vehicles.

SECTION 2

TESTING OF IN-USE VEHICLES

RECOMMENDATIONS: EPA should change the testing of in-use vehicles to include a sample of nontargeted vehicles and thereby provide more comprehensive coverage of the in-use motor vehicle fleet. Once this change is made, EPA should determine the appropriate level of testing necessary to ensure that nonconforming vehicles are identified.

Basis for Recommendations

Our report noted that EPA's testing of vehicles actually in use on the roads did not provide a sufficient level of coverage. EPA had found that a high rate (about three-fourths) of used vehicles failed to meet federal emission standards. Furthermore,

- EPA's testing represented a smaller percentage of in-use vehicles over the years, decreasing from 64 percent for model year 1981 vehicles to 37 percent for model year 1986 vehicles, and
- EPA excluded some manufacturers from its targeted test sample, including small-volume manufacturers producing fewer than 10,000 vehicles and those with a history of manufacturing vehicles that meet emission standards.

Given the high rate at which vehicles tested by EPA did not meet emission standards and the increasing proportion of vehicles excluded from testing, we were concerned about the overall level of compliance with emission standards.

EPA's Proposed Actions

EPA plans to allocate an additional \$140,000 for testing in-use vehicles during the current program year (April 1991 through March 1992). Specifically, EPA plans to use these funds to

- increase the number of families of engines tested from 40 to 50 or 55 and
- test, as we suggested, a sample of vehicles from the vehicle population for which it has little or no direct knowledge of the level of compliance. EPA plans to begin testing of these vehicles later this program year (January through March 1992).

GAO's Observations

- EPA generally agreed with our recommendations for further in-use testing.
- It is also important, however, that EPA test some nontargeted vehicles to help ensure broader coverage of the fleet in the future. The chief of EPA's Recall Branch told us that future testing of these vehicles depends largely on the availability of funds and on competing priorities.
- EPA will be able to offset the costs of testing through fees that it is now authorized to collect and by requiring manufacturers to perform in-use testing. EPA's Recall Branch will not be able to collect fees from manufacturers until it begins testing model year 1993 vehicles in 1995, according to the chief of the Recall Branch.

SECTION 3

OWNERS' RESPONSE RATES TO RECALLS

RECOMMENDATION: EPA should select and implement options that would best increase recall response rates and, if warranted, seek additional legislative authority to implement those options that are not currently within the EPA Administrator's authority to implement.

Basis for Recommendation

We had found that the rate of owners' response to automobile manufacturers' efforts to recall vehicles for emission-related repairs was very low. Manufacturers recalled 6.5 million vehicles between 1985 and 1987 to make emission-related repairs, but fewer than half of these vehicles--about 3 million--were brought in for repair, even though the manufacturers would have covered the repair costs.

EPA's Proposed Actions

EPA officials are preparing detailed guidance on recall requirements as part of the inspection/maintenance programs for those states with enhanced nonattainment areas.¹ The Clean Air Act Amendments of 1990 require EPA to issue this guidance one year from the date of enactment.² States will then have 1 year to comply with the recall requirements.

GAO's Observations

- EPA agreed with our recommendation to increase owners' response rates to recalls. A provision in the Clean Air Act Amendments of 1990 grants EPA the authority to implement our recommendation.³

¹States with nonattainment areas classified as serious, severe, or extreme are required to have enhanced inspection/maintenance requirements. States with moderate nonattainment areas will have to meet less stringent, basic inspection/maintenance requirements.

²EPA is considering regulatory actions that, if pursued, could delay the issuance of the guidance by several months.

³After our July 1990 report was issued, a provision similar to our recommendation was included in the Clean Air Act Amendments of 1990, enacted in November 1990.

- Steps to increase the rates at which owners respond to emission recalls are important to reduce pollution from motor vehicles.
- It is also important that EPA provide oversight of states' efforts to implement the recall provision of the 1990 amendments. EPA officials acknowledged the need to help ensure that the states implement the recall provision. EPA plans to work with automobile manufacturers and state officials to improve owners' response rates to recalls in all areas, including those areas with basic inspection/maintenance programs.

SECTION 4

REPORTING DATA ON INSPECTION/MAINTENANCE PROGRAMS

RECOMMENDATIONS: EPA should formally require states to submit semiannually specific operating data, such as the number of vehicles by model year passing and/or failing emission tests. EPA should use these data to compare inspection/maintenance program results with the minimum emission reduction requirement to determine the effectiveness of each program.

Basis for Recommendations

Our report noted that EPA's oversight of state inspection/maintenance programs was not effective. Most states submitted less information than EPA needed to evaluate the effectiveness of the various state inspection/maintenance programs. Furthermore, EPA had not determined or quantified the emission reductions achieved by many state programs. For example:

- From January 1987 through June 1989, 21 of the 36⁴ programs provided 50 percent or less of the data required by the audit guidelines of EPA's Office of Mobile Sources.
- As of August 1989, EPA had not conducted effectiveness measurements for 14 of the 37 state programs that had been in operation for at least 1 year.

EPA's Proposed Actions

EPA agreed with our recommendation that it needed specific program operating data to meet its oversight responsibilities and began formally collecting these data starting in fiscal year 1990. EPA also agreed that inspection/maintenance program data should be compared with minimum emission reduction requirements for state programs to determine their effectiveness.

- All states with inspection/maintenance programs are now required to report operating data annually, according to a senior EPA project manager.

⁴Two state inspection/maintenance programs were excluded from the analysis. One program was excluded because of the program's severe operational problems and the other program was excluded because it had not been in operation for a full year.

- The Clean Air Act Amendments of 1990 require states with enhanced inspection/maintenance programs to assess and report their effectiveness to EPA every 2 years.

GAO's Observations

- EPA's reporting requirements for basic and enhanced inspection/maintenance programs, if properly enforced, should help to address our recommendation.
- Details on how EPA will provide oversight of states with basic inspection/maintenance programs have yet to be determined.
- To help ensure that programs are operating effectively, it is important that EPA establish requirements, such as the time frames for conducting effectiveness measurements, for states with basic inspection/maintenance programs. EPA officials said they are in the process of preparing guidance for states with basic inspection/maintenance programs.

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