ENVIRONMENTAL PROTECTION AGENCY

Amendments to Vehicle Inspection Maintenance Program Requirements Incorporating the Onboard Diagnostic Check

AGENCY: Environmental Protection Agency.

ACTION: Notice of proposed rulemaking.

SUMMARY: This document proposes both substantive and minor revisions to the Motor Vehicle Inspection/Maintenance (I/M) requirements to provide additional flexibility to state I/M programs by allowing such programs to replace traditional I/M tests on model year 1996 and newer vehicles so equipped with a check of the onboard diagnostic (OBD) system. Additionally, the proposed amendments would: extend the deadline for beginning OBD inspections from January 1, 2001 to January 1, 2002; revise and simplify the failure criteria for the OBD check; address State Implementation Plan (SIP) credit modeling for the OBD check; allow for limited exemptions from some OBD check failure and/or rejection criteria for certain model year vehicles; and correct a typographical error in the current basic I/M performance standard regarding OBD–I/M vehicle coverage. Lastly, this document solicits public comment on how to address the issue of repair waivers for OBD-equipped vehicles and the possibility of extending the deadline for implementing OBD–I/M checks even further.

DATES: Written comments on this proposal must be received no later than October 20, 2000.

ADDITIONAL INFORMATION:

Interested parties may submit written comments (in duplicate if possible) to Public Docket No. A–2000–16. It is requested that a duplicate copy be submitted to David Sosnowski at the address in the FOR FURTHER INFORMATION CONTACT section.

The docket is located at the Air Docket, Room M–1500 (6102), Waterside Mall S.W., Washington, DC 20460. The docket may be inspected between 8:30 a.m. and 12 noon and between 1:30 p.m. until 3:30 p.m. on weekdays. A reasonable fee may be charged for copying docket material.

FOR FURTHER INFORMATION CONTACT: David Sosnowski, Office of Transportation and Air Quality, Transportation and Regional Programs Division, 2000 Traverwood, Ann Arbor, Michigan, 48105. Telephone (734) 214–4823.
and repair industries regarding this important emission control technology, and to reduce the potential for start-up difficulties that have undercut previous I/M efforts in many areas. EPA also hopes to help states maximize the efficiency and cost effectiveness of their I/M programs by allowing them to eliminate functionally redundant testing requirements. That said, it should be pointed out that it is not the goal of this proposal to provide comprehensive guidance on how to successfully implement OBD–I/M testing in an I/M program. Separate guidance addressing the non-regulatory aspects of OBD–I/M implementation will be issued by EPA in conjunction with today’s proposal and made available to the public via EPA’s web site and by request to the person listed in the \textbf{FOR FURTHER INFORMATION CONTACT} section of this document.

Today’s proposed amendments are based upon EPA’s findings gathered during three separate OBD–I/M pilot studies, which focused on the following aspects of OBD–I/M testing: (1) OBD’s effectiveness as compared to existing exhaust emission testing; (2) OBD’s effectiveness as compared to existing evaporative system testing; and (3) the unique implementation issues associated with incorporating checks of the OBD system into a traditional I/M setting. Elements of today’s proposal are also based upon EPA’s discussions with states regarding their preparedness for OBD–I/M testing as well as on recommendations made by the OBD Workgroup of the Mobile Source Technical Review Subcommittee established under the Federal Advisory Committee Act (FACA). The results of those pilot studies and the FACA workgroup recommendations can be found in the Technical Support Document (TSD) below. The complete results of the pilot studies— including EPA’s analysis of its findings—can be found in the Technical Support Document (TSD) for this proposal, copies of which are available in the docket or by contacting the person listed in the \textbf{FOR FURTHER INFORMATION CONTACT} section of this document.

\textbf{III. Authority}

Authority for the rule changes proposed in this document is granted to EPA by sections 182, 202, 207, and 301 of the Clean Air Act as amended (42 U.S.C. 7401, et seq.).

\textbf{IV. Background of the Proposed Amendments}

The Clean Air Act as amended in 1990 (CAA or Act) requires EPA to set guidelines for states to follow in designing and running both basic and enhanced I/M programs. The Act also established certain minimum design specifications for these programs, including, among other things, a requirement that both basic and enhanced I/M programs conduct periodic inspections of the onboard diagnostic (OBD) system of vehicles so equipped. When EPA published the original I/M rule in 1992, emission-based federal certification standards for OBD were still being developed. To address the Act’s OBD–I/M requirement, EPA reserved sections in the 1992 I/M rule to be amended at some future date.

Although the federal requirement for OBD as an element of vehicle design began with model year (MY) 1994, manufacturers were allowed to request waivers on vehicles for MY 1994–95, so that the current generation of OBD (also known as OBDII) was not required on all light-duty cars and trucks sold in this country until MY 1996. On August 6, 1996, EPA published amendments to the I/M rule establishing OBD–I/M performance standard and SIP requirements. The 1996 amendments also specified data collection, analysis, and summary reporting requirements for the OBD–I/M testing element; established OBD test equipment requirements and the OBD test result reporting format; and identified those conditions that would result in either an OBD–I/M failure or rejection. Lastly, the August 6, 1996 amendments revised 40 CFR part 85, subpart W to establish OBD–I/M as an official performance warranty short test under section 207(b) of the Act.

At the time the original OBD–I/M requirements were established, it was not practical to evaluate the real-world, in-use performance of OBD because the vehicles in question were still too new and the number of those vehicles in need of repair were too few to make pilot testing worthwhile. Therefore, in 1998, EPA further amended its OBD–I/M requirements to delay the date by which I/M programs must begin OBD testing to no later than January 1, 2001. One of the primary reasons for delaying the deadline for beginning OBD–I/M testing was to give EPA time to evaluate the OBD check as an I/M program element and to give states time to prepare for implementation. In conducting its evaluation of OBD, however, EPA found that identifying and recruiting OBD-equipped vehicles in need of repair proved more difficult and time-consuming than originally anticipated. As a result, EPA has only recently completed its preliminary assessment of OBD effectiveness and implementation issues. During the course of these evaluations, however, it became clear that certain regulatory changes were needed to ensure the smooth implementation of OBD–I/M testing by the states. EPA is therefore proposing to further extend the deadline for OBD–I/M start-up from January 1, 2001 to January 1, 2002, to give states the time necessary to address the issues raised by today’s proposed amendments. This element of today’s proposal is discussed in more detail below, under section A, “Amendments to Extend the Implementation Deadline.”

EPA’s assessment of OBD is based upon data gathered during three separate OBD–I/M pilot studies. The focus, general design, and results of those studies are discussed below. The complete results of the pilot studies—including EPA’s analysis of its findings—can be found in the Technical Support Document (TSD) for this proposal, copies of which are available in the docket or by contacting the person listed in the \textbf{FOR FURTHER INFORMATION CONTACT} section of this document.

The first pilot study focused on assessing the effectiveness of the OBD check as an I/M test relative to the IM240, which is generally recognized as the most rigorous and accurate tailpipe inspection currently available for use by I/M programs. That said, the “gold standard” for all I/M tests remains the Federal certification test for new vehicles established under section 206(a)(1) of the Act (also known as the Federal Test Procedure or FTP). Section 207(b) of the Act requires that all I/M tests demonstrate a reasonable correlation to the FTP. Therefore, in conducting its pilot testing, EPA compared both the OBD/I/M and IM240 test results to the FTP results on a per-vehicle basis. Between October 1997 and September 1999, 201 vehicles failing either the IM240, the OBD–I/M check, or both were recruited for this study; each received properly preconditioned, lab-grade IM240, OBD–I/M, and FTP tests, both before and after repairs. What EPA found was that not only did the OBD–I/M check catch most of the same high emitters identified by the IM240 (while avoiding the vehicles that were not high emitters), it also identified vehicles in need of maintenance and/or repair prior to their...
becoming high emitters, thus acting not only as a pollution reduction strategy, but also as a pollution prevention measure. The results of this pilot are discussed in more detail below, under section B, “Amendments to Reduce Testing Burden.”

