NOTE: The Administrator signed the following rule on March 28, 2001 and it is being submitted for publication in the Federal Register. While EPA has taken steps to ensure the accuracy of this Internet version of the rule, it is not the official version of the rule for purposes of compliance. Please refer to the official version in the forthcoming Federal Register publication.

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51 and 85

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

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Today's action revises the Motor Vehicle Inspection/Maintenance (I/M) requirements to: extend the deadline for beginning onboard diagnostic (OBD) inspections from January 1, 2001 to January 1, 2002; allow areas showing good cause up to an additional 12 months' delay; allow for a one-time-only, one-cycle phase-in period for the OBD-I/M check; revise and simplify the failure criteria for the OBD-I/M check; address State Implementation Plan (SIP) credit modeling for the OBD-I/M check; and, allow for limited exemptions from some OBD check failure and rejection criteria for certain model year vehicles. Today's action

also provides additional flexibility to state I/M programs by allowing such programs to suspend traditional I/M tests on model year (MY) 1996 and newer, OBD-equipped vehicles provided such vehicles are subject to a check of the OBD system. Lastly, this action provides EPA's guidance regarding certain discretionary elements associated with the successful implementation of the OBD check in an I/M environment.

DATES: This rule will take effect [insert date 30 days after publication in the FEDERAL REGISTER].

ADDRESSES: Materials relevant to this rulemaking are contained in Public Docket No. A-2000-16. 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.

SUPPLEMENTARY INFORMATION:

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II. Summary of Rule

Under the Clean Air Act as amended in 1990, 42 U.S.C. 7401 et seq., states required to implement vehicle inspection and maintenance (I/M) programs were further required to incorporate a check of the onboard diagnostic (OBD) computer as part of those programs. On November 5, 1992, the U.S. Environmental Protection Agency (EPA) published in the Federal Register (40 CFR part 51, subpart S) a rule related to state air quality implementation plans for I/M programs (hereafter referred to as the I/M rule; see 57 FR 52950). At the time the 1992 rule was published, certification regulations for OBD had not been finalized, and so EPA reserved space in the I/M rule to address OBD-I/M requirements at some later date. Since 1992, EPA has twice

amended the I/M rule to address various aspects of the OBD-I/M check – first, on August 6, 1996, and again on May 4, 1998. EPA is taking action today to further amend the I/M rule and OBD testing requirements to provide states with the greater flexibility they need to better meet local needs, to update requirements based upon technological advances, and to optimize program efficiency and cost effectiveness.

Today's action will: 1) extend the current deadline for mandatory implementation of the OBD-I/M inspection from January 1, 2001 to January 1, 2002; 2) allow states that show good cause to postpone program start for up to an additional 12 months (i.e., January 1, 2003); 3) allow I/M programs a one-test-cycle phase-in period for the OBD-I/M check during which OBD-failing vehicles will only be required to be repaired if the vehicle also fails a tailpipe emission test; 4) clarify that I/M programs may (at their discretion) use periodic checks of the OBD system on model year (MY) 1996 and newer OBD-equipped vehicles in lieu of (as opposed to in addition to) existing exhaust and evaporative system purge and fill-neck pressure tests on those same vehicles[1]; 5) establish the interim modeling

[1] It is important to note that OBDII technology is only required on MY 1996 and newer vehicles and therefore the OBD-I/M check is not an option for MY 1995 and older vehicles. For this and other reasons, tailpipe programs and

methodology to be used by states in their State Implementation Plans (SIPs) to account for the inclusion of the OBD-I/M check into their existing I/M networks, such method to be used prior to mandatory use of the MOBILE6 emission factor model as well as subsequent iterations of EPA's mobile source emission factor model; 6) revise and simplify the current list of Diagnostic Trouble Codes (DTCs) that constitute the OBD-I/M failure criteria to include any DTC that leads to the dashboard Malfunction Indicator Light (MIL) being commanded on; and 7) provide states the opportunity to exempt certain model year, OBD-equipped vehicles from a limited number of readiness code rejection criteria, with the number of readiness exemptions allowed varying by model year.

The goal of today's action is to update and streamline requirements and to remove regulatory obstacles that would impede the effective implementation of the OBD-I/M testing required of all I/M programs under the Clean Air Act as amended in 1990. By extending the deadline by which states must begin implementation of OBD-I/M inspections and by also allowing a phase-in period for those inspections, EPA hopes to provide states the time necessary to better educate both

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capacity will be needed for some time to come.

the public and the testing and repair industries regarding this important emission control technology, and to reduce the potential for start-up difficulties. EPA also hopes to help states maximize the efficiency and cost effectiveness of their I/M programs by allowing them to streamline the overall testing process with regard to MY 1996 and newer, OBD-equipped vehicles. EPA also wants to make clear that states that wish to begin implementation of the OBD-I/M check earlier than the deadline(s) established by this action are encouraged to do so and may claim credit for the check immediately (per the methodology described under "OBD-I/M Credit Modeling").

It should be pointed out that it is not the goal of this action 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 released in conjunction with today's action and made available to the public via EPA's web site and by request to the FOR FURTHER INFORMATION CONTACT person listed above.

Today's action is 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 action are also based upon the comments EPA received in response to the September 20, 2000 notice of proposed rulemaking (NPRM) associated with today's action (see 65 FR 56844) 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). All public comments, EPA's responses to those comments not addressed here, the results of EPA's pilot studies, and the FACA workgroup recommendations can be found in the docket for this action (Public Docket No. A-2000-16). The detailed basis for each amendment was explained in the September 20, 2000 proposal and will not be repeated here except as appropriate in response to comments.

III. Authority

Authority for today's action 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.).

IV. Public Participation

Written comments on the September 20, 2000 NPRM were received from 14 sources prior to the close of the public comment period on October 20, 2000, including two requests for an extension of the comment period. In response to these requests for an extension, on October 30, 2000, the public comment period was re-opened for 14 days, and closed again on November 13, 2000. Between October 20, 2000 and November 13, 2000, an additional 35 sets of comments were received. In addition to the comments received during the official comment period, EPA also received late comments from three sources -- two sets from commenters that had not submitted comments during either comment period, and a third amending comments previously submitted. The commenters fell into five main categories: individual states and state organizations (24 sets of comments); automotive manufacturing, fuel, and service industries (eight sets of comments); the I/M testing and equipment industries (six sets of comments); environmental and health interests (two sets of comments); and private citizens (12 sets of comments). The state comments included two state organizations -- the Northeast States for Coordinated Air Use Management (NESCAUM) and State and Territorial Air

Pollution Program Administrators/Association of Local Air Pollution Control Officials (STAPPA/ALAPCO)-- as well as comments from 20 state environmental agencies (Oregon, New Jersey, Illinois, New Hampshire, Vermont, Wisconsin, Utah, North Carolina, Missouri, Pennsylvania, Connecticut, Colorado, Texas, Georgia, Massachusetts, Alaska, Maryland, California, New York, and Rhode Island). The commenters from the automotive industry included: Alliance of Automobile Manufacturers (AAM); Association of International Automobile Manufacturers (AIAM); Automotive Parts and Service Alliance (APSA); Motor and Equipment Manufacturers Association (MEMA); Ethyl Corporation (Ethyl); Mitsubishi Motors of America (Mitsubishi); National Automobile Dealers Association (NADA); American Automobile Association (AAA); and Automotive Service Association (ASA). Commenters for the I/M testing industry were represented by: SPX Corporation (SPX); Environmental System Products, Incorporated (ESP); Applied Analysis (AA); Waekon Corporation (Waekon); and Donald Stedman (an inventor of remote sensing devices for assessing vehicle emissions). Environmental and public health interests were represented by the American Lung Association which submitted both individual comments and also took the lead in submitting a

separate letter of comment co-signed by 18 other local health and environmental organizations. Of the comments received from private citizens, nine were to transmit and/or support an editorial by Donald Stedman opposing OBD-I/M testing and EPA's proposal which appeared in the November 6, 2000 issue of The Rocky Mountain News. The remaining comments from private citizens were either not directly relevant to the specific issues raised in this rulemaking, or were used to take issue with individual I/M programs in individual states (specifically, Pennsylvania and Colorado).

Because of the extensive (and wide-ranging) nature of the comments received, EPA has prepared a separate, "Response to Comments" document which can be found in the docket for this rulemaking (Public Docket No. A-2000-16) as well as online at: www.epa.gov/otaq/regs/im/obd/obd-im.htm. In today's action, EPA will summarize and respond to those major comments submitted during the comment period which were directly responsive to specific, major elements of the September 20, 2000 NPRM[2]. Comments which came in after the deadline for public comment, address specific aspects of the

[2] The September 20, 2000 NPRM also included a technical amendment which drew three comments in support and no negative public comment. That amendment and the comments associated with it are addressed in the separate "Response to Comments" document associated with today's action.

Technical Support Document (TSD) for this action, or which deal with broader issues related to the general subjects touched upon in the rulemaking (i.e., I/M- and OBD-related issues, generally) but which do not focus on specific elements of the proposal will be addressed in the separate "Response to Comments" document.

A. Extension of the Implementation Deadline

1. Summary of Proposal

The current I/M rule established January 1, 2001 as the deadline by which all areas required to implement I/M program(s) under the Clean Air Act as amended in 1990 were to begin testing and failing MY 1996 and newer, OBD-equipped vehicles based upon a scan of emission control monitoring information stored in the vehicle's onboard computer. In its September 20, 2000 NPRM, EPA proposed to extend the deadline for passing and failing MY 1996 and newer, OBD-equipped vehicles based upon mandatory OBD-I/M inspections to January 1, 2002. EPA also solicited comment on whether a slightly longer delay is necessary, given the states' possible need to revise rules, software, test procedures, and SIPs to address the proposed amendments, asking in particular that states consider the role that public

outreach and technician training will play in their preparation for OBD-I/M testing.

2. Summary of Comments

Of the comments received, only one state (Oregon) opposed delaying the start-up of mandatory OBD-I/M inspections beyond the current deadline of January 1, 2001. In its comments, the State expressed concern over changing OBD-I/M deadlines, and the difficulty that this has created for the State in trying to decide whether to move forward with OBD-I/M. Oregon further pointed out that it is required by State statute to justify any environmental requirement that is more stringent than EPA requirements. In addition to Oregon, one private citizen, responding to comments made by his home state regarding the need for a delay beyond 2002, voiced his opposition for delaying start-up of OBD-I/M inspections beyond 2001. This commenter also argued against states claiming that they cannot begin OBD-I/M inspections before EPA's latest deadline, based upon statutes that bar state regulations from being "more stringent" than required by Federal government, pointing out that switching to OBD-I/M inspections as soon as possible can be considered to save both time and money (in this

commenter's opinion).

Of the nine commenters that supported the proposed delay to January 1, 2002 but explicitly opposed delays beyond that date, five were state environmental agencies (Illinois, Vermont, Wisconsin, Utah, and Alaska), four represented the automotive industry (AAM, APSA, AIAM, and NADA), and one represented the I/M testing industry (SPX). Among the reasons given for opposing delays beyond 2002 was that it penalizes and/or hinders states that start OBD-I/M inspections early and is not justified for outreach reasons because training and outreach materials have already been developed and are available to the states. In its comments, SPX indicated that further delays were unnecessary because I/M testing equipment sold to states like California, New York, Pennsylvania, Virginia, New Jersey, Massachusetts, Georgia, and Rhode Island are already equipped to perform OBD-I/M inspections and merely require a simple software switch to enable that capability. Alaska requested that the final rule clarify that states that choose to do so may begin OBD-I/M inspections before the mandatory deadline, and NADA recommended that EPA provide incentives for early start-up, perhaps by offering more SIP credit for OBD-I/M inspections under the MOBILE5 emission factor model than was

proposed in the September 20, 2000 NPRM.

Six commenters supported a more generic delay in implementing the OBD-I/M inspection without specifying a specific date. These commenters included four state environmental agencies (New York, Massachusetts, Georgia, and Maryland), the American Lung Association (ALA), and the American Automobile Association (AAA). Among the states, New York supported additional time for implementation if states demonstrated a good faith effort toward implementing the OBD-I/M inspection. Maryland suggested it would support delays beyond 2002 in particular to allow more data to be gathered regarding the effectiveness of OBD-I/M inspections and to allow states more time to revise their regulations. Georgia indicated that it supported an additional, optional delay to allow states more flexibility and to not over-burden equipment manufacturers. The ALA indicated that it might support delays beyond 2002 if states indicated it was needed and to provide more time for outreach efforts, while the AAA, citing its prior experience with consumer complaints during the early stages of I/M implementation, recommended that the OBD-I/M inspection be delayed "until it is clear that motorists will no longer be unnecessarily burdened and frustrated."

Among the 10 commenters supporting delays beyond 2002 were two state organizations (NESCAUM and STAPPA/ALAPCO), and eight individual state environmental agencies (Pennsylvania, Texas, Connecticut, Missouri, North Carolina, Rhode Island, New Hampshire, and New Jersey). Of the two state organizations recommending extensions beyond the proposed deadline of January 1, 2002, STAPPA/ALAPCO proposed the more modest extension of July 1, 2002 for states making a good faith effort toward implementation. Of the individual states supporting an extension beyond January 1, 2002, four (North Carolina, Missouri, Connecticut, and Texas) either supported STAPPA/ALAPCO's recommendation explicitly, or in spirit. Connecticut indicated that a delay to July 2002 is desirable to the State because it coincides with the expiration date for the State's current I/M contract.