The second pilot study focused on assessing the effectiveness of OBD-I/M testing at identifying evaporative system failures, such as leaks and purge system malfunction, and determining the emission-reduction potential of correcting those failures, once identified. Like the OBD tailpipe pilot discussed above, the OBD-I/M evaporative system monitoring results were compared to the FTP results for the same vehicles. Testing for this pilot ran from March 1999 to May 2000, and included a total of 30 vehicles. Unlike the OBD tailpipe study discussed above, the OBD evaporative pilot involved the use of induced evaporative system failures, as opposed to the recruitment of actual, in-use failures. Induced failures were used due to the difficulty EPA had in finding MY 1996+ OBD-equipped vehicles with naturally occurring evaporative system problems, which, in turn, was due to the relative newness of the vehicles in question, and the observation that the vast majority of naturally occurring problems were attributable to loose gas caps. Use of induced evaporative system failures thus allowed EPA to more thoroughly investigate the effectiveness of OBD systems in detecting a variety of potential in-use failures. Unlike tailpipe problems which are largely a function of mileage accumulation and general wear-and-tear, evaporative system problems tend to be a function of vehicle age, as the rubber components of the system lose elasticity and become brittle and more leak-prone. What EPA found was that in the vast majority of cases, the induced failure was accurately identified by the OBD system, that substantial emission reductions were achieved as a result of repairing the failures, and that the OBD computer responded to repairs by correctly verifying that repair conditions had been removed (i.e., when the vehicle was operated to reset the evaporative system readiness flags, no DTCs or illuminated MILs were observed).

In addition to these findings, an earlier EPA-sponsored FTP testing program showed high evaporative emissions from leaking gas caps. Furthermore, in comparing the test results for gas cap tests versus OBD-based evaporative system tests from the Wisconsin I/M program’s data, EPA found that the gas cap test failed considerably more vehicles than were identified by the OBD evaporative system monitors alone. This result is not too surprising, given the more stringent test criteria for the gas cap test. Based on these findings, EPA believes that continuing to conduct the gas cap check on OBD-equipped vehicles (and replacing those gas caps that fail the check) is a good supplement to OBD-I/M testing. EPA therefore recommends that the gas cap check be conducted in concert with OBD testing. However, the gas cap check is the only test that EPA recommends be conducted in conjunction with OBD-I/M testing, and for which additional credit will be available in MOBILE6. The results of the OBD evaporative pilot are discussed in more detail below, under section B, “Amendments to Reduce Testing Burden.”

The last of the three OBD-I/M pilot studies was aimed at identifying the real-world implementation issues associated with OBD-I/M testing and was conducted using data gathered from the Wisconsin enhanced I/M test lanes, where OBD checks were being implemented voluntarily by the state. One portion of the study was conducted under contract to EPA by Sierra Research. This portion of the study looked at data related to program implementation from May 1998 and July 1998 and included paired IM240 and OBD testing on over 2,500 MY 1996+ OBD-equipped vehicles. Separate from the Sierra Research analysis, EPA looked at data from Wisconsin’s I/M program 2 for the last eight months of 1999, which included IM240, gas cap, and OBD-I/M test results on approximately 94,000 MY 1996+ vehicles. In reviewing these two sets of real-world I/M data, EPA identified two OBD-related implementation issues: (1) unset OBD readiness flags, and (2) atypical OBD data link connector (DLC) locations.

Regarding the first—unset readiness flags—EPA found that when it excluded vehicles for which corrective measures are being taken by the manufacturers, roughly 3% of MY 1996 vehicles have unset readiness flags for the catalyst and/or evaporative system monitors, and that this number dropped to below 1% for MY 1998 vehicles. This issue is discussed in more detail below, under section E, “OBD-I/M Rejection Criteria Amendments.”

Regarding the second problem area—the OBD-I/M testing was intended to be advisory and was to be conducted

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Footnote:

2 Wisconsin is one of a handful of I/M states that have voluntarily opted to begin OBD-I/M testing early. Currently, Wisconsin is not failing vehicles on the basis of their OBD-I/M test results. During the current phase-in period, OBD-I/M test results are purely advisory.
mainly as a means of gathering data on the effectiveness of OBD checks relative to other, more traditional I/M tests. At the time the original OBD–I/M requirements were promulgated in 1996, OBD-equipped vehicles were still brand new and EPA had no basis for affording SIP credit for what was essentially an untested test type. EPA’s original intention was to analyze data gathered by the states during the first, advisory phase of OBD–I/M testing, and to use this analysis as the basis for establishing SIP credit during the second, and mandatory phase of OBD–I/M.

Subsequent to the original 1996 requirements, EPA concluded that it was not appropriate to require states to perform what amounted to mandatory pilot testing on behalf of the Agency. Therefore, on May 4, 1998, EPA revised its original OBD–I/M requirements to delay the date by which I/M programs were to begin OBD–I/M testing to no later than January 1, 2001. The goal of this delay was to give EPA time to evaluate the OBD check as an I/M program element based on its own pilot testing, to develop an appropriate level of SIP credit for OBD–I/M testing, to determine whether dual testing was necessary or desirable, and to give states time to better prepare for the eventual implementation of OBD–I/M testing.

2. What Regulatory Change Does EPA Propose?

In conducting its evaluation of OBD–I/M testing, EPA found that identifying and recruiting OBD-equipped vehicles in need of repair proved more difficult and time-consuming than originally anticipated. As a result, EPA has only recently completed its preliminary assessment of OBD effectiveness. Nevertheless, based upon this assessment, it is clear that rule changes are needed to ensure the smooth implementation of OBD–I/M testing by the states. EPA is therefore proposing to further extend the deadline for OBD–I/M start-up from January 1, 2001 to January 1, 2002, to give states the necessary time to address the issues raised by today’s proposed amendments. EPA believes that such a delay is appropriate, given the changes needed, and the lateness of these proposed changes relative to the current 2001 deadline.

EPA would also like to solicit comment on whether a slightly longer delay is necessary, given the states’ possible need to revise rules, software, test procedures, SIPs, et cetera to address today’s proposed amendments. EPA also also considers the role that public outreach and technician training will play in their preparation for OBD–I/M testing in conjunction with their response to this request for comments.

B. Amendments To Reduce Testing Burden

1. Does OBD Technology Work?

The OBD–I/M test effectiveness pilot studies for tailpipe and evaporative emission testing had two primary goals: (1) To determine whether or not OBD technology was actually meeting its design expectations in the real world, in terms of identifying high emitting vehicles and vehicles in need of repair and/or maintenance and (2) to determine whether OBD–I/M checks can replace traditional I/M tests like the IM240 and the purge and pressure tests without a significant loss in emission reductions. With regard to the first goal, EPA found that OBD identified nearly all of the vehicles later confirmed as high emitters on the FTP. Furthermore, EPA found that OBD frequently identified vehicles in need of repair and/or maintenance prior to their actually becoming high emitters, thus preventing high emissions as opposed to simply reducing them after the fact. Therefore, EPA concluded that OBD technology is successfully meeting its design expectations in the real world.

With regard to the second goal, the OBD tailpipe and OBD evaporative system effectiveness pilots reached slightly different conclusions regarding whether or not OBD–I/M checks can completely replace existing I/M tests. Therefore, we will look at the two pilots separately, starting with the OBD tailpipe effectiveness study.

2. Can OBD Replace Tailpipe Testing?

During the OBD tailpipe effectiveness pilot, EPA found that while the pass/fail test results for the IM240 and OBD–I/M check frequently agreed, a significant portion of the vehicles tested failed the IM240 while passing the OBD–I/M check and vice versa. In cases where the OBD–I/M and IM240 test results disagreed, EPA had to determine which test was correct. In investigating these results, EPA focused on the vehicles which passed the OBD–I/M check while failing the IM240 in the lane. What EPA found when it retested these vehicles on the IM240 under quality-controlled, lab-grade conditions was that in most cases the lane IM240 failures were, in fact, false failures. This suggests that in the I/M lane environment, the OBD–I/M check at least has the advantage of not falsely failing the same vehicles as the IM240—a consumer protection benefit, if not necessarily an environmental one.

In other cases, the OBD–I/M check resulted in failing vehicles that both passed the IM240 and FTP. Though for a traditional tailpipe test these would constitute false failures, OBD is not a traditional tailpipe test. Traditional tailpipe tests sample exhaust emissions as they leave the tailpipe, whereas OBD monitors the status of individual emission control components. Unlike a traditional tailpipe test, OBD–I/M can identify vehicle emission control problems before the emissions themselves are out of control. OBD does this by identifying not only emission control components that are broken, but also those that are in need of maintenance prior to failure. Where traditional I/M tests can only measure the problem once the emission control system has failed, OBD (if heedful) can actually prevent the failure from happening in the first place (and thereby prevent a relatively inexpensive problem from leading to a significantly more costly repair bill).

Although EPA did find some vehicles during its pilot testing for which the malfunction that triggered the original DTC could not be reproduced, we do not believe Malfunction-Not-Reproduced (MNR) vehicles will constitute a significant problem in operating I/M programs. EPA believes that most of the MNR vehicles identified during the course of the pilot testing were the result of the recruitment procedures used in the pilot, and not an inherent problem with OBD–I/M itself. Under the pilot, vehicles were recruited as soon as the MIL was illuminated—not an optimum strategy for OBD, which is designed to detect intermittent problems like misfire, but one which was necessitated by the scarcity of vehicles with any MIL illumination at all. Under EPA’s OBD requirements, a MIL lit for a random misfire (or other intermittent system problem) may be extinguished after three subsequent driving cycles of similar operation in which the system fault does not recur; after forty warm-up cycles without further fault detection, the DTC that caused the original MIL illumination may be erased. Under the pilot study, 1

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1It should be noted that false failures are an inherent element in any “short test” approximation of the FTP. In the case of the IM240, false failures in the lane can be greatly reduced through the use of proper preconditioning, second-chance testing, and other quality control measures.

4False failures can have a negative environmental impact to the extent that they erode public confidence in and support of the program. EPA is also aware of anecdotal evidence that suggests the possibility that attempts to “repair” vehicles that are not broken can actually increase emissions on a vehicle that should have passed in the first place.
However, such vehicles were recruited before the OBD system had a chance to clear itself, and therefore fell into the MNR category. In its discussions with the repair industry concerning OBD-identified intermittent problems such as misfire and fuel trim problems, EPA has found that vehicles it identified as MNR during its pilot testing are frequently receiving relevant, preventative maintenance in the real world to ensure that the original malfunction does not reoccur and that the MIL, once cleared, stays off. This issue is discussed in more detail in the draft Technical Support Document (TSD) included in the docket for this proposal.

Based upon the above criteria, EPA concluded that OBD–I/M checks are superior to the IM240 because they: (1) Identify the same true failures as IM240; (2) do not identify the same false failures as IM240; and (3) identify vehicles in need of repair and/or maintenance prior to actual failure of the emission control system, thus preventing excess emissions in the first place. In turn, EPA concluded that there is little environmental value added in requiring states to perform both the IM240 and the OBD–I/M check on MY 1996+ vehicles. Furthermore, since the IM240 is considered the most accurate traditional tailpipe test available for I/M testing, these conclusions should also apply to other tailpipe tests, such as the idle test and the Acceleration Simulation Mode (ASM) test.

3. Can OBD Replace Evaporative System Testing?

With regard to the OBD evaporative testing pilot, EPA focused on determining whether OBD–I/M checks accurately identified induced evaporative system failures and responded correctly when these failures were repaired. Another goal of the pilot was to quantify the emission reductions that resulted from correcting these evaporative system failures. The effectiveness of the OBD–I/M check was evaluated relative to the evaporative portion of the FTP. The induced failures included missing gas caps, disconnected purge lines, 0.040 inch leaks in the gas cap, vent line, and purge line, and 0.020 inch leaks in the gas cap. What EPA found was that the majority of OBD-equipped vehicles responded to the induced failures by lighting a MIL, which then remained extinguished after repair. A relatively small percentage of vehicles (12% or 3 out of 25) did not illuminate the MIL after the failure was induced and only one vehicle in the study continued to register high evaporative emissions during SHED testing after repairs that turned off the MIL. EPA considers these results impressive, compared to the existing purge and fill-neck pressure tests, which both suffer from a relatively high uncontestability rate due to accessibility and material composition problems for various makes and models (roughly 30% for pre-OBD-equipped vehicles and over 85% for OBD-equipped vehicles). When it comes to the OBD–I/M check, however, OBD-equipped vehicles are 100% testable, by design (provided the Data Link Connector has not been tampered—a condition which itself constitutes grounds for failure). EPA therefore proposes to allow states currently doing the purge and fill-neck pressure tests to drop those tests on MY 1996 and newer OBD-equipped vehicles in favor of OBD–I/M checks on those same vehicles. EPA also recommends that programs add or continue existing gas cap tests in conjunction with OBD–I/M evaporative system testing, based upon the finding that a separate gas cap check can find leaking gas caps not designed to be found by OBD, and the known potential for such leaks to produce high evaporative emissions, as noted earlier.

4. Why is a Rule Change Needed To Permit Traditional I/M Tests To Be Replaced With OBD?

As currently written, the I/M rule requires states to add OBD testing to their I/M programs beginning no later than January 1, 2001. Although the rule does not explicitly state that I/M programs must conduct both their pre-existing I/M test(s) and the OBD check on OBD-equipped vehicles, the current rule’s data analysis and reporting requirements include, among other things, the reporting of the number and percentage of vehicles by model year passing the OBD test while failing the I/M emission test(s), and vice versa. The existence of these requirements implies that both tests must be done under the I/M rule as currently written. Furthermore, the fact that EPA has not provided SIP credit modeling guidance with regard to OBD–I/M testing creates a disincentive to states that might otherwise prefer to drop the traditional I/M test(s) in favor of OBD–I/M testing on MY 1996+ OBD-equipped vehicles. Today EPA is proposing to correct this presumption by making an affirmative determination that states are not required to conduct both the traditional I/M tests and the OBD check on MY 1996+ OBD-equipped vehicles. Given the fact that the Clean Air Act provides the states and EPA little discretion regarding the inclusion of OBD testing in I/M programs, the only flexibility EPA can offer states to prevent functionally redundant testing is to allow them to drop the traditional I/M tests on MY 1996+ OBD-equipped vehicles in favor of an OBD–I/M check. EPA does not have the authority to allow states to take the opposite course (i.e., we cannot approve I/M programs that ignore the Act’s OBD testing requirement in favor of the traditional I/M tests on MY 1996+ OBD-equipped vehicles). Nevertheless—and provided it does not interfere with a state’s ability to meet the relevant performance standard—states may still exempt the newest vehicles from all testing for a set period of time. For example, a state may be able to delay implementation of the OBD–I/M check past January 1, 2002—if it can still meet the relevant performance standard after exempting MY 1996+ vehicles from all testing. The ability to exempt that many model years will vary on a state-by-state basis and is driven by the relative distribution of old versus new vehicles in the local fleet, as well as by which performance standard applies.