The second state organization advocating delays beyond January 1, 2002 — NESCAUM -- took a hybrid approach, supporting retention of the proposed 2002 start date for areas without pre-existing I/M programs while proposing a start date of January 1, 2005 for areas with existing I/M programs to allow for a more gradual transition to OBD-I/M testing (citing prior bad experiences with rushing

implementation of I/M measures) as well as to allow for more experimentation within the programs themselves and to facilitate additional data gathering and public outreach efforts. Three states (New Jersey, New Hampshire, and Rhode Island) indicated their support for the NESCAUM proposal, either by name or by echoing the NESCAUM-proposed deadlines. New Hampshire indicated its intention to begin OBD-I/M inspections in 2001, and stipulated that while it supports the NESCAUM proposal, it does not support delays beyond the dates listed in that proposal. Rhode Island, in turn, indicated its support of the NESCAUM proposal by citing the relative newness of its own I/M program (which started January 2000) as well as the need to amortize equipment costs and its concern that changing the program so soon after start-up could negatively impact the ultimate success of the program.

Taking the middle ground between the STAPPA/ALAPCO and NESCAUM proposals, Pennsylvania proposed delaying implementation of the OBD-I/M inspection requirement until July 2003. The State also raised the issue that some states -- like Pennsylvania -- cannot be more stringent than Federal regulations as a point for EPA to consider in making its decision. A variation on this theme was suggested by

ASA, which recommended that the OBD-I/M inspection be offered on a voluntary basis by 2002 before becoming mandatory in 2003. ASA suggested that the additional time could be used to gather more data to resolve assorted issues related to the implementation of OBD-I/M inspections and to do more in the area of public outreach.

Lastly, two commenters — ESP and its consultant, Peter McClintock of Applied Analysis -- proposed an alternative mechanism for providing states flexibility with regard to the implementation deadline for OBD-I/M inspections. Under the ESP proposal, EPA would allow states to phase-in implementation of OBD-I/M inspection beginning January 1, 2002. Phase-in of the requirement would be achieved by performing the OBD-I/M inspection on MY 1996 and newer, OBD-equipped vehicles as a method for screening out clean vehicles from additional testing. Under this scenario, if an OBD-equipped vehicle passed the OBD-I/M inspection it would complete the inspection process and be considered in compliance with the state's I/M requirements. If, on the other hand, the vehicle failed the OBD-I/M inspection, it would then receive a tailpipe inspection to determine if the vehicle qualifies as a gross emitter. If the vehicle fails the follow-up tailpipe inspection, it would be required to

be repaired to correct the DTCs identified by the vehicle's OBD system. If, on the other hand, the vehicle passes its follow-up tailpipe inspection, the motorist would be allowed to complete the inspection process without seeking immediate repairs but would be advised that repairs would be required prior to the next inspection cycle. This phase-in option would be allowed for one inspection cycle beginning with January 1, 2002. Under this scenario, full-fledged OBD-I/M inspections -- with repair or waiver being required of all OBD-failing vehicles prior to completion of the inspection process -- would begin no later than January 1, 2003 for annual inspection programs and January 1, 2004 for biennial programs.

3. Response to Comments

It is clear from the variety of comments received on the start date issue that states' interests continue to be as varied on the OBD-I/M check as has historically been the case with I/M programs in general. The Agency's task in this circumstance is to balance the need to move forward on this important environmental measure with the needs and desires of states and other interested parties upon whom the success of this measure ultimately relies. For example,

while EPA has heard from many states that additional delays are needed, we have also heard from states who wish to take advantage of the benefits of the OBD-I/M check as soon as possible, but feel constrained from doing something other than what EPA minimally requires[3]. Furthermore, EPA has also received comment from an I/M equipment supplier (i.e., SPX) suggesting that states are in many cases already prepared for the OBD-I/M check -- at least as far as the hardware is concerned. While it is easy to conclude based upon comments such as SPX's that many states are more prepared for OBD-I/M testing than their comments suggest, the Agency must also consider the substantial hurdle software development and installation has proven to be for many operating I/M programs during their start-up phase. There is no doubt that for many programs even with OBD-I/M hardware in place, successful start-up of the OBD-I/M check may not be as easy as characterized by SPX.

In developing its response to the many issues and competing interests raised with regard to OBD-I/M program

[3] Both Oregon and Pennsylvania have brought to EPA's attention state legislative provisions which limit each state's ability to do more than EPA requires in the area of I/M. In response, the Agency notes a state which chooses to begin OBD-I/M checks while discontinuing other, more traditional I/M tests on OBD-equipped vehicles is arguably reducing rather than increasing the existing burden on both the test network and the motorist. Interestingly, a citizen from Pennsylvania made this very point in his written comments to EPA.

start-up, EPA attempted to strike a balance that would provide states as much flexibility as possible while not constraining those areas that want to move forward as soon as possible. The Agency has concluded that allowing states the flexibility provided by the following three options will strike the balance needed.

The first option echoes the September 20, 2000 NPRM: States choosing to do so may delay implementation of the OBD-I/M test from the existing deadline of January 1, 2001 to January 1, 2002[4]. Furthermore, any I/M program that chooses to do so is free to begin the OBD-I/M check before January 1, 2002 and may credit the OBD-I/M-tested portion of their fleet using the methodology described under the section of today's action entitled, "OBD-I/M Credit Modeling." For states wanting to start earlier than January 1, 2002, EPA encourages them to do so. Nothing in this rule is intended to prohibit or discourage a state from incorporating OBD-I/M testing into its I/M program before January 1, 2002. The Agency rejected a longer, blanket delay for introducing the OBD-I/M check in part due to the

[4] An I/M program will be considered to have fully incorporated the OBD-I/M check once all MY 1996 and newer, OBD-equipped vehicles subject to the program are required to receive the OBD-I/M check and are also required to be repaired and retested upon failure of the OBD-I/M check.

fact that even those states arguing for more time have regulations, contracts, and equipment in place which have at minimum begun to prepare these areas for the eventual incorporation of the OBD-I/M check. In fact, the Agency relied on these preparations in granting SIP approvals to the I/M programs in these states. The Agency does recognize, however, the significant difference between having these things on paper and being prepared to move smoothly forward with implementation. In recognition of these issues EPA provides today for two additional options for extending the full implementation of the OBD-I/M check beyond January 1, 2002.

The first of these additional options allows states up to an extra 12 months to begin implementation of the OBD-I/M check, provided they can show just cause to the Agency that up to 12 months later than January 1, 2002 is "the best a state can reasonably do" in terms of implementing OBD-I/M tests into their I/M program. Such requests for extension will be subject to approval by the EPA Administrator and approval or disapproval of these requests will be subject to notice-and-comment rulemaking. The factors to be considered by a state in concluding that only a late start will allow for successful implementation include but are not limited

to:

- Contractual impediments
- Significant hardware and/or software deficiencies
- Data management software deficiencies
- The need for additional training in the testing and repair communities, and
- The need for additional outreach and public education.

The second of these additional options (which can be adopted separately or in addition to the up to 12 months' extension discussed above) allows a state with an existing tailpipe program to adopt a phase-in approach to help ease the introduction of full-fledged OBD-I/M testing on MY 1996 and newer, OBD-equipped vehicles. This phase-in option can be used for one complete test cycle (i.e., for one year in annual programs and for two years in biennial programs). In this option the OBD-I/M test is effectively used as a screen to help identify vehicles that are clean and for which no additional testing will be required beyond the OBD-I/M test[5]. However, once the vehicle is identified as failing

[5] Elsewhere in today's action, EPA concludes that, at its option, a state may suspend traditional I/M tests like the IM240, ASM, purge, and fill-neck pressure tests on MY 1996 and newer, OBD-equipped vehicles once OBD-I/M testing is fully incorporated into the state's operating program. States concerned that the Agency's data and analysis of OBD effectiveness are too

the OBD-I/M check, it would then be given a second-chance tailpipe test to determine if the fault identified by the OBD-I/M check has reached a point where the vehicle's current emission performance is adversely effected. If the vehicle fails this second-chance tailpipe test, then the vehicle must be fixed and return for a retest using the OBD-I/M check; if the vehicle passes the second-chance tailpipe test, then it would be granted a one-test-cycle grace period during which to seek repairs to correct the initial OBD-I/M failure. After the first cycle of this phase-in, however, all MY 1996 and newer, OBD-equipped subject vehicles would be required to be tested and, if they fail, repaired in compliance with the OBD-I/M test results.

During the phase-in period described above, the test procedure for MY 1996 and newer, OBD-equipped vehicles shall work as follows: 1) the vehicle is presented for I/M testing and is given a complete OBD-I/M test (i.e., the MIL, readiness, and DTC checks); 2) if the vehicle passes this check it shall be considered a pass for I/M purposes and the

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limited are free to continue parallel testing of these OBD-equipped vehicles with both the OBD-I/M and traditional I/M tests. The Agency acknowledges that engineering principles and design aspects of OBD might lead one to conclude that the combination of OBD-I/M testing and tailpipe tests provides additive emission reduction benefits. Such potential benefits are not currently quantified. EPA will work with states to develop such credits as appropriate. See the discussion later in this notice under "Reducing the Testing Burden."

vehicle can be registered (or get a sticker as the case may be); 3) if the vehicle fails the OBD-I/M check it will then receive the traditional I/M test(s) used for MY 1996 and newer vehicles prior to the introduction of the OBD-I/M check; 4) if the vehicle passes the tailpipe check it can be registered (or stickered) until the next test cycle when failure of the OBD-I/M test will result in repairs being required, regardless of the results of any other test(s) that may be conducted at that time[6]; and, 5) if the vehicle fails the tailpipe test (again after also failing the OBD-I/M check) it must be repaired and retested using the OBD-I/M check for the retest (i.e., it shall be repaired to turn off the MIL and meet the applicable readiness requirements).

This phase-in approach provides the benefit of faster test times for clean cars (as determined by the OBD-I/M check) by getting them successfully through the system very quickly. In addition, the use of traditional I/M test(s) in tandem with the OBD-I/M check on a subset of the OBD-equipped fleet failing the initial OBD-I/M check allows the program to focus on getting the dirtiest OBD-I/M test

[6] During this phase-in cycle, it is recommended that the motorist be advised to seek repairs to correct the cause of MIL illumination prior to returning for testing during the next testing cycle, when such repairs will be mandatory.

failures fixed during this initial, phase-in cycle. In concept, this phase-in approach is very similar to the use of phase-in cutpoints in a traditional I/M tailpipe program. Both approaches have the same goal: to keep overall failure rates low while targeting the dirtiest vehicles for earliest repair.

Even without a phase-in like the one allowed by today's action, EPA does not expect the difference between failure rates for the existing tailpipe test and the OBD-I/M check to be significant. Based upon its pilot testing, EPA expects an overall increase in failure rate of approximately 0-4% for the state's entire in-use fleet (at this time, and depending upon the I/M tailpipe test currently in place for MY 1996 and newer vehicles). It is notable that during this same period of time older model year vehicles which normally have a higher failure rate on average and are not equipped with OBD technology will be retiring from the fleet and largely offsetting the increase on a program-wide basis.

States which choose to use the phase-in option described above may claim full OBD-I/M credit toward an attainment demonstration[7] provided the phase-in cycle has

[7] See discussion of the interim methodology for modeling OBD-I/M credit under "OBD-I/M Credit Modeling" later in this action.

been completed and mandatory repair is required of all OBD-I/M failing vehicles for at least one full test cycle prior to the I/M area's CAA-established attainment date for the pollutants for which the I/M program is required. States which do not complete the phase-in of the OBD-I/M check at least one full test cycle prior to their attainment deadline may not claim additional credit for the OBD-I/M test toward their attainment demonstration, but may continue to claim the level of credit applicable to the tailpipe test used to second-chance pass OBD-equipped vehicles during the phase-in period.

To summarize, in today's action, EPA is offering states three types of flexibility with regard to start-up of the OBD-I/M testing requirement. States may: 1) delay mandatory implementation until January 1, 2002; 2) take up to an additional 12 months beyond January 1, 2002 to January 1, 2003 upon a showing of just cause and substantial need; and/or 3) take up to one additional test cycle to phase-in the OBD-I/M testing requirement in conjunction with traditional I/M testing, following the steps described above. These three start-up options are intended to balance competing goals and provide sufficient flexibility to the states. The end result of offering these options is that

depending on the length of its cycle, a state may postpone the date for full OBD-I/M implementation (i.e., mandatory repair of all subject OBD-equipped vehicles that fail the OBD-I/M check) to as late as January 1, 2005 (i.e., January 1, 2002 plus one 12 month delay in addition to a biennial cycle of dual, phase-in testing).

Although the second and third options for extending and/or phasing-in the full implementation of the OBD-I/M check were not included in the original NPRM for this rulemaking, EPA believes that these two additional options represent a logical outgrowth of the comments received. The Agency further maintains that it is therefore justified in finalizing these options without re-proposing this element of the original proposal to address these additional options.

B. Reducing the Testing Burden: The Continuing Role of Traditional I/M Tests

1. Summary of Proposal

Based upon EPA-led pilot studies that showed the OBD-I/M check to be at least as effective as traditional tailpipe, purge, and fill-neck pressure tests when it comes to identifying vehicles in need of repair, EPA proposed to

insert clarifying text into the current I/M rule indicating that states may reduce the existing testing burden on MY 1996 and newer, OBD-equipped vehicles by relying on the OBD-I/M check alone. This would replace the current program that required a state to conduct both its current I/M test(s) as well as the OBD-I/M check, once the latter becomes mandatory. Such clarifying text would be inserted into 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.