EPA believes that allowing states to exempt vehicles from the program and to otherwise deviate from specific elements of the relevant performance standard (provided the program achieves the same or better emission reductions as achieved by the performance standard) is consistent with the Clean Air Act, which draws a distinction between what is required of EPA in establishing the enhanced I/M performance standard, and what is minimally required of actual state programs. For example, the CAA requires that EPA’s enhanced I/M performance standard include light-duty vehicles and light-duty trucks, but does not impose a similar, explicit requirement on actual, operating state programs. The CAA also requires that the enhanced I/M performance standard include antitampering inspections but does not require the same of actual, operating state programs. Conversely, the CAA requires OBD–I/M testing in all I/M programs—whether basic or enhanced—but does not explicitly require EPA to include OBD–I/M testing in its performance standard.

It may be argued that since “[c]omputerized emission analyzers” and OBD inspections are listed as two separate elements required in enhanced I/M programs, that neither EPA nor the states have the discretion to exempt subject vehicles from one or the other.

5 The acronym SHED stands for Sealed Housing for Evaporative Determination. SHED testing is part of the evaporative portion of the FTP.
test. EPA disagrees with this argument. Maintaining that states cannot drop tailpipe emission testing from OBD-equipped vehicles based upon this separate-element argument leads to the illogical corollary that states also cannot exempt non-OBD-equipped vehicles from the OBD inspection. Rather, EPA believes that as long as a state includes emission testing on some segment of its subject vehicles, OBD–I/M testing on the OBD-equipped portion of the fleet, and meets or exceeds the emission reductions achieved by the relevant performance standard, then it shall be considered in compliance with the CAA requirements regarding minimum test type coverage. EPA believes the Act requires at a minimum that computerized emission analyzers be used where emission tests are conducted, and that OBD equipment be tested where cars are so equipped.

5. What Regulatory Change is EPA Proposing?

EPA proposes to insert clarifying text making the affirmative determination that states may drop traditional I/M tests on MY 1996+ OBD-equipped vehicles in favor of OBD–I/M checks in those sections of the I/M rule currently addressing OBD–I/M testing requirements, such as the performance standards, test procedure requirements, and data reporting requirements.

C. SIP Credit Modeling Amendments

1. Will States Lose Credit for Dropping the Traditional I/M Tests on MY 1996+ OBD-Equipped Vehicles?

The Clean Air Act distinguishes between the minimum program elements that were to be used by EPA in developing its I/M performance standards, and those program elements which had to be adopted by the state programs themselves to qualify as approvable I/M programs. For example, in developing its enhanced I/M performance standard, EPA was required to include both an antitampering inspection and an emission test on all MY 1968+ vehicles, including light-duty cars and light-duty trucks, using a centralized network and annual testing. States, on the other hand, have the option of designing biennial and/or decentralized I/M programs, are not required to include antitampering inspections, and can exempt as many vehicles as they want—provided they can still meet or exceed the applicable performance standard in terms of emission reductions. States also have flexibility with regard to the type of test performed and which model years are covered. In fact, to improve the cost effectiveness of their programs, states routinely exempt the newest vehicles in their fleets for two or more years, due to the very low statistical likelihood that such vehicles will fail.

As suggested above, states already have the flexibility to exempt MY 1996 and newer vehicles from traditional I/M tests, provided they can make a demonstration that they still meet the applicable performance standard, despite these exemptions. In practice, however, there has been little incentive for states to exempt these vehicles because doing so would result in a loss of the emission reductions they could model as part of their I/M SIPs, thus jeopardizing their ability to demonstrate that they meet the applicable performance standard. This shortfall would only grow for later evaluation years as a larger proportion of the fleet fell into the category of MY 1996 and newer vehicles. Performing the required OBD–I/M check on these vehicles would do nothing to offset the SIP credit shortfall because the MOBILE5 emission factor model used for projecting SIP credits does not currently include credits for OBD–I/M testing, and EPA has not provided guidance on how to address OBD–I/M testing in SIPs prior to release of MOBILE6. Therefore, even though EPA’s pilot studies suggest that OBD–I/M testing does produce real-world emission reductions, without EPA’s proposed action today, states could be compelled to continue functionally redundant testing, just so they can claim the credits needed to satisfy a paperwork modeling requirement.

The reason that the MOBILE5 model does not include OBM–I/M credits is because when the model was developed in the early 1990s, neither OBD certification nor OBM–I/M testing requirements had been established. As a result, there was no real-world data upon which to determine how much credit OBM–I/M testing should get, and whether this credit should replace or be added to the credit already assessed for traditional I/M tests. Although the next iteration of the MOBILE model—MOBILE6—will include separate and explicit OBM–I/M credit, that version is still in development and is not currently available for states to use in preparing their SIPs. In the interim between MOBILE5 and MOBILE6, EPA proposes that states account for the replacement of traditional I/M tests with OBM–I/M testing by assuming that OBM–I/M testing does not get less credit than the test(s) that it is replacing.

This assessment of “same credit level” is based upon the pilot testing discussed earlier and addressed in detail in the TSD. In short, EPA has concluded that the OBM–I/M check is at least as effective as all other available I/M tests, with the exception of the gas cap pressure test—which is the only test EPA recommends states continue in conjunction with OBM–I/M testing for OBD-equipped vehicles. MOBILE6, when it is released, will reflect this guidance (i.e., a modeling run that includes both traditional I/M testing and OBM–I/M testing on OBD-equipped vehicles will generate no more credit than if only OBM–I/M were assumed for those vehicles—with the exception of the gas-cap pressure test, for which additional credit will be available). Therefore, under the rule EPA is proposing today, states that opt to drop their traditional I/M tests for OBD-equipped vehicles in favor of OBM–I/M checks will not have to remodel their I/M credits prior to mandatory use of MOBILE6 for the next iteration of the states’ other SIP modeling requirements that include I/M.

2. What Regulatory Change is EPA Proposing?

EPA proposes to revise the OBD sections of the I/M performance standards to indicate that for modeling purposes, the OBM–I/M testing segment of the performance standard overlaps but does not add to the credit already assessed for testing MY 1996+ vehicles. Furthermore, prior to release of MOBILE6, the credit from OBM–I/M testing will replace (as opposed to being added to) the credit already assessed for the testing of MY 1996+ vehicles in the states’ I/M SIPs. Therefore traditional I/M tests can be dropped on MY 1996+ vehicles in favor of OBM–I/M testing on those same vehicles without affecting an area’s ability to meet the applicable performance standard.

3. Is EPA Proposing To Give Different Areas Different Levels of Credit for Doing the Same Test?

Prior to release of MOBILE6, EPA is not proposing to proactively “give” states SIP credit for OBM–I/M testing; rather, we are proposing to “not deduct” credit from those areas that drop their existing, non-gas-cap-based I/M inspections on OBD-equipped vehicles in favor of OBM–I/M testing on that same subset of subject vehicles. EPA understands how this may seem like a distinction without a difference, the practical impact of which is that areas performing an idle test as their tailpipe test will only get idle-level credit for OBM–I/M, while those areas doing IM240 will get IM240-level credit for OBM–I/M. The fact is that both areas will get the exact same level of credit for
OBM-I/M—once MOBILE6 is released. Prior to that release, the only credit-assessment tool EPA has to offer states is MOBILE5—a model which simply was not designed to account for OBM-I/M. MOBILE5 and MOBILE6 are sufficiently different from one another that any surrogate method EPA would propose to “trick” MOBILE5 into modeling OBM-I/M credits is bound to produce erroneous results—results which, more likely than not, would produce temporary, “paper” credits that would disappear once areas were called upon to remodel their I/M programs using MOBILE6. EPA believes that maintaining the status quo with regard to I/M SIP credits while allowing states to drop their non-gas-cap-based, traditional I/M tests on OBD-equipped vehicles in favor of OBM-I/M for those same vehicles is the most responsible and conservative approach we can take during this interim period between models, given the known differences between the two models. Nevertheless, EPA welcomes comment on alternative approaches for assessing OBM-I/M credit during this interim period between mobile source emission factor models. Currently, MOBILE6 is scheduled for release by the end of calendar year 2000, and OBM-I/M will be included as a separate, modelable and fully-credited program element as part of that model.