2. Summary of Comments

Many of the comments received regarding the proposal to allow OBD-I/M-only testing on MY 1996 and newer, OBD-equipped vehicles were aimed at clarifying and articulating the continuing role of traditional tailpipe and/or evaporative system tests in I/M programs in light of EPA's proposal. Three commenters (Massachusetts, NESCAUM, and ESP) requested that EPA clarify its support for continuing use of existing I/M tests on MY 1995 and older vehicles, while two commenters (ALA and ESP) wanted the Agency to stress the need to retain the current I/M program

infrastructure in states -- even if the OBD-I/M check alone is used on a portion of the subject vehicle population. One commenter (STAPPA/ALAPCO) wanted EPA to clarify that states may add an OBD-I/M check to the continued operation of their tailpipe program, while another commenter (ESP) argued that the OBD-I/M check and traditional tailpipe tests are largely complementary with regard to the vehicles they fail and should therefore be used together. ESP then went on to suggest that EPA "has determined that it must choose one test or the other, but not both," and that the NPRM reflected EPA's bias in favor of OBD.

Three commenters (AAA, Pennsylvania, and ESP) requested that EPA provide states flexibility in incorporating the OBD-I/M check into their I/M programs, while six commenters (Illinois, Vermont, New Hampshire, Missouri, Georgia, and AAA) advocated the exclusive use of OBD-I/M testing on MY 1996 and newer, OBD-equipped vehicles (although a subset of these commenters also suggested that traditional I/M testing might be appropriate as a fallback to address vehicles with OBD readiness problems, a comment which will be addressed under the discussion addressing "OBD-I/M Rejection Criteria"). Five commenters (AAMA, AIAM, Mitsubishi, NADA, and one private citizen) voiced their support for complete

replacement of traditional I/M tests on MY 1996 and newer, OBD-equipped vehicles in favor of the OBD-I/M check, indicating further their opposition to dual-testing options, such as fallback testing to address readiness monitoring issues.

Several commenters — ALA, ESP, New Jersey, and others — expressed concern that discontinuing the I/M tailpipe inspection on MY 1996 and newer, OBD-equipped vehicles would eliminate a valuable source of information for overseeing vehicle manufacturers and for triggering emission-related recalls. Several of these commenters suggested that EPA's proposal would effectively allow "the fox to guard the hen house," particularly if dealerships are allowed to test and repair their affiliated manufacturer's product line. Citing recent OBD-related recalls of Honda and Toyota model vehicles, ALA states: "The manufacturer's self-generated OBD data will launch potentially costly (and embarrassing) recalls. As a result, a manufacturer – and its affiliated dealers – may have an incentive to cheat."

3. Response to Comments

It is not EPA's intention to suggest that the use of the OBD-I/M check on MY 1996 and newer vehicles will or

should impact how MY 1995 and older vehicles are tested. These vehicles -- which are not equipped with standardized OBD systems -- must continue to be tested using the tailpipe and/or evaporative system tests currently in place for as long as necessary for states to meet their CAA goals. Furthermore, EPA believes that the current I/M testing infrastructure is highly valuable and necessary to test the MY 1995 and older vehicles in a state's fleet, at a minimum. EPA also believes that the need to test MY 1995 and older vehicles using traditional I/M testing mechanisms will continue for many more years to come, though the states themselves remain the ultimate judge concerning their I/M program needs, based upon local conditions and fleet age distributions.

In addition, commenters have expressed concerns with regard to the OBD system's long term durability, and the appropriateness of the OBD system's failure threshold over the full life of a vehicle. While EPA is optimistic about the success of OBD systems, until real world aging of these systems occurs it will not be possible to evaluate the question of OBD durability. EPA encourages states to take account of this uncertainty as they consider their I/M infrastructure needs for future testing of MY 1996 and

newer, OBD-equipped vehicles. EPA will be monitoring these and other issues such as the performance of OBD systems both during the emissions warranty period of up to 8 years/80,000 miles as well as during the full useful life of vehicles.

With regard to providing flexibility to the states to dual test OBD-equipped vehicles, EPA hereby clarifies states are free to utilize both the OBD-I/M and traditional I/M tests on OBD-equipped vehicles. The purpose of this action is to provide states more -- not less -- flexibility with regard to how they comply with the CAA's requirement to perform OBD-I/M inspections on OBD-equipped vehicles as part of their I/M programs. Prior to today's action, the requirement was to perform both OBD-I/M and traditional I/M tests on MY 1996 and newer, OBD-equipped vehicles, beginning no later than January 1, 2001. Today's action merely allows states that wish to do so to suspend the traditional I/M test on the segment of their fleets that are OBD-equipped in conjunction with the start-up of OBD-I/M checks on those same vehicles. States are not obligated by today's action to switch to OBD-only testing on the OBD-equipped portion of their subject vehicle fleet; states that choose to do so may continue to perform whatever I/M inspection they want on OBD-equipped vehicles -- provided they also comply with the

minimum, CAA requirement to perform the OBD-I/M check on these same vehicles as well.

Concerning the suggestion that the OBD-I/M check and traditional tailpipe tests like the IM240 are complementary, based on the observation that the two tests tend to fail different universes of vehicles during the Wisconsin pilot program, it must be pointed out that the vehicles which pass both tests (approximately 95% of the fleet) overlap entirely. To argue that the two tests do not agree focuses on the small fraction which fail one or the other test and not the overwhelming majority which pass both tests. However, in focusing on the small fraction of vehicles that fail the IM240 or the OBD-I/M check but not both, EPA recognizes that both programs will have some vehicles which could be considered "false" failures. For example, a vehicle in an IM240 program could fail if not fully preconditioned but would pass on an immediate retest without any intervening repairs. Similarly, an OBD system could detect a non-recurring problem and store a DTC which could be detected as a failure in an I/M program but would self-clear with continued operation of the vehicle. The pilot program data suggested that at most only 1 to 2 percent of the vehicles tested had such "false" failures. EPA does not

expect this false failure rate to increase with the age or mileage of the fleet. In contrast, we do expect that the number of real failures detected by either test will increase with the age and mileage of the fleet and the number of real failing vehicles detected by both tests will also increase. Consequently, the percent of failures (real and false) detected by both tests will increase substantially as the OBD-equipped fleet ages.

With regard to the characterization that it determined in advance that only one or the other test would prevail as a result of its OBD-I/M test effectiveness pilots, EPA objects. The Agency received approval for the design of its OBD tailpipe pilot from the Mobile Sources Technical Review Subcommittee[8] prior to beginning its pilot testing program. The Subcommittee was kept informed with quarterly reports during the two year test period and an OBD workgroup under the Subcommittee monitored the entire testing program. The OBD workgroup was an open workgroup which included members from the state I/M agencies, I/M testing contractors

[8] The Mobile Source Technical Review Subcommittee (MSTRS) is a subcommittee of the Clean Air Act Advisory Committee, established under the 1972 Federal Advisory Committee Act (FACA). The MSTRS advises EPA regarding mobile source related issues and includes a wide-range of members representing interested stakeholders from the mobile source community as well as experts in the field.

(including ESP), testing equipment manufacturers, the automotive manufacturing industry, and academic representatives. EPA believes that conducting the design of the test program and the program itself in the public view with stakeholder involvement provided greater objectivity than this comment alleges.

Concerning the "fox guarding the hen house" issue generally, EPA independently determines the quality of the OBD system, both during the certification process and as part of EPA's in-use compliance program; we do not leave this determination to the manufacturers and their associated dealerships. With regard to dealerships testing their affiliated manufacturer's product line in decentralized, test-and-repair based I/M programs, the introduction of OBD-I/M testing does not change the dynamics of this testing scenario substantively from the situation that currently exists with decentralized I/M programs in operation now where dealers and other service providers are allowed to both test and repair vehicles (albeit with tailpipe and other traditional I/M testing techniques as opposed to the OBD-I/M check). The existing I/M rule requires that states conduct covert audits of all stations in the program's test network with vehicles set to fail the inspection --

specifically to identify fraud arising from the potential for conflict of interest when testing and repair are performed by a single entity. There is nothing in today's action that will weaken these existing requirements. Furthermore, even in a decentralized, test-and-repair program, not all subject vehicles will go to dealerships to be tested and fixed. Other service providers will also participate in the program -- service providers without the specific type of conflict the commenters suggest exist with dealerships. A problem significant enough to warrant a recall presumably would come to the program's attention through routine analysis of test results. Should any abuse occur, it would become obvious to auditors looking at dealer X's test records that dealer X is failing its brand-name vehicles at a lower rate than when the same makes and models are tested by other stations in the test network. Therefore, while the potential for abuse exists, EPA believes that there are currently mechanisms in place to detect and correct it.

Concerning the implication that a dealership has an incentive to withhold OBD-I/M test information that could potentially trigger a recall, EPA believes the same incentive exists under traditional tailpipe testing. As

indicated above, decentralized I/M programs currently allow dealerships to test their affiliated manufacturer's product line. This practice has not stopped EPA or California from identifying vehicles in need of recall.

It should also be pointed out that the Honda and Toyota cases cited were not triggered as a result of I/M testing. While I/M tests are helpful in identifying individual gross polluters in need of repair, traditional I/M tailpipe tests are not rigorous enough to use as the basis for a recall of an entire class of vehicles. EPA's (and CARB's) enforcement efforts with regard to vehicle manufacturers and their products involve a three-pronged approach. First, the vehicle prototype is tested as part of the new car certification process. As part of our certification program, each manufacturer is required to submit extensive data on their OBD systems. This data is available for review and taken into consideration by EPA prior to issuing the certificate of conformity. Second, at EPA's discretion, manufacturers can be subjected to Selective Enforcement Audits (SEAs) which involve enforcement quality, end-of-the-line testing to ensure that vehicles are meeting their certification standards once they actually go into production. Lastly, there is in-use compliance testing

which involves the independent recruitment and enforcement quality testing of vehicles to determine if they continue to meet their certification standards in actual use (which includes a specific evaluation of the OBD system for vehicles so equipped). Nothing in today's action will weaken or lessen these current, and ongoing, enforcement efforts. Additionally, EPA finalized its compliance assurance (CAP 2000) regulations in 1999 (40 CFR 23906) to further emphasize EPA's commitment to ensuring compliance with the Agency's certification regulations -- including OBD -- throughout the useful life of the vehicle.

Nevertheless, EPA wants to acknowledge the concerns that have been raised by some environmental advocates, some state agencies and other OBD stakeholders that OBD-I/M testing may raise new and qualitatively different compliance issues in contrast to traditional tailpipe I/M testing unanticipated by today's action and existing enforcement and oversight mechanisms. Some of these concerns focus on conflict-of-interest issues that could arise if automotive dealerships are allowed to conduct OBD-I/M testing. EPA acknowledges that the many advantages of the computerized OBD testing approach could bring with them the need for some different requirements to ensure the integrity of the

overall program. Therefore, EPA will undertake a public process that includes stakeholder involvement and continued monitoring by EPA so that the Agency can ensure program integrity and successful implementation. If information develops suggesting the need to revise this program, EPA will consider amending these regulations as appropriate.

C. Reducing the Testing Burden: Technical Issues

1. Summary of Proposal

See "Summary of Proposal" for section IV (B)(1) above.

2. Summary of Comments

Many commenters addressing EPA's proposal to reduce the testing burden on OBD-equipped vehicles raised technical concerns with regard to EPA's assessment of the effectiveness of OBD-I/M testing as well as with the OBD system itself. Though many of the issues raised will be summarized and addressed in the separate "Response to Comments" document discussed earlier, EPA nevertheless believes that several of the more frequently raised issues warrant being discussed here. The following, therefore, is a subset of the technical issues raised with regard to EPA's proposal to reduce the testing burden on OBD-equipped

vehicles.

Six commenters (MEMA, ASA, New Jersey, ALA, ESP, and Peter McClintock of Applied Analysis) stated that there is a need for continued data gathering on OBD-I/M effectiveness, particularly with regard to assessing the OBD system's long-term durability. Based upon the lack of available data on the long-term durability of the OBD system itself, three commenters (New Jersey, ESP, and ALA) suggested that EPA warn states that choose to suspend traditional I/M tests on MY 1996 and newer, OBD-equipped vehicles in favor of the OBD-I/M check that they may need to revert to traditional I/M testing of these vehicles in the future, depending upon the long-term durability of the OBD system itself.

Four commenters (ESP, Applied Analysis, New Jersey, and ALA) expressed concern that the OBD system itself may miss high emitting vehicles that might be caught if the OBD-I/M check was coupled to a traditional I/M tailpipe test, like the ASM or IM240. Conversely, several commenters expressed the opposite concern -- that the OBD-I/M check would fail vehicles that are actually clean. Among the technical concerns expressed by commenters with regard to the OBD system itself, the following four were cited most often:

1) Several commenters expressed the concern that the

OBD system itself is too sensitive. According to these commenters, the fear of possible vehicle recalls creates an incentive for manufacturers to design OBD systems that set DTCs too often and frequently well before the vehicle's emissions have become a problem. In other words, the concern is that the OBD-I/M check might allegedly falsely fail vehicles that are clean. Based upon this premise, the commenters maintained that the tailpipe test should be used to confirm that OBD-I/M failures really deserve to be failed.

2) Several of the same commenters that voiced the first concern also expressed the opposite concern (i.e., that the OBD system itself is not sensitive enough). These commenters focused on the fact that the OBD catalyst monitor is optimized for detecting catalyst malfunctions leading to excess HC emissions, and concluded from this that the OBD catalyst monitor is unable to detect malfunctions which only increase non-HC emissions, like CO and/or NOx. Furthermore, because the CAA requires that enhanced I/M programs achieve NOx reductions, a few of these commenters maintained that this omission on the part of OBD is not only a technical problem, but an allegedly legal one as well.