D. OBD-I/M Failure Criteria

Amendments

1. What Are the Current Failure Criteria?

On August 6, 1996, EPA identified the list of Diagnostic Trouble Codes (DTCs) that constitute the OBD-I/M failure criteria at 40 CFR 85.2207(d). These criteria were then echoed in 40 CFR 85.2223(b) which identifies the required DTCs that are to be listed as part of the OBD-I/M test report. Currently, the OBD-I/M test report. Currently, the DTC-based failure criteria for OBD-I/M is limited to a subset of power train (or P-code) DTCs. If a vehicle is identified through an I/M program as having a Malfunction Indicator Light (MIL) commanded on for one or more of these P-codes, then Federal regulations require that the vehicle fail the inspection.

As part of the OBD-I/M implementation pilot study, EPA discovered that using only a subset of DTCs (as opposed to all DTCs that lead to the MIL being commanded on) undermines the potential of OBD to reduce and prevent excess emissions. The problem is that once the MIL is lit for a relatively minor problem the system is effectively eclipsed, should a more significant problem develop between I/M inspections. However, one of the significant advantages of OBD systems relative to traditional I/M is its ability to inform motorists of a problem in between inspections. Ideally, once the MIL has been commanded on, the motorist is aware that there is a problem with the vehicle that needs correction and will respond by getting the vehicle repaired well before such repairs are required by the I/M program. Repairing the vehicle in a timely manner can also help prevent minor problems from becoming major ones, thus saving the owner money in the long run. Under such a scenario, the I/M program is the backstop of last resort that enforces compliance with the OBD system. If the I/M program allows vehicles to complete the testing process without extinguishing the MIL, the OBD system will be effectively invalidated until the next inspection, and the public’s responsiveness to OBD MILs will be eroded.

2. What Regulatory Change Does EPA Propose?

Given the above considerations, EPA is today proposing to simplify the DTC-based OBD-I/M failure criteria to include any DTC that results in the MIL being commanded on. Additionally, in the event that the OBD scan reveals DTCs that have been set but for which the MIL has not been commanded on, EPA recommends that the motorist be advised that a problem may be pending but we do not propose to require that the vehicle be failed at this time (unless other, non-DTC-based failure criteria have been met, such as a failed bulb check).

Given the above discussion concerning the MIL eclipsing effect and out-of-cycle OBD response, it is important to also note what EPA is not proposing with this document.

Although voluntary compliance with OBD on the part of individual motorists prior to mandatory I/M testing represents the ideal, given OBD’s potential, EPA realizes that the backstop of mandatory I/M is still needed to ensure compliance of these vehicles. Therefore, EPA is not proposing that OBD-equipped vehicles be exempt from participating in the periodic inspection process. The mandatory, periodic nature of I/M and the I/M infrastructure remain unchanged by today’s proposal.

Whether or not they are OBD-equipped, subject vehicles must still be presented for periodic inspection and must demonstrate compliance with all applicable I/M program requirements at an I/M test facility prior to registration in registration-based programs. OBD-equipped vehicles will just be subject to a different kind of periodic inspection once they show up at the lane (i.e., the OBD scan) while non-OBD-equipped vehicles will continue to receive the more traditional tailpipe and/or evaporative system tests.

3. Will Increasing the Number of Possible OBD-I/M Failure Criteria Increase the Burden on Motorists?

While simplifying the failure criteria to all DTCs leading to MIL illumination will greatly simplify the state’s administration of the OBD-I/M inspection, a logical byproduct of that simplification is that more motorists will be failed for OBD-I/M checks under the revised criteria than under the current regulations. Looking at six months’ worth of OBD-I/M data from the Wisconsin I/M program, EPA found that less than 0.5% of the OBD-equipped vehicles tested had MILs lit for DTCs failing outside the current failure criteria. Furthermore, EPA believes that the net impact of today’s proposal will be a significant lessening of the test burden on motorists, since they will be subjected to fewer tests overall under the proposal than would be the case otherwise (i.e., a single, sixty second OBD-I/M test versus tailpipe, evaporative system, and OBD-I/M tests, which can take five minutes or longer to perform). Allowing states to drop traditional I/M tests in favor of OBD-I/M—EPA believes—will reduce the overall failure rate for OBD-equipped vehicles, relative to current requirements.

4. How Should Waivers Be Addressed Under OBD-I/M Testing Criteria?

Currently, both the Clean Air Act and the I/M rule provide a minimum expenditure value for state programs which allow the waiver of vehicles failing the I/M inspection from further repair obligation for one test cycle once a certain, minimum amount has been spent on relevant repairs. For basic I/M programs, these minimum expenditures are $75 for pre-1981 model year vehicles, and $200 for MY 1981 and newer vehicles; for enhanced I/M programs, the Act specifies a minimum expenditure for all vehicles of $450 adjusted to reflect the difference in the Consumer Price Index (CPI) between the previous year and 1989. Neither the rule nor the Act addresses the OBD-I/M check when it comes to qualifying for waivers. However, EPA is formally recommending that states not allow waivers for MY 1996 and newer OBD-equipped vehicles prior to extinguishing the MIL and correcting the cause of any DTCs for which the MIL was
illuminated. EPA also recommends that states consider providing repair subsidies or some other form of financial assistance to address hardship cases that would otherwise be addressed through the waiver process.

EPA makes this recommendation because of the fundamental difference between how OBD-equipped vehicles and non-OBD-equipped vehicles are diagnosed and repaired. EPA believes that the minimum expenditure waiver makes sense for traditional tailpipe and/or evaporative emission test-based repairs because such tests provide little concrete information concerning the specific cause of failure. Therefore, the waiver helps protect consumers from trial-and-error repairs that amount to little more than throwing parts at an insufficiently isolated problem. OBD, on the other hand, is specifically designed to help limit the opportunity for trial-and-error repairs by linking DTCs to specific components and subsystems. OBD does not just tell the repair technician that there is a problem, but also what kind of problem and approximately where in the overall system it is occurring. Furthermore, if an OBD-equipped vehicle is waived from further repair without extinguishing the MIL, the practical effect would be to render the OBD system invalid until the next test cycle due to the MIL eclipsing effect discussed earlier. EPA believes that allowing waivers under these circumstances sends the wrong message concerning the importance of responding to the MIL and defeats the whole purpose for which OBD was designed. We therefore recommend that states bar MY 1996 and newer OBD-equipped vehicles from participating in their waiver programs if such vehicles have a MIL commanded on at the time they apply for a waiver. EPA welcomes public comments and suggestions on alternative methods for addressing the OBD-I/M waiver issues discussed here.

E. OBD-I/M Rejection Criteria Amendments

1. What Are the Current Rejection Criteria?

Current Federal regulations for OBD-I/M testing require that I/M programs reject from further testing any MY 1996+ OBD-equipped vehicles that are found to have unset readiness flags. It is important to note that “rejection” is distinct from “failure.” In the context of OBD-I/M, rejection is triggered by a vehicle’s readiness status while failure is related to the presence of DTCs that command the MIL to be lit. If DTCs are present and the MIL is commanded on, the vehicle is failed, the initial test process is considered complete and an official test report is generated. If, on the other hand, unset readiness flags are present, the vehicle is rejected and the test process is aborted.