3) Several commenters expressed concern that the OBD

system itself is too frequently "not ready" (i.e., some monitors have not been run to determine whether certain components or systems are functioning properly). Furthermore, because the emission status of an OBD-equipped vehicle with unset readiness codes is technically unknown, these commenters expressed the belief that some high-emitting vehicles may escape detection without a back-up tailpipe test.

4) Lastly, several commenters maintained that the OBD system itself is too simplistic. Because the OBD system does not monitor for the synergistic impact of multiple, marginal component deterioration, these commenters raised the possibility that the OBD system may miss problems that cumulatively result in high emissions.

Regarding the third issue — high emitters missed because of unset readiness codes — many commenters cited claims made by Peter McClintock of Applied Analysis (an ESP consultant) based upon data from Wisconsin and Colorado which reportedly found that vehicles with unset readiness flags had statistically significant higher levels of emissions. Lastly, New Jersey expressed concern that relying on OBD-I/M testing would make it difficult to evaluate the effectiveness of I/M programs.

3. Response to Comments

EPA agrees that the technology of on-board diagnostics needs to be monitored continually both as the systems age and as new technology is introduced. Although the current studies used to support this rulemaking were performed on relatively new vehicles (i.e., six years old or newer), EPA found nothing in these studies to suggest that an inherent problem exists in the technology which will be exacerbated with age or mileage. Furthermore, the Agency has already begun testing high mileage, OBD-equipped vehicles and the findings of this study suggest that the OBD system remains durable even at mileages well beyond 100,000 miles. It should also be pointed out that the onboard computer which makes the decision as to whether or not to light a MIL and/or set a DTC is a solid state system and contains no "triggers" that change the computer's pass/fail decision-making logic based upon vehicle age and/or mileage. In fact, incorporation of such a "trigger" system would violate both 40 CFR 86.000-16 and section 203(a)(3)(B) of the Clean Air Act. Both sections explicitly prohibit manufacturers from installing devices on vehicles which would have the effect of reducing emission control effectiveness. Section 205(a) of the Act allows for such violations to be fined at

the rate of $2,500 for each part or component affected.

Although EPA is optimistic about the durability of OBD-equipped vehicles, the Agency cannot say that MY 1996 and newer, OBD-equipped vehicles will never need some form of follow-up tailpipe testing at some point in the future. Reverting to more traditional I/M testing of OBD-equipped vehicles could prove a useful and cost effective backstop to the OBD-I/M check. While EPA does not currently believe that this is a likely outcome with regard to the OBD-I/M check based upon the testing done to date on advanced mileage, OBD-equipped vehicles[9], the fact of the matter is that there is no reliable surrogate for natural vehicle aging that will allow the Agency to predict with any certainty what will actually happen to OBD-equipped vehicles as they become significantly older than the vehicles studied to date. Therefore, EPA plans to continue recruiting and testing OBD-equipped vehicles as they age, and will revisit its OBD-I/M testing recommendations and requirements based upon this testing, if and when such becomes warranted. Furthermore, although EPA is committed to continuing its

[9] In recognition of the potential impact of high mileage on OBD effectiveness, EPA recently completed testing and has begun analyzing the results from a study of 43 OBD-equipped vehicles with mileages of approximately 100,000 miles to as high as 273,000 miles. Early indications suggest that high mileage does not have a noticeable impact on the effectiveness of the OBD system to detect needed repairs.

study of OBD technology in the future, the Agency does not believe this should preclude states from taking advantage of this technology at this time.

Concerning the issue of OBD's potential "over-sensitivity," EPA points out that it is the job of OBD to ensure that precise fuel control is maintained to keep the engine operating near or at peak performance and to ensure that fuel economy and emission targets are met. All critical emissions-related components must operate within acceptable tolerances to maintain fuel control and to ensure the durability of the catalyst and engine components. Otherwise, degraded driveability, fuel economy, and emissions performance may occur. Therefore, what may be perceived as "over-sensitivity" is actually a result of OBD's attempt to ensure that such degradation in driveability, fuel economy, and emission performance does not occur. This perceived "over-sensitivity" is also a sign of one of OBD's strengths -- namely, its ability to identify minor, lower-cost repairs prior to their becoming more costly repairs. The perception of over-sensitivity arises from the fact that these repairs are frequently identified before they have a significant impact on the emission performance of the vehicle, when they are still capable of

preserving more costly emission control components like the catalyst, which can be damaged if these early warnings from the vehicle's OBD system are not heeded.

Concerning OBD's perceived "under-sensitivity" (i.e., its current failure to monitor for NOx- and/or CO-only catalyst malfunctions as well as its inability to detect the synergistic impact of minor, but multiple component malfunctions) EPA acknowledges that no I/M test identifies all of the vehicles in the fleet which are either broken or which have high emissions. Based on this fact it is possible that combining different identification methods in an I/M program through the use of dual testing may increase the ability of the program to identify some vehicles for repair that would otherwise be missed under a single test scenario. At this point, however, the magnitude of such a benefit from dual testing remains unknown and EPA does not currently know what increased value this form of testing may offer. What is known -- based upon EPA's pilot testing -- is that repairs identified by the OBD system as it is currently designed led to NOx reductions at least as great as those achieved from repairs triggered by the IM240 test at final cutpoints. Furthermore, EPA believes that the current OBD catalyst monitoring strategy is adequate to

detect most forms of catalyst deterioration, and that the vast majority of NOx-related failures will also eventually result in HC-related failures (and thus will eventually be identified under the current monitoring strategy). Nevertheless, EPA will continue to assess the potential for additional credit for dual testing, and will work with states to develop such credits as appropriate.

Concerning the argument that because the CAA requires enhanced I/M programs to reduce NOx emissions, allowing states to rely on OBD-I/M-only represents a violation of the Act, EPA disagrees. While it is true that based on catalyst monitoring alone, OBD-I/M testing may miss a portion of NOx catalyst failures (i.e, those catalyst failures which produce only increases in NOx emissions without also increasing HC emissions), EPA is confident (based upon the results of the Agency's pilot testing) that OBD's comprehensive monitoring of all emission control systems and engine operation (such as the Exhaust Gas Recirculation (EGR) valve, et cetera) is adequate to identify many other NOx failures. Therefore, EPA concludes that OBD-I/M testing satisfies the statutory requirement to get NOx reductions, as well as HC and CO reductions. Furthermore, even if the OBD catalyst monitor does not currently check directly for

NOx increases, it is still capable of yielding NOx reductions. In many cases, a catalyst failing for HC will also produce excessive NOx emissions -- emissions which are then reduced as a by-product of correcting the underlying HC failure. EPA's pilot studies have confirmed that OBD-I/M testing does in fact achieve HC, CO, and NOx reductions on a fleet-wide basis which equal or exceed the reductions currently obtainable from tailpipe tests such as the IM240. It should also be noted that CARB has proposed adding monitoring requirements for NOx-only catalyst malfunctions to be phased-in for MY 2004-2007 vehicles meeting Low-Emitting Vehicle (LEV) II standards in their upcoming regulatory amendments (Mail-Out #MSC 99-12, May 26, 1999). EPA agrees with this proposal and may include a similar proposal as part of its future OBD regulations.

Concerning the possible use of traditional I/M testing as a fallback for OBD-equipped vehicles with unset readiness codes, EPA believes that the readiness issue can be adequately addressed without resorting to fallback testing by employing the exemptions from the readiness rejection criteria allowed by today's action (i.e., two or fewer unset readiness codes for MY 1996-2000 vehicles, and one unset readiness code for MY 2001 and newer -- see discussion under

"OBD-I/M Rejection Criteria" later in this action). At this time, the Agency believes that the technical evaluation that it has performed (and its review of other evaluations) is consistent with this conclusion. With regard to the use of tailpipe testing in the case of vehicles which exceed the readiness exemptions allowed by today's action, the Agency believes that an exceedingly small number of vehicles will fall into this category. Review of data from the Wisconsin pilot indicates that at most 1 to 2 percent of the OBD-equipped fleet may qualify as exceeding the readiness exemption allowed by today's action; the percent of vehicles exceeding this readiness exemption is expected to decrease as improvements to the OBD system are made. The Agency believes that the best method for dealing with vehicles exceeding the readiness exemption is to reject them and require that the unset readiness monitors be set prior to testing as this will maximize the usefulness of the OBD-I/M system check. However, a state's discretionary use of limited fallback testing to address this issue is clearly not prohibited by today's action. Successful programs which choose to use this type of fallback testing will monitor the rate at which vehicles exceed the readiness code exemption. An increasing pattern of vehicles being presented as "not

ready" at the time of initial testing may suggest attempts to clear OBD problem codes by disconnecting and reconnecting the battery without completing appropriate repairs. EPA expects states to take appropriate action to address such issues should they arise.

Concerning the claim that OBD not-ready vehicles show a statistically significant higher rate of emission problems, neither Dr. McClintock nor the other commenters citing his study supplied EPA with the data upon which this statistical conclusion was reportedly based. Nevertheless, EPA is aware that the study used "fast pass" tailpipe emissions data to represent the full IM240 emission levels of individual vehicles. EPA disagrees with this methodology based upon the conclusion that so-called "fast pass" emission levels are only valid for establishing gross indicators of whether the vehicle is likely to be clean or dirty, but cannot be used to identify an actual, absolute emission measurement that is representative of the vehicle in question. EPA is aware of an unpublished analysis[10] which shows that if the McClintock analysis was performed properly using full-length

[10] The results of this unpublished analysis were presented by Robert Klausmeier, an OBD consultant, to a gathering of states and other interested parties sponsored by NESCAUM. A copy of this presentation has been included in the docket for today's action.

as opposed to fast-pass IM240's, then no statistical difference would be found between the failure rates of "ready" versus "not ready" vehicles.

EPA also believes that its own pilot testing provides a basis for refuting the claim made by Dr. McClintock that current I/M tailpipe data gathered from I/M test lanes can be used to show that OBD is failing to identify a large number of high emitting vehicles. As part of its OBD tailpipe pilot testing, EPA recruited a small number of vehicles with no MIL illuminated but which appeared to have high tailpipe emissions based upon testing performed in I/M test lanes in both Arizona and Colorado. EPA found that of the 17 vehicles procured meeting these criteria 15 passed a subsequent, quality-controlled IM240 test performed under more consistent, laboratory-controlled conditions without receiving any repairs. Furthermore, EPA is aware of a test program which is ongoing in the state of Colorado which has recruited an additional 12 MIL-off, high lane-based emission vehicles. Of these 12 potential high emitters "missed" by OBD, EPA has found that six were false lane failures[11] based

[11] It should be noted that the lane recruitment criteria in the Colorado study included looser IM240 cutpoints than were used in the EPA OBD tailpipe pilot and that second-chance testing was also used to lower the potential for lane-based false failures. EPA believes these differences in lane recruitment criteria account for the lower percentage of false failures among the lane-performed IM240's included in the Colorado study as compared to EPA's sample

upon subsequent, laboratory-controlled confirmatory testing. Among the remaining six vehicles, EPA has found four trucks which have an OBD design deficiency which the Agency was aware of prior to this test program and which is a matter of discussion with the manufacturer. Of the two remaining vehicles, one was not able to have its emissions verified through Federal Test Procedure (FTP) testing due to the lack of a four-wheel drive dynamometer at the laboratory performing confirmatory testing and the other vehicle lacked sufficient documentation to determine the cause of the emissions problem.

Lastly, with regard to a state's ability to perform program evaluations after switching to OBD-only testing on MY 1996 and newer, OBD-equipped vehicles, EPA does not believe that switching to an OBD-based inspection for I/M prevents a state from evaluating the I/M program's overall effectiveness. EPA has guidance available (EPA420-S-98-015, October 1998, "I/M Program Effectiveness Methodologies") which describes methodologies which may be used to evaluate an operating I/M program. Currently available techniques include the use of remote sensing technologies and the random, independent sampling of the fleet with appropriate

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of 17 vehicles.

tailpipe testing. EPA believes that these techniques are adequate to evaluate OBD-based testing as well as more traditional I/M programs. Additionally, EPA is willing to work with states to develop methodologies which they feel are more appropriate for use on an OBD- and/or non-OBD-tested fleet.

D. Reducing the Testing Burden: Legal Issues

1. Summary of Proposal

See "Summary of Proposal" for section IV (B)(1) above.

2. Summary of Comments

Three commenters (ESP, ALA, and Applied Analysis) argued that Congress meant for enhanced I/M programs to use both tailpipe and OBD-I/M testing on MY 1996 and newer, OBD-equipped vehicles. ESP further commented that the CAA requires "the measurement of tailpipe emissions" which means that EPA cannot allow states to suspend tailpipe testing in favor of OBD-I/M checks because the OBD system does not measure emissions, but merely infers the potential for increased emissions by monitoring individual components and systems. To substantiate its claim that the OBD-I/M check does not qualify as an "emission test," ESP cites Mail-Out

#96-34a from the California Air Resources Board (CARB) which states that OBD systems do not "measure tailpipe emissions directly." Because EPA's OBD requirements reflect those adopted by CARB, ESP concludes that CARB's statements regarding OBD's status as an emission test apply equally to the Federally certified OBD system.

Citing a DC Circuit Court ruling (Natural Resources Defense Council, Inc. v. EPA, 22 F.3d 1125, 1143 -- D.C. Cir. 1994) that found EPA was required by the CAA to include two tests per covered vehicle in its enhanced I/M performance standard (i.e., an emission test and a visual component check), ESP concluded that EPA's proposal to require only OBD-I/M testing on MY 1996 and newer, OBD-equipped vehicles was in violation of the DC Circuit Court's ruling. ESP also maintained that EPA's proposal violates the CAA's requirement that I/M programs be centralized, based upon ESP's interpretation of the OBD system as being inherently decentralized (i.e., the actual monitoring system is installed on each individual vehicle) even if the scan of the OBD computer is performed at a centralized testing facility. ESP further argued that the National Highway System Designation Act of 1995 (which barred EPA from automatically discounting the SIP credit afforded

decentralized I/M programs as compared to centralized I/M programs) did not change the CAA's requirement that I/M programs be centralized unless decentralized programs could be proven to be equally effective.

ESP also maintained that Congress indicated its understanding that OBD is not an emission test by listing both emission testing and inspection of the onboard diagnostic system as separately required elements among the minimum program elements to be included in an enhanced I/M program (see CAA sections 182(c)(3)(C)(v) and (vii), "Serious Areas -- Enhanced Vehicle Inspection Program -- State Program"). ESP further suggested that this separate listing of emission testing versus OBD inspection prevents EPA from finalizing its proposal to allow states to reduce the testing burden on OBD-equipped vehicles.

Lastly, two commenters (ESP and Ethyl Corporation) raised objections regarding the proprietary nature of the OBD monitoring strategies employed by individual manufacturers. Both commenters argued that without a full, public disclosure of information claimed as confidential business information by the vehicle manufacturers when it was supplied to EPA during the certification process, the public cannot comment on the adequacy of EPA's proposal to

allow the OBD-I/M check to replace traditional I/M tests on OBD-equipped vehicles.

3. Response to Comments

EPA disputes ESP's claim that the DC Circuit Court ruling cited is applicable to the issue of whether or not individual enhanced I/M programs are required to perform both tailpipe emission tests and the OBD-I/M check on MY 1996 and newer, OBD-equipped vehicles. The cited ruling addressed the minimum program elements that were to be included in EPA's enhanced I/M performance standard under CAA section 182(c)(3)(B)(i) but did not address the minimum program elements or model year coverage required of individual state programs under section 182(c)(3)(C). The performance standard itself does not establish minimally required program elements; instead, when taken as a whole and run through the MOBILE emission factor model (along with local area data for such variables as fleet age distribution, average temperature, local fuel characteristics, et cetera) the performance standard generates an area-specific emission reduction target for the state to meet or beat. It is not unusual for a state's program to differ substantially from the applicable

performance standard with regard to individual program elements and parameters. For example, while all the performance standards in the I/M rule include annual testing, the majority of programs adopted by the states employ biennial testing. Furthermore, while the DC Circuit Court ruling required EPA to include emission testing and visual component checks on all subject model years in its enhanced I/M performance standards (i.e., no model year exemptions), it made no such finding with regard to individual state programs. The court certainly did not say that all state programs must include both OBD-I/M and tailpipe testing on all model years. In fact, the majority of operating I/M programs include some form of model year exemption for new and/or older vehicles. It is also routine practice for a state program to use different test types and standards on different vehicles, based upon model year and vehicle type. As long as the state program can get the same or better emission reductions as would the program assumed in the relevant performance standard, the state has a great deal of flexibility in defining the specific combination of program elements it will adopt -- provided it meets the statutory minimum in CAA section 182(c)(3)(C). EPA therefore maintains that states that exercise their

discretion to suspend existing I/M tests on MY 1996 and newer, OBD-equipped vehicles in favor of the OBD-I/M check on those same vehicles are merely employing the same sort of flexibility they currently use with regard to model year exemptions, test frequency, and test type coverage, and that such exemptions are fully consistent with section 182(c)(3)(C).

Regarding the CAA's intention to require enhanced I/M programs to include both tailpipe emission testing and OBD-I/M inspections because "emission testing" and "onboard diagnostics" are listed separately in the list of mandated elements for enhanced I/M programs -- EPA again disputes ESP's interpretation. First, the CAA does not specify "tailpipe" emission testing at any point -- just "emission testing." It is EPA's contention that a test to detect emissions from the vehicle's evaporative system qualifies as an "emission test" under the Act's requirements. Therefore, a state program which chooses to cover its MY 1996 and newer, OBD-equipped vehicles with the OBD-I/M check and a separate gas cap evaporative emission test can be considered to be conducting both an "emission test" and an OBD-I/M check on that particular class of vehicle. Furthermore, the Act does not state that an emission test is required of

every vehicle subject to the I/M program, merely that the program include some level of emission testing. To test this interpretation, EPA points to the separate requirement for OBD-I/M testing. If ESP is correct in maintaining that the OBD-I/M and emission testing requirements are separate and equal requirements under the CAA because they are listed separately, and if ESP further maintains that emission testing is required of all subject vehicles, then it naturally follows that OBD-I/M testing should be applicable to all subject model years as well. Though this conclusion flows from the logic of ESP's argument, it is obviously absurd because it is impossible to perform an OBD-I/M inspection on vehicles that are not equipped with an OBD system to begin with (i.e., MY 1995 and older vehicles). By the same token, EPA maintains that the Act does not mandate emission testing on all subject vehicles, just that the enhanced I/M program include emission testing among the program elements employed.

Regarding ESP's claim that the OBD-I/M check itself is not an emission test, EPA acknowledges that this is an available interpretation with regard to the CARB definitions and requirements cited, but disputes the conclusion that this has any bearing on the flexibility states may exercise

in their development of I/M programs, per the above discussion. Furthermore, EPA does not agree that allowing a test such as the OBD-I/M check to replace tests such as the tailpipe, fill-neck pressure, and purge tests reflects a "weakening" of Federal requirements, but believes it is more appropriately an available flexibility for states. Based upon its pilot testing, EPA believes that it has demonstrated that the OBD-I/M check is at least equivalent to the currently available I/M tailpipe and evaporative fill-neck and purge tests in terms of reducing emissions and identifying vehicles in need of repair.

Regarding the Act's requirement for centralized testing, EPA believes that the OBD-I/M check is a test type and not a network design. Furthermore, the OBD-I/M check itself is clearly conducted at the test facility -- whether centralized or decentralized -- and not in each vehicle as the MIL is illuminated.

Lastly, with regard to the claim that full disclosure of OBD certification information is necessary for the public to evaluate EPA's proposal and for the successful implementation of OBD-I/M in general, EPA points out that it finalized its Service Information Rule on August 9, 1995 (60 FR 40474). This rule requires that vehicle manufacturers

make available to aftermarket service providers any and all information needed to make use of a vehicle's emission control diagnostic system. EPA is currently drafting an NPRM to propose changes to the 1995 regulations to further improve the accessibility of service and repair information for the automotive aftermarket and I/M programs. We expect the proposal to be issued in the Spring of 2001. Furthermore, while it is true that there is some variance from manufacturer to manufacturer in the design of their systems, EPA believes that all of the information needed to make use of or comment on the OBD system is or will be covered under EPA's Service Information Rule as described above.

In response to the comments EPA received from Ethyl Corporation, which alleged that a greater volume of information than is currently available is required for the public to comment on EPA's OBD-I/M proposal, the Agency does not believe that OBD technology's use in I/M raises information availability issues separate from our obligations under the Service Information Rule described above. Furthermore, today's action does not introduce the OBD-I/M check as an I/M test; rather, today's action provides states greater flexibility with regard to the OBD-

I/M requirements originally established in 1996. Arguably, Ethyl's comments would have been more appropriate to that rulemaking, as opposed to the current action. In addition, in a separate action Ethyl has petitioned the Agency regarding our CAP 2000 and Heavy-Duty diesel rulemakings to compel the availability of information similar to the OBD certification information requested here on similar (if not identical) issues. It is EPA's intention to consider this comment in its response to that petition and in the context of a planned NPRM in the Spring of 2001 which will address service information availability.

Additionally, EPA is working with automobile manufacturers and Weber State University to develop a Web Site designed specifically for use by I/M programs that will provide easy access for states to obtain manufacturer information of particular interest to I/M programs. Examples of the information that will be found on this Web site when it is launched include (but is not limited to) diagnostic link connector locations and technical service bulletins for vehicles with readiness problems.

It should be noted that as with any new testing element, additional issues may be identified in the course of implementation. EPA is committed to continually address

new issues regarding OBD-I/M implementation after this rulemaking goes into effect, and as appropriate. EPA will also continue to work with manufacturers and I/M programs to ensure that the information needed by states to successfully implement the OBD-I/M check is available to them.

E. Retaining the Gas Cap Test

1. Summary of Proposal

While EPA's pilot testing supports allowing states to streamline their testing programs with regard to MY 1996 and newer, OBD-equipped vehicles, it also supports EPA's recommendation that states currently performing the gas cap pressure test on MY 1996 and newer vehicles retain that test, even after mandatory OBD-I/M inspections are begun.

2. Summary of Comments

Seven commenters (New Jersey, Illinois, Pennsylvania, Missouri, Colorado, Texas, and ESP) supported retaining a separate gas cap check that is conducted in addition to the OBD-I/M check. Two commenters (AIAM and a private citizen) maintained that the gas cap test should be suspended because: 1) it is redundant on vehicles equipped with OBD evaporative emission monitors; 2) there have been documented

instances of problems with gas cap testing equipment; and 3) EPA does not have data to quantify the benefits of conducting the gas cap check in addition to the conventional OBD-I/M check.

3. Response to Comments

EPA's decision to recommend that states retain the gas cap check in conjunction with the OBD-I/M inspection is based on three factors:

1) The gas cap pressure test is designed to find leaking gas caps with an equivalent hole size of less than 0.010 inches in diameter which is considerably more stringent than the 0.040 inch leak that OBD is designed to monitor. Although a stricter OBD evaporative leak detection threshold of 0.020 inches in diameter will be phased-in by MY 2002, this is still less stringent than the current gas cap pressure test.

2) Data from the 30 vehicle evaporative emission pilot study shows that vehicles with an induced leak in the gas cap of 0.020 inches in diameter emitted significantly more evaporative emissions than the certification standard. This leaking cap was not detected with an OBD leak monitor designed to meet the 0.040 inch diameter leak detection

standard.

3) Data from the Wisconsin I/M program shows a much higher incidence of gas caps which failed the I/M gas cap check than were detected by the OBD evaporative emission monitor.

EPA acknowledges that more test data would be desirable to determine the cost effectiveness of conducting the gas cap test in conjunction with the OBD-I/M check. If more data are collected which suggest that the newest OBD evaporative emission monitors (i.e., the 0.020 inch leak monitors) are capable of adequately detecting the vast majority of leaking gas caps detected by the gas cap pressure test, then EPA may recommend that states discontinue the separate gas cap pressure test. However, at present, EPA finds the gas cap pressure test to be a simple, accurate, and time-efficient supplement to the OBD-I/M check. Therefore, EPA stands by its original recommendation that states currently conducting the gas cap pressure test on MY 1996 and newer, OBD-equipped vehicles continue to conduct this test, even after the OBD-I/M check becomes mandatory. To claim gas cap testing credit under MOBILE5, therefore, states will need to continue conducting the gas cap test, or adjust their credit claims accordingly. In

addition, MOBILE6, when it is released, will allow states that retain the gas cap test on OBD-equipped vehicles to model additional emission reduction credit for the gas cap pressure test in addition to that assessed for the OBD-I/M check alone.

Lastly, concerning the comment that there have been documented instances of problems with the gas cap test: this comment is based on a single instance of a flawed design for a single gas cap adapter and was limited to a single manufacturer's vehicles. The adapter has subsequently been redesigned and proven to be acceptable for the vehicles in question.

F. OBD-I/M Credit Modeling

1. Summary of Proposal

EPA proposed to revise the OBD sections of the I/M performance standards to indicate that for modeling purposes, the OBD-I/M testing segment of the performance standard overlaps but does not add to the credit already assessed for testing MY 1996 and newer vehicles. Furthermore, prior to release of MOBILE6, the credit from OBD-I/M testing would utilize (as opposed to being added to) the credit already assessed for the testing of MY 1996 and

newer vehicles in the states' I/M SIPs. Therefore, with the exception of the gas cap test, traditional I/M tests could be dropped on MY 1996 and newer vehicles in favor of OBD-I/M testing on those same vehicles without impacting an area's ability to meet the applicable performance standard. Effectively, this meant that for areas currently performing IM240 on MY 1996 and newer vehicles, the credit for OBD-I/M testing would equal IM240 (at whatever cutpoint the state was using on MY 1996 and newer vehicles prior to the switch to OBD-I/M testing), while for areas using the idle test on these same vehicles, the credit for OBD-I/M testing would equal the idle test (again, at applicable cutpoints). This "no net increase/no net loss" credit approach was specifically intended to be an interim modeling methodology, to be used only with the MOBILE5 model (which does not include the capability to model OBD-I/M checks directly), prior to mandatory use of MOBILE6 and subsequent mobile source emission factor models (which will include the OBD-I/M check as a separate, credited I/M program element).