The reason vehicles with unset readiness flags are rejected but not failed is because an unset readiness flag is not necessarily an indication of an emission problem. Rather, it is an indication that certain monitor(s) that are intended to determine whether or not there may be an emission problem have not been run to evaluate the system. In the case of rejection, the issue of whether or not the vehicle requires repairs is deferred until the readiness flag(s) have been set and the monitor(s) run.

The current I/M requirements are inadequate with regard to OBD readiness because there are many reasons why a readiness flag may not be set when an OBD-equipped vehicle arrives at the I/M test site—some of them wholly internal and beyond the control of the motorist. For one thing, not all OBD system monitors are run continuously. Some monitors are run every time a vehicle is driven, while others may only run after a certain combination of operating conditions has been met. Within Federal guidelines, manufacturers still have a fair degree of discretion in establishing the monitor-triggering protocols used and these tend to vary from manufacturer to manufacturer, as well as from model to model. As a result, it is possible that a vehicle may be tested under the conditions necessary to trigger one or more monitors before showing up for an OBD-I/M check. It is also possible that the monitors did run, but were then reset when the battery was disconnected during routine maintenance on the vehicle, or in an attempt to fraudulently extinguish the MIL and clear DTCs prior to OBD-I/M testing. Although disconnecting the battery will temporarily clear any DTCs that are present, these will eventually be triggered again, as the monitors in question are rerun. In fact, readiness codes were developed specifically to prevent vehicle owners from evading the test by disconnecting their batteries just prior to testing. In most cases the readiness flag can be set by running the vehicle under load for some period of time prior to resubmitting it for testing.

As part of its analysis of Wisconsin’s OBD-I/M data, EPA found that a small percentage of the earliest OBD-equipped vehicles showed up at the I/M test lanes with unset readiness flags that could not be readily resolved by additional, normal vehicle operation. The percentage of vehicles experiencing this particular problem is small, and shrinking for newer model years. Excluding vehicles for which corrective measures are being taken by the manufacturers in the form of service campaigns and OBD computer reprogramming, EPA found that roughly 3% of MY 1996 vehicles had this readiness problem at the time of their initial OBD-I/M check and that this number dropped to below 1% for MY 1998 vehicles receiving their first OBD-I/M check. The majority of these unset readiness flags were for the catalyst and/or evaporative system, which are known to be difficult to set. Based upon these findings, EPA concluded that requiring rejection of vehicles for any unset readiness flag is unnecessarily restrictive, and that flexibility in this area is therefore warranted.

Furthermore, EPA believes that the practical impact of allowing this flexibility is negligible, especially because an unset readiness flag is not the same thing as an emission problem and because of the likelihood that vehicles with unset readiness flags during one test cycle will be “ready” in time for subsequent test cycles. Lastly, the number of vehicles involved is dwarfed by other perennial I/M issues such as the non-compliance, drop-out and waiver rates, which are known to have a direct impact on the emission reduction effectiveness of a program.

2. What Regulatory Change Does EPA Propose?

Although EPA believes it is important in most cases to verify an OBD-equipped vehicle’s readiness status, we do not believe that the motorist should be penalized for something beyond his/her control. Therefore, EPA is today proposing to allow states to complete the testing process on MY 1996–2000 vehicles with two or fewer unset readiness flags; for MY 2001 and newer vehicles, the testing process could still be complete provided there is no more than one unset readiness flag. This does not mean that these vehicles are exempt from the OBD-I/M check. The complete MIL check and scan must be run in all cases, and the vehicle still must be failed if the MIL is commanded on. The vehicle should continue to be rejected if it is MY 1996–2000 and has three or more unset readiness flags or is MY 2001 or newer and has two or more unset readiness flags. This proposal is based upon EPA’s findings regarding readiness status from Wisconsin’s OBD-I/M data discussed above and also reflects a FACA workgroup recommendation. It is intended to reduce the potential for customer...
inconvenience during this start-up phase of the transition to OBD–I/M testing. We believe that the environmental impact of this exemption will be negligible, given the small number of vehicles involved, the likelihood that at least some of these readiness flags will have been set in time for subsequent OBD–I/M checks, and the fact that an unset readiness flag is not itself an indication of an emission problem. Furthermore, both EPA and the California Air Resources Board (CARB) are currently working with vehicle manufacturers to address this issue and further reduce the number of vehicles affected. Nevertheless, EPA solicits public comment on alternative approaches to addressing the readiness issue discussed here. In particular, EPA would like comment on whether vehicles with unset readiness flags should receive a traditional tailpipe and/or evaporative system test and whether different tests should be required in lieu of OBD–I/M testing depending upon which readiness flag has not been set.

F. Technical Amendment

The current I/M rule includes identical language regarding the inclusion of OBD–I/M testing in both the enhanced and basic I/M performance standards, with each standard assuming that, at a minimum, OBD–I/M testing is being performed on all OBD-equipped light-duty vehicles and light-duty trucks. While the Clean Air Act requires enhanced I/M performance standards to cover both light-duty vehicles and light-duty trucks, it does not require that level of coverage for the basic I/M performance standard. Currently, all other elements of the basic I/M performance standard (such as tailpipe testing coverage) apply only to light-duty vehicles, but not light-duty trucks. The inclusion of OBD–I/M testing on light-duty trucks in the basic I/M performance standard is the result of a typographical error. We are therefore proposing to correct this typographical error by deleting reference to light-duty trucks in § 51.352(c) of the I/M rule, which establishes the basic I/M performance standard coverage requirements for OBD–I/M testing.

V. Discussion of Major Issues

A. Emission Impact of the Proposed Amendments

Today’s proposal clarifies existing flexibility currently available to states with regard to exempting specific model years from specific program requirements. It also provides an incentive for states to optimize the efficiency and cost effectiveness of their existing programs through the elimination of functionally redundant testing methods by allowing such tests to be dropped without any reduction in I/M SIP credit. Based upon the pilot data discussed in the TSD to this proposal, EPA has concluded that there is little inherent environmental benefit from requiring traditional I/M testing in addition to OBD–I/M checks on MY 1996+ OBD-equipped vehicles, with the exception of the gas cap pressure test. As a result, EPA believes that there is effectively no negative environmental impact from providing an incentive for eliminating these functionally redundant tests. EPA concludes that any marginal environmental benefit that might result from dual testing of OBD-equipped vehicles is far outweighed by the cost and inconvenience of dual testing, as well as by the potential environmental loss associated with “fixing” falsely failed vehicles.

B. Impact on Existing and Future I/M Programs

States with approved I/M SIPs will not have to remodel their I/M programs if they choose to exempt MY 1996+ OBD-equipped vehicles from traditional I/M tests in favor of OBD–I/M checks on those vehicles, provided no other programmatic changes are made. If, however, a state chooses to modify its program another way, then a revised I/M SIP and new modeling may be necessary. Nevertheless, it is important to note that today’s proposed amendments are aimed at lessening the overall burden on states while also improving program efficiency and cost effectiveness; the proposal does not increase the existing burden on states, provided states do not make other changes to their programs.

VI. Economic Costs and Benefits

Today’s proposed revisions provide states with an incentive to increase the cost effectiveness and efficiency of their existing I/M programs. The proposal, when finalized, will lessen rather than increase the potential economic burden on states. Furthermore, states are under no obligation, legal or otherwise, to modify existing plans meeting the previously applicable requirements as a result of today’s proposal.