2. Summary of Comments

A significant number of comments were received on the issue of how much SIP credit should be accorded to the OBD-

I/M test prior to release and mandatory use of the MOBILE6 emission factor model. The minority of commenters on this issue (five states) supported the proposed policy and the degree of their support varied. Three of those five -- Illinois, Missouri, and New York -- unequivocally supported no credit loss for the OBD-I/M check being performed in lieu of tailpipe testing as an interim modeling methodology prior to release and mandatory use of the MOBILE6 emission factor model. New York stated that the policy rewards states which elected to use more stringent tests. Two other states -- Utah and Colorado -- tied their support for the policy to MOBILE6. Utah only supported the credit if MOBILE6 is released on time (i.e., by late January 2001), but otherwise supported OBD-I/M testing being afforded an IM240 level of credit for all programs to use when performing SIP and conformity modeling. Colorado supported the proposed credit policy but only until enough new data is gathered to substantiate a more specific level of OBD-I/M credit. Colorado is concerned that MOBILE6's OBD-I/M credit assumptions are inflated because of the State’s findings from its own studies of OBD-I/M effectiveness (see discussion of this issue under “Reducing the Testing Burden”).

The majority of comments on OBD-I/M credit were adverse to EPA's proposed approach. Most supported OBD-I/M credit at a level higher than proposed. Eight states and STAPPA/ALAPCO commented explicitly that the OBD-I/M check should be given more credit, with the majority citing credit equivalent to that afforded the IM240 tailpipe test as being an appropriate level of credit for consideration for all I/M programs. Several commenters noted that the proposed "no net gain/no net loss" policy is inequitable because certain areas have no base I/M tailpipe test upon which to base credit, and those with idle tests would receive no NOx credit, although EPA's own pilot testing confirms that OBD-I/M testing does, indeed, produce NOx emission reduction benefits. One state commenter even suggested that credit exceeding the IM240 level might be afforded states which use anti-tampering (ATP) checks in addition to the OBD-I/M check on MY 1996 and newer, OBD-equipped vehicles. Another state commenter noted that not only IM240 credit, but also full evaporative system testing credit should be given for doing the OBD-I/M check. In addition to the state commenters, two automotive industry groups also submitted adverse comments to the credit proposal. AAM and NADA noted that the OBD-I/M check should be given "enhanced" or IM240 level credit. One

felt this was necessary for equity reasons because many areas will not actually use MOBILE6 for several years while the other noted that interim credit may not be necessary if MOBILE6 is released on schedule. Only one private citizen submitted comment, noting that OBD-I/M testing should be given up to two times the IM240 level of credit (though the reason for this claim was unclear).

Miscellaneous comments were also submitted on the OBD-I/M credit proposal which neither supported nor contested the proposed "no net gain/no net loss" interim modeling methodology proposed for use under MOBILE5. Comments by three states and NESCAUM reflected concerns about various modeling issues. NESCAUM expressed concern that MOBILE6 will not allow the user the option of applying traditional tailpipe testing to model MY 1996 and newer, OBD-equipped vehicles because the default I/M option for those vehicles is either the OBD-I/M check, the gas cap test, or both. California wanted EPA to confirm that it can continue to use the OBD credit assumptions already included in its alternative, California-specific EMFAC emission factor model. New Jersey expressed concern that the proposal is arbitrary and would like to use OBD-I/M testing solely for its evaporative system testing capabilities, which the State

argues should receive full evaporative system credit. New Jersey further maintained that EPA's OBD-I/M SIP crediting proposal should not be finalized until after MOBILE6 has been fully reviewed and modified (if necessary). Alaska indicated that it read the proposal to mean that states which begin OBD-I/M testing earlier than required are not allowed to claim credit for such testing unless they also perform tailpipe and evaporative system testing. Maryland expressed concern about the time it is taking to release MOBILE6 and the impact the release schedule is having on states' ability to develop SIPs.

With regard to evaporative system testing and credits, ESP supported the proposed retention of gas cap testing, and added that it also wanted EPA to consider the potential for future, additional credit for as-yet-undefined, non-OBD-based, alternative evaporative system tests. Waekon also expressed concern with EPA's crediting of OBD-I/M inspections and its implications for non-OBD-based evaporative system testing of OBD-equipped vehicles. In particular, Waekon was concerned that EPA's crediting proposal and the MOBILE6 emission factor model do not take into account the fact that the OBD evaporative system monitoring requirement was phased in over MY 1996-99, so

that not all MY 1996 and newer, OBD-equipped vehicles actually monitor for evaporative system deficiencies. Waekon argued that the amount of credit afforded OBD-I/M testing for evaporative system monitoring should either be reduced, or that additional credit should be allowed for states that conduct non-OBD-based evaporative system testing of MY 1996 and newer, OBD-equipped vehicles in conjunction with the OBD-I/M check (based upon the evaporative system monitoring phase-in issue discussed above).

3. Response to comments

While some commenters supported the proposal that states see "no net gain/no net loss" of credit for OBD-I/M testing in the interim period before MOBILE6 is available and required, the majority of commenters supported providing OBD-I/M testing a higher level of credit which could be claimed equally by all states performing the OBD-I/M check. Most of those commenters advocating more credit for the OBD-I/M check expressed the belief that credit equivalent to that granted to the IM240 tailpipe test would be an appropriate level of credit for the OBD-I/M check. EPA was particularly interested to learn of two potential issues with the current credit proposal: 1) that it does not

account for areas which have no previous tailpipe program upon which to base the "no net gain/no net loss" credit approach, and 2) the inequity that arises with regard to states doing idle testing, which would be effectively denied NOx credit for their OBD-I/M testing (at least until MOBILE6 is available for state use).

In its September 20, 2000 NPRM, the Agency noted that the proposed "no net gain/no net loss" credit proposal was intentionally conservative and designed to anticipate changes in I/M program assumptions such as in-use deterioration which will be reflected in MOBILE6. Based upon the equity concerns raised by many of the commenters, the Agency now believes that it is reasonable to allow states to claim IM240, fill-neck pressure, and purge test credit under MOBILE5 during the interim period between the release of MOBILE6 and its mandated use. While it is known that modeling total I/M performance with MOBILE6 is expected to show a net credit loss from I/M compared to what MOBILE5 currently shows (due to numerous changes in in-use deterioration rates), we acknowledge that trying to anticipate some of the MOBILE6 change outside the context of the other changes included in the model is contrary to previous policy with regard to transitioning between models

and leads to inequitable results. Furthermore, separate from the in-use deterioration issue cited above, the Agency believes that its pilot testing demonstrates that OBD-I/M testing is at least equal to the IM240, fill-neck pressure, and purge tests in terms of comparative emission reduction potential.

It should be stressed that EPA's original proposal was not based upon any concern with the OBD-I/M check's performance relative to other I/M tests; we are confident that the OBD-I/M check will reliably achieve significant emissions reductions (in addition to serving as a pollution prevention measure, as discussed elsewhere). It is also important to note that STAPPA/ALAPCO indicated in its comments that a reconciliation of overall I/M credit should be done once MOBILE6 is released[12]. In response to comments received, EPA believes it would be inappropriate to begin to phase-in one aspect of MOBILE6's many changes ahead of others and agrees that a separate process (such as the one STAPPA/ALAPCO suggests) is a more appropriate venue which will place I/M changes in context with other changes incorporated in the MOBILE6 model. Therefore, considering

[12] EPA agrees with STAPPA/ALAPCO's observation, and wishes to further stress that states will ultimately have to account for this credit adjustment between MOBILE5 and MOBILE6 in their attainment and Rate-of-Progress SIPs.

that MOBILE6 is expected to be released soon after this rule takes effect -- and considering the majority of commenters requesting higher, and more generally applicable credit -- EPA has decided it is appropriate to allow states to claim credit equivalent to IM240[13], fill-neck pressure, and purge test credit for the OBD-I/M check as modeled under MOBILE5.

With respect to commenters' requests that the OBD-I/M check also be assigned credit under MOBILE5 comparable to that received for gas cap, fill-neck pressure, and/or purge evaporative system testing, EPA agrees that credit under MOBILE5 is justified for the evaporative system fill-neck pressure test and the evaporative system purge test, but believes that the gas cap pressure test should still be performed by those areas wishing to claim credit for the gas cap pressure test (for reasons explained under the discussion of "Retaining the Gas Cap Test"). Furthermore, the gas cap pressure test credit will be additive to the OBD-I/M credit under both MOBILE5 and MOBILE6.

With regard to the request that the OBD-I/M check also be assigned the credit associated with the ATP check under MOBILE5 in addition to the tailpipe and evaporative system

[13] By "IM240" EPA means IM240 at final cutpoints for MY 1996 and newer vehicles.

credit already discussed, EPA finds that such additional credit is not warranted. While the OBD-I/M check has been demonstrated to be sufficiently rigorous to identify the failed or missing components that would be covered by a typical ATP check, the MOBILE5 model already assumes that the IM240 has the same ability to detect missing components, and therefore already factors ATP check credit into the credit assigned the IM240. Allowing states to credit the OBD-I/M check under MOBILE5 as being equal to the IM240 plus the ATP check would result in double-counting credit. EPA therefore rejects the request to include ATP credit in addition to the credit otherwise allowed the OBD-I/M check under MOBILE5.

With respect to the miscellaneous comments received regarding OBD-I/M crediting under MOBILE6, EPA is working to address many of the commenters' concerns separate from this action. For example, the Agency is considering the need states may have for modeling tailpipe testing of MY 1996 and newer, OBD-equipped vehicles under MOBILE6. Special procedures may be approved after the release of MOBILE6 to deal with this concern. Concerning California's request that EPA address whether the State can use the OBD credit assumptions contained in its alternative, California-

specific EMFAC emission factor model series, EPA has a separate approval process in place to address the EMFAC model issue and will address this request in the appropriate forum. Concerning Alaska's reading of the proposal as somehow disallowing OBD-I/M credit for states that start OBD-I/M testing earlier than required who also suspend or do not add traditional I/M testing of OBD-equipped vehicles, EPA concludes that this belief is based upon a misunderstanding of the proposal. Today's action affirmatively allows states to suspend traditional I/M tests on MY 1996 and newer, OBD-equipped vehicles in favor of OBD-only testing on those same vehicles even before required to do so by today's action. Furthermore, such states may claim IM240, fill-neck pressure, and purge test credit under MOBILE5 or the OBD-I/M credit that will be available under MOBILE6.

Waekon Corporation and others have suggested that states should receive additional credit if they conduct non-OBD-based evaporative system tests in addition to the gas cap pressure test on OBD-equipped vehicles that are either "not ready" for the evaporative system monitor or those vehicles for which the OBD evaporative system monitoring requirement does not apply due to phase-in issues.

Alternatively, it has been suggested that the level of evaporative emission credit afforded the OBD-I/M check under either MOBILE5 or MOBILE6 should be reduced to account for the fact that some MY 1996-98 light-duty vehicles and trucks are not equipped with evaporative emission monitors during the 20, 40, 90 percent phase-in allowance period that covers those model years. In response to this, EPA points out that the MOBILE6 model will take the phase-in of the OBD evaporative system monitoring requirement into account in assessing the evaporative credit attributable to the OBD-I/M test. MOBILE6 will also allow states to claim additional credit for conducting the fill-neck pressure test on that portion of the OBD-equipped fleet that can be tested in this manner. However, while EPA does not prohibit any I/M program from conducting functional evaporative system checks on OBD-equipped vehicles, the Agency also does not believe it is reasonable to require such alternative tests for vehicles which are "not ready" for the evaporative system monitor at the time of the OBD-I/M test, or for vehicles which do not have OBD evaporative emission monitors, particularly during the phase-in model years of 1996-98. The rationale for this position is based on the minimal air quality benefits gained from testing a small subset of

vehicles, and the untestable nature of these vehicles. These concerns are discussed below. If a state wishes to conduct a functional test they should consult the Agency who will in turn determine the acceptability of the functional test in the I/M environment and credit it appropriately.

EPA does not require functional tests on OBD-equipped vehicles for two reasons:

1) The incremental emission reduction benefit resulting from testing a fraction of MY 1996-98 vehicles not equipped with evaporative emission monitors, or those vehicles "not ready" for the evaporative system monitor at the time of the OBD-I/M test, is likely to be extremely small given the low likelihood of evaporative emission failures for this small subset of vehicles. Since the introduction of vehicles manufactured to comply with the enhanced evaporative emission standard in 1996, and the Onboard Refueling Vapor Recovery (ORVR) standard in 1998, vehicles have better and more reliable purge systems, better component durability obtained through material changes, and better engineered component connectors, making them less likely to fail.

2) With the exception of the gas cap pressure test, most I/M programs do not currently conduct functional

evaporative emission tests on non-OBD-equipped vehicles because of the intrusive and time-consuming nature of the test(s). EPA therefore believes that -- with the exception of the gas cap pressure test -- it is very unlikely non-OBD-based functional evaporative system testing will be well received for OBD-equipped vehicles, where the practical hurdles to performing the test are even higher. Specifically, unless an OBD-equipped vehicle has an evaporative emission "service port," MY 1996 and later vehicles which are designed to meet the enhanced evaporative emission standard are even more difficult to conduct a functional I/M evaporative emission test on than pre-1996 model year vehicles. Should an alternative method be developed to conduct I/M evaporative emission tests on MY 1996 and newer, OBD-equipped vehicles, EPA will examine the viability of the alternative and make credit determinations appropriately.

Concerning New Jersey's suggestion that states be allowed to use the OBD-I/M test exclusively as a replacement for an evaporative system test before full OBD-I/M testing is otherwise required of the OBD-equipped fleet, EPA again points out that nothing in today's action prohibits such an approach. However, because the MIL will illuminate as a

result of problems related to exhaust emission performance as well as evaporative emission performance, such a program would only selectively correct problems causing the MIL to illuminate. In some instances, if not corrected by the traditional I/M program repairs, the MIL may remain illuminated. We expect programs making early, partial use of the OBD system will need to provide consumers with extra information describing this partial use during a phase-in period so that, once the mandatory program is fully implemented, it will be clear that all problems causing MIL illumination need to be corrected.

G. OBD-I/M Failure Criteria

1. Summary of Proposal

EPA proposed 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 recommended that the motorist be advised that a problem may be pending but we did not propose to require that the vehicle be failed (unless other, non-DTC-based failure criteria have been met, such as a failed bulb check).

2. Summary of Comments

Nine commenters supported the simplified failure criteria proposed in the NPRM (Vermont, Missouri, Georgia, AAM, NADA, ASA, ESP, and ALA) while three commenters (Vermont, Illinois, and MEMA) expressed reservations regarding various aspects of the proposal. While Vermont generally supported the proposal, the State opposed EPA's recommendation that pending DTCs be printed on the test report of vehicles that otherwise pass the test, indicating the possible confusion this would cause the motorist. Illinois opposed failing vehicles based upon the bulb check, fearing that lane inspectors would confuse the MIL with other dashboard lights. MEMA suggested that EPA's proposed simplified failure criteria would result in failing vehicles for non-emission related malfunctions.

Two additional commenters (New York and New Hampshire) also supported the simplified failure criteria, but pointed out potential conflicts with other aspects of the OBD-I/M check requirements. Specifically, EPA was asked to determine: 1) whether the bulb check conflicts with 40 CFR 85.2222 (a) which requires that the OBD-I/M check be conducted with the key-on/engine-running; and, 2) whether 40 CFR 51.357(d), which suggests that a damaged DLC would be

grounds for rejecting a vehicle, conflicts with 40 CFR 85.2207(b), which indicates that a damaged DLC shall be grounds for failing the OBD-I/M check.

3. Response to Comments

Concerning Illinois' objection to the bulb check, although EPA recognizes that poorly trained lane personnel may become confused by the number of possible dashboard lights, the Agency does not believe this is likely provided training of lane personnel is adequate. Furthermore, EPA believes that allowing lane personnel to ignore whether or not the MIL is working establishes a bad precedent with regard to how seriously the general public responds to MIL-related issues and could diminish the emission control potential of the OBD system. Therefore, at this time, EPA has decided to require that the bulb check remain mandatory as described in the NPRM.

Regarding MEMA's claim that EPA's simplified failure criteria will result in vehicles being failed for non-emission related malfunctions, EPA does not believe that such will be the case. The whole purpose of the OBD system is to monitor components and systems which, should they deteriorate or malfunction, may result in emissions

exceeding 1.5 times the vehicle's certification standards. When a DTC is set and a MIL illuminated, that is an indication that the deterioration or malfunction detected -- if not corrected -- may lead to emissions exceeding 1.5 times the certification standards. DTCs and MIL illumination are, by definition, indicators that emission-related repairs are needed. Furthermore, the OBD system, by warning the motorist of conditions that may lead to elevated emissions, can itself be considered an emission control device. Checks of the OBD system via the bulb check and electronic scan of the onboard computer are therefore necessary to ensure that the OBD system itself is operating properly.

Concerning whether or not the printing of pending DTCs would result in confusing the motorist, neither EPA nor Vermont has experience in this area. Because we do not know the likelihood of this potential confusion occurring, the Agency is revising its recommendation to allow individual states to determine for themselves whether or not to provide the motorist with a printout of pending DTCs.

Concerning the possible conflicts identified in the regulatory text, EPA has considered both of these comments and the rule text has been modified to ensure that there is

no conflict in the final regulation on either of these issues.

H. OBD-I/M Rejection Criteria

1. Summary of Proposal

In reviewing data from Wisconsin's OBD-I/M program, EPA found that a small number of vehicles arriving at the test lane (between 1-6% of the OBD-equipped fleet, depending upon model year) were presented for testing with unset readiness codes which would normally be grounds for rejection under existing OBD-I/M rejection criteria. In investigating the issue, EPA found that the majority of vehicles with unset readiness codes were limited to the earliest of the OBD-equipped model years, and that the cause of the vehicle's unreadiness was largely beyond the control of the motorist. To avoid unnecessarily inconveniencing motorists as EPA works with manufacturers to resolve the readiness issues with these vehicles, the Agency proposed to allow states the flexibility to permit MY 1996-2000 vehicles with two or fewer unset readiness codes, and MY 2001 and newer vehicles with only one unset readiness code to complete their full OBD-I/M inspection without being rejected. These vehicles would not be exempt from other elements of the OBD-I/M

check. EPA specified that the complete MIL check and scan would still be run in all cases, and that the vehicle would still be failed if the MIL was commanded on or any other failure criteria were met. Furthermore, under the proposal, the vehicle would continue to be rejected if it was MY 1996-2000 and had three or more unset readiness codes or was MY 2001 or newer and had two or more unset readiness codes. The proposal reflected a FACA OBD workgroup recommendation.

The proposed readiness exemptions were intended to reduce the potential for customer inconvenience during OBD-I/M testing. The environmental impact of the proposal was deemed negligible, based upon the small number of vehicles anticipated to be involved (i.e., the subset of OBD-equipped vehicles in I/M programs with no DTCs and two or fewer unset readiness codes at the time of testing), the likelihood that at least some of the readiness codes will be set in time for subsequent OBD-I/M checks, and the fact that an unset readiness code is not itself an indication of high emissions.

It should be pointed out that a certain level of unset readiness codes are a part of normal OBD operation. For example, when a battery is disconnected during battery replacement or other repair, all readiness monitors are

temporarily reset to "not ready." One of the purposes of the readiness code for I/M programs is to help determine whether an attempt has been made to fraudulently clear DTCs by disconnecting the battery prior to testing. EPA does not believe that the limited readiness exemptions allowed by today's action will interfere with OBD's ability to signal such activity because the number of unset readiness codes in instances of attempted fraud would almost certainly exceed the limited number allowed under the exemption.

In conjunction with the proposal, EPA also solicited public comment on alternative approaches to addressing the readiness issue -- in particular, 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 the OBD-I/M test depending upon which readiness flag has not been set.

2. Summary of Comments

Comments on the readiness exemption proposal were received from 11 state agencies, five organized associations, one automobile manufacturer, one private citizen, and one I/M test industry representative. Of the 19 commenters, seven supported the proposal for readiness

exemptions but explicitly opposed back-up testing of vehicles with unset readiness codes: three states (New Hampshire, Vermont, and Georgia), three organized associations (AAMA, AIAM, and NADA), and one automobile manufacturer (Mitsubishi).

Four commenters (Illinois, Missouri, Pennsylvania, and AAA) supported the proposal for readiness code exemptions but expressed a desire for back-up testing for vehicles that exceed the proposed exemption limit. In its specific comments, Missouri indicated that it only supported the use of the IM240 and gas cap test as back-up tests, but did not support the use of other test types as back-up tests unless such tests were discounted based upon their poor correlation to the certification test. Missouri also suggested the possible use of back-up testing for vehicles with unset catalyst codes as a means for ensuring consumer protection, especially with regard to warranty coverage. AAA expressed concern about the rejection of vehicles with unset readiness codes that are not covered under the readiness exemption, citing the inconvenience and expense associated with having a dealership perform driving to set the readiness codes. Pennsylvania expressed the desire that states be allowed the discretion to conduct back-up testing to address the

readiness issue with the following caveats: 1) such back-up testing should not be applied to decentralized programs, and 2) there should be no loss of credit for those states that opt not to perform back-up testing.

Five commenters (New Jersey, Colorado, California, ALA, and Peter McClintock of Applied Analysis) opposed the readiness exemption proposal and supported the use of back-up testing for all vehicles with unset readiness codes. In its specific comments, New Jersey supported dual testing and using the OBD-I/M check as an enhancement to traditional tailpipe tests, identifying the readiness issue as a reason why the OBD-I/M check alone cannot be used to replace tailpipe tests. Specific comments from Colorado called for more flexibility and for the final rule to address: 1) the readiness on retest issue, and 2) the potential use of back-up IM240 testing at the time of retest. ALA cited manufacturer-to-manufacturer OBD strategy differences with regard to readiness as a deficiency with the OBD concept. Peter McClintock of Applied Analysis claimed that unready vehicles have statistically higher emissions (see discussion and response under "Reducing the Testing Burden" earlier in this action) and called for EPA to study the difference between advisory-only versus mandatory-repair OBD-I/M

programs with regard to readiness variance and the emission impact of exempting some not-ready vehicles. McClintock also requested that data collection requirements proposed for deletion be restored and that EPA add additional requirements to track readiness data.

Lastly, two commenters (Alaska and Maryland) raised more general issues related to the rejection criteria for the OBD-I/M check. In its specific comments, Alaska called the proposed readiness exemption a "one-size-fits-all" approach and indicated that it wants the flexibility to do a tailpipe-only test on MY 1996-97 vehicles due to DLC location and readiness inconsistencies among vehicles in those model years. The State also indicated that it wants the flexibility to tailor the OBD-I/M check based upon the pollutant a state needs to address (citing as an example the desire that CO-only areas be allowed to ignore evaporative system readiness). Maryland, in turn, requested more information and guidance with regard to drive cycles, exercising monitors, and setting readiness codes, while also claiming that most unset readiness flags are for evaporative system and catalyst monitors, which means that states could ultimately have problems meeting their clean air goals. Maryland also requested information concerning the names and

numbers of vehicles that have readiness problems being addressed by the manufacturers.

3. Response to Comments

As a preface for the discussion to follow, EPA wants to make clear that the flexibility allowed by today's action is intended exclusively to avoid inconveniencing motorists for vehicle conditions that are beyond their control, and that are currently the subject of discussion between EPA and various manufacturers and in some cases may result in potential enforcement action. The purpose of today's action is not to relieve manufacturers of their responsibility to design and market OBD systems that comply with existing OBD certification requirements. To help emphasize this point, EPA clarifies here that the obligations of the automobile manufacturers with regard to OBD equipment are specified in regulatory section 40 CFR 86.094-17(e)(1): "Control of Air Pollution From New Motor Vehicles and New Motor Vehicle Engines: Regulations Requiring On-Board Diagnostic Systems on 1994 and Later Model Year Light-Duty Vehicles and Light-Duty Trucks," which imposes, among other things, the obligation to design, build and certify OBD systems that: "record code(s) indicating the status of the emission

control system. Absent the presence of any fault codes, separate status codes shall be used to identify correctly functioning emission control systems and those emission control systems which need further vehicle operation to be fully evaluated." In promulgating these requirements on February 19, 1993 the Agency stated: "The readiness code will ensure I/M testing personnel and service technicians that malfunction codes have not been cleared since the last OBD check of the vehicle's emission-related control systems. This code will be essential...since I/M personnel must be sure that the OBD system has sufficient time to completely check all components and systems. The readiness code is also crucial for indicating to service personnel whether any repairs have been conducted properly." Nothing in today's action in any way changes or otherwise impacts these obligations on the part of vehicle manufacturers. In fact, EPA has already initiated several investigations which may result in enforcement actions related to these requirements.

In addition to the certification requirements for OBD systems discussed above, EPA separately promulgated test procedures to be used by state I/M programs when conducting the OBD-I/M check. These I/M-centered OBD requirements were originally promulgated back in 1996, and are the

requirements that are being amended by today's action. With regard to readiness, the procedures promulgated back in 1996 required that all readiness codes be set to "ready" prior to conducting a valid OBD-I/M inspection. At the time this requirement was established, the earliest OBD-equipped model years were just entering the market and EPA had no experience with regard to how practical this readiness requirement would be in practice. Since that time, however, EPA has conducted several studies of OBD-I/M effectiveness and assorted implementation issues (as discussed in the preamble to the September 20, 2000 NPRM and the TSD for today's action) and has found that flexibility is needed with regard to the readiness requirement to help prevent needlessly inconveniencing motorists. Although the number of OBD-equipped vehicles with unset readiness codes at the time of initial testing is small even without the flexibility allowed by today's action (i.e., 1-6% of the OBD-equipped fleet, depending on model year), as a policy matter, EPA finds it reasonable to provide states with the limited flexibility proposed in its September 20, 2000 NPRM and finalized by today's action. This flexibility applies to I/M programs only, and does not explicitly or implicitly impact manufacturers or their obligations with regard to OBD

equipment. As noted above, manufacturers continue to have any and all liabilities previously established before today's action with regard to the performance of their OBD systems.

With regard to the use of back-up testing in the case of vehicles which do not meet the revised readiness criteria, the agency believes that proper use of this option is limited. Review of the Wisconsin pilot data indicates that at most 1 to 2 percent of the OBD-equipped fleet would qualify as exceeding the "not ready" criteria promulgated in today's final rule, and that number is declining. While the Agency believes that the best method for dealing with these vehicles is to reject them and allow the unset readiness monitors to be subsequently set, the use of state discretion in dealing with this issue is allowed. However, the Agency advises areas adopting back-up testing to address the readiness issue that they need to monitor the frequency of such back-up testing to ensure that motorists are not purposefully clearing codes prior to testing in an attempt to avoid the OBD-I/M inspection.