VII. Public Participation

EPA desires full public participation in arriving at final decisions in this rulemaking action. EPA solicits comments on all aspects of this proposal from all parties. Wherever applicable, full supporting data and detailed analysis should also be submitted to allow EPA to make maximum use of the comments. All comments should be directed to the Air Docket, Docket No. A–2000–16.

VIII. Administrative Requirements

A. Administrative Designation

It has been determined that these proposed amendments to the I/M rule do not constitute a significant regulatory action under the terms of Executive Order 12866 and this action is therefore not subject to OMB review. Any impacts associated with these revisions do not constitute additional burdens when compared to the existing I/M requirements published in the Federal Register on November 5, 1992 (57 FR 52950) as amended. Nor do the proposed amendments create an annual effect on the economy of $100 million or more or otherwise adversely affect the economy or the environment. The proposal is not inconsistent with nor does it interfere with actions by other agencies. It does not alter budgetary impacts of entitlements or other programs, and it does not raise any new or unusual legal or policy issues.

B. Reporting and Recordkeeping Requirement

There are no additional information requirements in this proposed rule which require the approval of the Office of Management and Budget under the Paperwork Reduction Act 44 U.S.C. 3501 et seq.

C. Regulatory Flexibility Act

Pursuant to section 605(b) of the Regulatory Flexibility Act, 5 U.S.C. 605(b), the Administrator certifies that this proposal will not have a significant economic impact on a substantial number of small entities and, therefore, is not subject to the requirement of a Regulatory Impact Analysis. A small entity may include a small government entity or jurisdiction. This certification is based on the fact that the I/M areas impacted by the proposed rulemaking do not meet the definition of a small government jurisdiction, that is, governments of cities, counties, towns,
townships, villages, school districts, or special districts, with a population of less than 50,000.” The basic and enhanced I/M requirements only apply to urbanized areas with population in excess of either 100,000 or 200,000 depending on location. Furthermore, the impact created by the proposed action does not increase the preexisting burden of the existing rules which this proposal seeks to amend.

D. Unfunded Mandates Act

Under section 202 of the Unfunded Mandates Reform Act of 1995 (“Unfunded Mandates Act”), signed into law on March 22, 1995, EPA must prepare a budgetary impact statement to accompany any proposed or final rule where the estimated costs to State, local, or tribal governments, or to the private sector, will be $100 million or more. Under section 205, EPA must select the most cost-effective and least burdensome alternative that achieves the objective of the rule and is consistent with statutory requirements. Section 203 requires EPA to establish a plan for informing and advising any small governments that may be significantly impacted by the rule. To the extent that the rules being proposed by this action would impose any mandate at all as defined in section 101 of the Unfunded Mandates Act upon the state, local, or tribal governments, or the private sector, as explained above, this proposed rule is not estimated to impose costs in excess of $100 million. Therefore, EPA has not prepared a statement with respect to budgetary impacts. As noted above, this rule offers opportunities to states that would enable them to lower economic burdens from those resulting from the currently existing I/M rule.

E. Executive Order 13132: Federalism

Executive Order 13132, entitled “Federalism” (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive Order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.”

Under section 6 of Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implications and that preempts State law, unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. On the contrary, the intent of today’s proposed rule is to provide states greater flexibility with regard to pre-existing regulatory and statutory requirements for vehicle inspection and maintenance (I/M) programs. Thus, the requirements of section 6 of the Executive Order do not apply to this proposal.

F. Executive Order 13084: Consultation and Coordination With Indian Tribal Governments

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly or uniquely affects the communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments, or EPA consults with those governments. If EPA complies by consulting, Executive Order 13084 requires EPA to provide to the Office of Management and Budget, in a separately identified section of the preamble to the rule, a description of the extent of EPA’s prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation. In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected officials and other representatives of Indian tribal governments “to provide meaningful and timely input in the development of regulatory policies on matters that significantly or uniquely affect their communities.” Today’s proposal does not significantly or uniquely affect the communities of Indian tribal governments. Today’s proposal does not create a mandate on tribal governments or create any additional burden or requirements for tribal government. The proposal does not impose any enforceable duties on these entities. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this proposal.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be economically significant as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency. EPA interprets Executive Order 13045 as applying only to those regulatory actions that are based on health or safety risks, such that the analysis required under section 5–501 of the Order has the potential to influence the regulation. This proposal is not subject to Executive Order 13045 because it is not economically significant under Executive Order 12866 and because it is based on technology performance and not on health or safety risks.

H. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA) directs all Federal agencies to use voluntary consensus standards instead of government-unique standards in their regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., material specifications, test methods, sampling and analytical procedures, business practices, etc.) that are developed or adopted by one or more voluntary consensus standards bodies. Examples of organizations generally regarded as voluntary consensus standards bodies include the American Society for Testing and Materials (ASTM), the National Fire Protection Association (NFPA), and the Society of Automotive Engineers (SAE). The NTTAA requires Federal agencies like EPA to provide Congress OMB, with explanations when an agency decides not to use available and
applicable voluntary consensus standards.

These proposed amendments do not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

List of Subjects

40 CFR Part 51

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon monoxide, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

40 CFR Part 85

Environmental protection, Confidential business information, Imports, Labeling, Motor vehicle pollution, Reporting and recordkeeping requirements, Research, Warranties.


Carol M. Browner, Administrator.

For the reasons set out in the preamble, part 51 and 85 of chapter I, title 40 of the Code of Federal Regulations are proposed to be amended to read as follows:

PART 51—[AMENDED]

1. The authority citation for Part 51 continues to read as follows:


Subpart S—[Amended]

2. Section 51.351 is amended by revising paragraph (c) to read as follows:

§ 51.351 Enhanced I/M performance standard.

(a) * * *

(c) On-board diagnostics (OBD). The performance standard shall include inspection of all 1996 and later light-duty vehicles and light-duty trucks equipped with certified on-board diagnostic systems, and repair of malfunctions or system deterioration identified by or affecting OBD systems as specified in §51.357. For States using some version of MOBILE5 prior to mandated use of the MOBILE6 and subsequent versions of EPA’s mobile source emission factor model, the OBD–I/M portion of the State’s program as well as the applicable enhanced I/M performance standard may be assumed to be equal to the tests previously covering MY 1996 and newer vehicles in both the applicable performance standard and the I/M program contained in the State’s I/M State Implementation Plan (SIP), with the intention that the inclusion of OBD–I/M testing in either case will neither increase nor decrease the credit currently established or claimed. This interim assumption shall apply even in the event that the State opts to discontinue its current I/M tests on MY 1996 and newer vehicles in favor of an OBD–I/M check on those same vehicles, with the exception of the gas-cap evaporative system test. If a State currently claiming the gas-cap test in its I/M SIP decides to discontinue that test on some segment of its subject fleet previously covered, then the State will need to revise its SIP and I/M modeling to quantify the resulting loss in credit, per established modeling policy for the gas-cap pressure test.

(b) Test standards—(1) Emissions standards: HC, CO, and CO+CO2 (or CO2 alone) emission standards shall be applicable to all vehicles subject to the program with the exception of MY 1996 and newer OBD-equipped light-duty vehicles and light-duty trucks, which will be held to the requirements of 40 CFR 85.2207, at a minimum. Repairs

§ 51.356 Vehicle coverage.

(a) * * *

(6) States may also exempt MY 1996 and newer OBD-equipped vehicles that receive an OBD–I/M inspection from the tailpipe, purge, and fill-neck pressure tests (where applicable) without any loss of emission reduction credit.

* * * * * * * * * * *  

§ 51.357 Test procedures and standards.

(a) * * *

(5) Vehicles shall be rejected from testing if the exhaust system is missing or leaking, or if the vehicle is in an unsafe condition for testing. Beginning January 1, 2002, MY 1996 and newer vehicles shall be rejected from testing if a scan of the OBD system reveals a “not ready” status for three or more monitors on MY 1996 through MY 2000 vehicles, inclusive, or for two or more monitors on MY 2001 and newer vehicles, as provided in 40 CFR 85.2222(c)(2). Once the cause for rejection has been corrected, the vehicle must return for testing to continue the testing process. Failure to return for testing after rejection shall be considered non-compliance with the program, unless the motorist can prove that the vehicle has been sold, scrapped, or is otherwise no longer in operation within the program area.

(12) On-board diagnostic checks. Beginning January 1, 2002, inspection of the on-board diagnostic (OBD) system on MY 1996 and newer light-duty vehicles and light-duty trucks shall be conducted according to the procedure described in 40 CFR 85.2222, at a minimum. This inspection may be used in lieu of tailpipe, purge, and fill-neck pressure testing. No additional emission reduction credit will be afforded programs that conduct tailpipe, purge, and fill-neck pressure testing in addition to OBD–I/M testing, with the exception of gas-cap-only evaporative system testing, for which additional credit may still be claimed.

(b) Test standards—(1) Emissions standards: HC, CO, and CO+CO2 (or CO2 alone) emission standards shall be applicable to all vehicles subject to the program with the exception of MY 1996 and newer OBD-equipped light-duty vehicles and light-duty trucks, which will be held to the requirements of 40 CFR 85.2207, at a minimum. Repairs
shall be required for failure of any standard regardless of the attainment status of the area, NOx emission standards shall be applied to vehicles subject to a transient test in ozone nonattainment areas and in an ozone transport region, unless a waiver of NOx controls is provided to the State under §51.351(d) of this part.

(4) On-board diagnostic test standards. Vehicles shall fail the on-board diagnostic test if they fail to meet the requirements of 40 CFR 85.2207, at a minimum. Failure of the on-board diagnostic test need not result in failure of the vehicle inspection/maintenance test until January 1, 2002.

(d) Applicability. In general, section 203(a)(3)(A) of the Clean Air Act prohibits altering a vehicle’s configuration such that it changes from a certified to a non-certified configuration. In the inspection process, vehicles that have been altered from their original certified configuration are to be tested in the same manner as other subject vehicles with the exception of MY 1996 and newer, OBD-equipped vehicles on which the data link connector has been altered in such a way as to make OBD system testing impossible. Such vehicles shall be rejected from further testing until they have been restored to a testable condition. Once the cause for rejection has been corrected, the vehicle must return for testing to continue the testing process. Failure to return for testing after rejection shall be considered non-compliance with the program, unless the motorist can prove that the vehicle has been sold, scrapped, or is otherwise no longer in operation within the program area.

6. Section 51.358 is amended by revising paragraph (a)(1) to read as follows:

§51.358 Test equipment.

(a) * * *

(1) Emission test equipment shall be capable of testing all subject vehicles and shall be updated from time to time to accommodate new technology vehicles as well as changes to the program. In the case of OBD-based testing, the equipment used to access the on-board computer shall be capable of testing all MY 1996 and newer, OBD-equipped light-duty vehicles and light-duty trucks.

§51.366 Data analysis and reporting.

* * * * *

(a) * * *

(x) Passing the on-board diagnostic check;

(xi) Failing the on-board diagnostic check;

(xii) [Reserved]

(xiii) [Reserved]

(xiv) [Reserved]

(xv) Passing the on-board diagnostic check and failing the I/M gas cap evaporative system test (if applicable); and

(xvi) Failing the on-board diagnostic check and passing the I/M gas cap evaporative system test (if applicable).

§51.373 Implementation deadlines.

* * * * *

(g) On-Board Diagnostic checks shall be implemented in all basic, low enhanced and high enhanced areas as part of the I/M program by January 1, 2002.

§85.2207 On-board diagnostics test standards.

* * * * *

(d) [Reserved]

(f) A vehicle shall fail the on-board diagnostics test if the malfunction indicator light is commanded to be illuminated for one or more OBD diagnostic trouble codes (DTCs), as defined by SAE J2012. The procedure shall be done in accordance with SAE J2012 Diagnostic Trouble Code Definitions, (MAR92). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of SAE J2012 may be obtained from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096–0001. Copies may be inspected at the EPA Docket No. A–94–21 at EPA’s Air Docket, (LE–131) Room 1500 M, 1st Floor, Waterside Mall, 401 M Street SW, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

11. Section 85.2222 is amended by revising paragraphs (c), (d)(1) and (d)(2) and by adding new paragraph (d)(4) to read as follows:

§85.2222 On-board diagnostic test procedures.

(c) The test system shall send a Mode 01, PID 01 request in accordance with SAE J1979 to determine the evaluation status of the vehicle’s on-board diagnostic system. The test system shall determine what monitors are supported by the on-board diagnostic system, and the readiness evaluation for applicable monitors in accordance with SAE J1979. The procedure shall be done in accordance with SAE J1979 “E/E Diagnostic Test Modes,” (DEC91). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of SAE J1979 may be obtained from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096–0001. Copies may be inspected at the EPA Docket No. A–94–21 at EPA’s Air Docket (LE–131), Room 1500 M, 1st Floor, Waterside Mall, 401 M Street SW, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

12. Section 85.2207 is amended by removing and reserving paragraph (d) and adding a new paragraph (f) to read as follows:

§85.2207 On-board diagnostics test standards.

* * * * *

(f) A vehicle shall fail the on-board diagnostics test if the malfunction indicator light is commanded to be illuminated for one or more OBD diagnostic trouble codes (DTCs), as defined by SAE J2012. The procedure shall be done in accordance with SAE J2012 Diagnostic Trouble Code Definitions, (MAR92). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of SAE J2012 may be obtained from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096–0001. Copies may be inspected at the EPA Docket No. A–94–21 at EPA’s Air Docket, (LE–131) Room 1500 M, 1st Floor, Waterside Mall, 401 M Street SW, Washington, DC, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.
model years with unset readiness codes which also have diagnostic trouble codes (DTCs) stored resulting in a lit malfunction indicator light (MIL) should be failed, though setting the unset readiness flags in question shall not be a prerequisite for passing the retest.

(d) * * *

(1) If the malfunction indicator status bit indicates that the malfunction indicator light (MIL) has been commanded to be illuminated the test system shall send a Mode $03$ request to determine the stored diagnostic trouble codes (DTCs). The system shall repeat this cycle until the number of codes reported equals the number expected based on the Mode $1$ response. All DTCs resulting in MIL illumination shall be recorded in the vehicle test record and the vehicle shall fail the on-board diagnostic inspection.

(2) If the malfunction indicator light bit is not commanded to be illuminated the vehicle shall pass the on-board diagnostic inspection, even if DTCs are present.

* * * * *

(4) If the malfunction indicator light (MIL) does not illuminate at all when the vehicle is in the key-on/engine-off (KOEO) condition, the vehicle shall fail the on-board diagnostic inspection, even if no DTCs are present and the MIL has not been commanded on.

12. Section 85.2223 is amended by revising paragraph (a) and removing and reserving paragraph (b) to read as follows:

§ 85.2223 On-board diagnostic test report.

(a) Motorists whose vehicles fail the on-board diagnostic test described in § 85.2222 shall be provided with the on-board diagnostic test results, including the codes retrieved, the name of the component or system associated with each fault code, the status of the MIL illumination command, and the customer alert statement as stated in paragraph (c) of this section.

(b) [Reserved]

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§ 85.2231 [Removed]

13. Section 85.2231 is amended by removing and reserving paragraph (d).