EPA emphasizes that the purpose of today's action is to provide some flexibility to vehicle owners and state programs without impairing the overall environmental

benefits achieved by OBD implementation in I/M programs. Because manufacturers are still required to certify their vehicles as meeting all readiness code requirements, and are equally responsible for the proper operation of their OBD systems in-use, EPA does not believe that the flexibility added by today's rule will affect the value of the OBD system for both the vehicle owner and State I/M programs. It is recognized that fully functional OBD systems may periodically display not-ready codes when presented at an I/M test. Nevertheless, EPA believes that a fully functional system will eventually detect any problems in vehicle emission control systems and that such problems would certainly be detected during the next I/M inspection. If the system is not functional as a result of an inherent defect within the particular vehicle model or engine family then EPA anticipates such functional issues will be corrected either by a manufacturer or through EPA's enforcement programs.

In response to commenters supporting the readiness exemption proposal but opposing the use of back-up tailpipe testing, the Agency agrees. EPA believes that many of the current issues associated with implementation of the OBD-I/M check reflect a learning curve with respect to OBD, given

that OBDII has only been a universal requirement for light-duty vehicles and trucks sold in this country since 1996. The Agency believes that increased familiarity with the technology on the part of the testing and repair communities as well as public education and outreach efforts will go a long way toward mitigating many of these issues. EPA therefore hopes that the states and I/M testing contractors will perform diligently in executing OBD-I/M programs and resolve manageable issues in consultation with EPA and the manufacturers.

In response to Missouri and other commenters advocating the use of back-up testing for vehicles exceeding the proposed readiness exemption criteria, EPA reiterates its position that states may use discretion in dealing with this issue and, thus, the flexibility exists for a state to use back-up testing with no change in credit. However, if a state feels it should receive additional credit for conducting back-up testing of any type, the state must make the case to EPA for additional credit by demonstrating and determining the amount of additional credit it claims, which EPA will evaluate through the SIP approval process.

In response to specific comments from AAA concerning the inconvenience of setting readiness codes for non-

exempted, “not ready” vehicles, EPA has attempted to identify those vehicles that may have specific issues with readiness setting and is working with manufacturers to address those vehicles. Those vehicles which fall outside of the category of identified problem vehicles should experience proper readiness setting during normal vehicle operation and should not require special exemptions beyond those already proposed. Furthermore, although it is still possible that some vehicles may arrive for testing with unset readiness codes due to factors such as vehicle operation and the timing of repairs in relation to the OBD-I/M check, EPA believes proper outreach encouraging appropriate repair verification and sufficient lead time in seeking repairs should alleviate this problem. In addition, many technicians are trained or encouraged to perform proper repair verification by driving the vehicle before returning it to the customer to check whether readiness codes have been set and whether any of the DTCs leading to the original MIL illumination recur, post-repair. However, since this kind of repair verification is not a required practice, consumers should insist that service facilities follow best practices in performing repairs or seek repair facilities that will follow best practices.

In response to the commenters who oppose the readiness exemption proposal and want back-up testing for all vehicles with unset readiness codes, the Agency believes that the use of the OBD-I/M check exclusively for MY 1996 and newer vehicles is an acceptable means of evaluating this segment of the vehicle fleet and that use of back-up tailpipe testing has limited applicability. However, the Agency does not prohibit states from using their discretion in addressing this issue and the other issues mentioned by these commenters.

In response to specific comments from New Jersey, EPA's review of pilot data from Wisconsin indicate that at most 1 to 2 percent of the OBD-equipped fleet may qualify as exceeding the not-ready exemption criteria established by today's action, and that number is declining. Therefore, the readiness issue applies only to a small part of the fleet and there is little basis to support the claim that the OBD-I/M check cannot replace traditional I/M testing for OBD-equipped vehicles. Furthermore, it should be pointed out that traditional I/M tests also have known problems with regard to the testability of certain vehicles. For example, four wheel drive vehicles and vehicles with traction control cannot be tested on loaded-mode tests that use two wheel

drive dynamometers, and some vehicles with automatic transmission cannot be tested using the two-speed idle test. Despite these testability issues, however, states have nevertheless successfully implemented traditional I/M programs. The number of vehicles involved in these cases equal or exceed the number of vehicles identified as having unset readiness codes at the time of initial testing. EPA therefore does not believe that readiness and its implications for testability represent a unique issue with regard to the OBD-I/M check.

In response to Alaska's request to exclude MY 1996-97 vehicles from OBD-I/M testing because of concerns regarding DLC location and readiness issues associated with those model years, EPA believes the concerns at the base of this request have been largely addressed by the flexibility allowed under today's rule. Furthermore, study has shown that the readiness issue diminishes with time as more vehicles set their readiness monitors in normal operation. Regarding DLC locations issues, experience has shown that this issue diminishes quickly as inspectors and technicians become proficient. Additionally, comprehensive databases on DLC locations have been made available and are already proving to significantly reduce DLC location problems in the

field. It is also important to note that the CAA requires the use of OBD-I/M checks of vehicles so equipped, and EPA does not see a supportable justification for excluding these earlier OBD-equipped model years from the statutory OBD-I/M testing requirement. EPA therefore expects that states which perform OBD-I/M testing will use the OBD scan for 1996 and 1997 vehicles as required.

Regarding Alaska's desire to ignore DTCs and/or readiness codes not directly related to the particular pollutant for which an area has been designated non-attainment, EPA does not believe the CAA's requirement that OBD systems be inspected and that malfunctions and/or deterioration identified by such systems be repaired allows for this kind of discretion. Furthermore, allowing such discretion would largely invalidate the early-warning capacity of OBD through the MIL eclipsing effect discussed elsewhere, and would also send mixed signals with regard to responding to the MIL. Lastly, the emission control systems on OBD-equipped vehicles are complex, integrated, and inter-related systems; malfunction in one area can quickly lead to malfunctions in other areas, so that what starts as an HC problem can rapidly become a CO problem if not dealt with in a timely manner. Assuming that vehicle malfunctions can be

segregated into pollutant-specific bins grossly over-simplifies what is, in fact, a complex and inter-dependent system.

In response to comments from Maryland on several vehicle-specific issues, EPA has identified those vehicles that currently have readiness issues and has included a list of these vehicles as an appendix to the guidance document entitled "Performing Onboard Diagnostic System Checks as Part of a Vehicle Inspection and Maintenance Program" (which is available online at the following web address: www.epa.gov/otaq/regs/im/obd/obd-im.htm). In addition, the manufacturers that have identified readiness issues have already been required to make publicly available technical service bulletins detailing the specific issue, model year coverage, specific makes and models, and any available diagnostic information (i.e., driving cycle or operational information) to aid in setting the readiness codes. Also, EPA is currently drafting a separate NPRM to propose changes to the Service Information Rule (40 CFR 40474, August, 1995) that will include requirements for manufacturers to provide diagnostic drive cycles in their service manuals to aid technicians in exercising monitors and setting readiness codes. Finally, in response to concern that readiness

exemptions could lead to difficulty in meeting clean air goals, EPA reiterates that the number of OBD-equipped vehicles with unset readiness codes is quite small, and is declining. Furthermore, the subset of OBD-equipped vehicles with unset readiness codes which actually have emission problems that go unidentified because of these unset readiness codes is expected to be even smaller, and will eventually be identified once the readiness codes in question are set.

Lastly, in response to the request from Peter McClintock of Applied Analysis that the data collection items proposed for deletion be restored in the final rule, EPA has restored those data collection elements that would be applicable to those areas that opt to include some form of dual testing, whether as a back-up test for vehicles with unset readiness codes, or as a potential source of additional credit (per earlier discussion under "Reducing the Testing Burden"). EPA has added a caveat, however, that these elements are to be gathered only where applicable.

I. Applicability of Repair Waivers for OBD-equipped Vehicles

1. Summary of Recommendation

Currently, both the CAA and the existing 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 specifically addresses the OBD-I/M check when it comes to qualifying for waivers. However, the Act clearly states that the minimum amount to qualify for a waiver applies to any failure. Thus, EPA lacks the legal authority to prohibit states from allowing MY 1996 and newer, OBD-equipped vehicles to qualify for waivers. Nevertheless, in its September 20, 2000 NPRM, EPA recommended (but did not require) that states not allow MY 1996 and newer, OBD-equipped vehicles to be waived prior to receiving repairs to extinguish the MIL and clear any DTCs for which the MIL was illuminated. EPA also recommended that states consider providing repair subsidies or some other form of financial

assistance to address hardship cases for OBD-identified failures that would otherwise be addressed through the waiver process.

EPA made this recommendation because of the fundamental difference between how OBD-equipped vehicles and non-OBD-equipped vehicles are diagnosed and repaired. EPA expressed its belief 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 identifies what kind of problem and approximately where in the overall system it is occurring. The Agency also believes that the most successful use of the OBD system will result in motorists routinely responding to the MIL when first illuminated, as soon as a problem with the potential to produce high emissions is detected and before successful

repair becomes more costly. A program which allows repair waivers should take care so as not to discourage this immediate and routine motorist response to an illuminated MIL, which could occur if motorists postpone necessary repairs in hopes that the subsequent I/M program inspection will render such repairs "unnecessary" because of the waiver option.

2. Summary of Comments

A total of 15 commenters responded to the Agency's waiver recommendations for OBD equipped vehicles -- ten supporting the recommendation, and five opposing. Four states (New Hampshire, Vermont, Missouri, and New York) expressed support for EPA's recommendation, while Missouri suggested specific waiver flexibility options that meet that state's specific needs. Four commenters representing the automobile industry (APSA, AIAM, NADA, and ASA) submitted supporting comment with most noting the need for hardship exemptions or subsidies where waivers are disallowed. APSA also noted the need to actively promote owner response to MILs before inspection. Two other commenters (ESP and ALA) also supported EPA's recommendation, and suggested that the Agency reconsider its policy concerning model year

exemptions to encourage prompt motorist response to illuminated MILs.

Four states (Massachusetts, Alaska, Maryland, and California) and AAA disagreed with EPA's recommendation. Both Massachusetts and Alaska expressed concern that waivers might be necessary for older, high mileage vehicles. AAA noted that waivers are a means of consumer protection and that although EPA recommends states provide financial assistance in hardship cases, there is no guarantee that states will offer such assistance.

3. Response to Comments

EPA's position with regard to waiver policy for OBD vehicles is presented only as a recommendation, not a requirement, as noted in the proposal for this rule. The CAA clearly provides states the flexibility to offer waivers for any failure as long as the minimum expenditure requirements are met. Section 51.360 of the I/M rule further clarifies waiver issuance criteria and those requirements are not being amended in any way with this action today. The Agency's recommendation -- that states consider prohibiting OBD-equipped vehicles from receiving waivers -- is based on the inherent differences between how

the OBD-I/M check and traditional I/M tests identify vehicles in need of repair. The basis for that recommendation was detailed in the "Summary of Proposal" above and will not be restated here. Nevertheless, EPA did request comments or suggestions on alternative recommendations. The majority of commenters supported EPA's recommendation and concurred that special considerations should be made for hardship cases. The flexibility options suggested by at least one state are just that -- flexibilities that states may opt to use at their discretion, as long as minimum monetary waiver requirements are met. Obviously, states opposed to the recommendation may elect to provide waivers, as long as statutory and regulatory waiver requirements are met. With regard to concerns that OBD induced repairs may not be cost effective or may be more inequitable for low income motorists than is the case with tailpipe testing, EPA does not agree. Studies have shown that average repair costs for OBD-identified failures do not generally differ from average repairs that result from tailpipe testing. In fact, the Agency maintains that OBD-identified repairs have the potential to be more effective because of the targeted diagnosis which the technology offers. The Agency asks that states take the

above factors into consideration in determining how best to address the waiver issue with regard to MY 1996 and newer, OBD-equipped vehicles.

Regarding the suggestion made by ESP and ALA that EPA consider eliminating new model year exemptions for OBD-equipped vehicles, the Agency does not have the legal authority to establish such a restriction. Nevertheless, EPA appreciates the rationale for wanting to catch OBD-identified failures as soon as possible and agrees that early inspection of OBD-equipped vehicles could serve as an incentive to stimulate timely motorist response to illuminated MILs. Furthermore, early inspection of OBD-equipped vehicles could help ensure that OBD-identified failures are addressed within the warranty period for such repairs, thus providing not only environmental protection, but also consumer protection. Lastly, given the speed with which the OBD-I/M check can be performed, the Agency believes the additional testing burden could be modest, and may be worth states' reconsidering their model year coverage, given the potential benefits discussed above.

V. Discussion of Major Issues

A. Emission Impact of the Proposed Amendments

Today's action 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. Based upon its pilot testing, EPA believes that a program relying on OBD-I/M checks for MY 1996 and newer, OBD-equipped vehicles will just as effectively identify problem vehicles as any existing program combining IM240 exhaust testing with evaporative system purge and fill-neck pressure tests. However, nothing in today's action bars states from continuing their existing I/M tests in conjunction with OBD-I/M testing on MY 1996 and newer, OBD-equipped vehicles, should they so desire.

Data and analyses currently available to EPA are insufficient to establish any additional HC, CO, or NOx credit due to conducting loaded mode tests such as the ASM or IM240 in conjunction with the OBD-I/M test. As currently designed, the OBD monitoring strategy manufacturers are employing to determine catalyst efficiency tends to be optimized for identifying deterioration or malfunctions leading to increased HC emissions. EPA believes that the catalyst problems which would impact CO or NOx performance

would also tend to impact HC emission performance. However, some vehicles may be more sensitive to CO or NOx deterioration and therefore could fail for these pollutants under a traditional I/M exhaust test before deterioration of the catalyst's HC conversion efficiency was great enough to be detected by current catalyst OBD monitoring strategies. Furthermore, it is also possible that states that choose to engage in limited dual testing of vehicles with unset readiness monitors may also identify some additional high HC, CO, and/or NOx emitters that would otherwise be missed by OBD-only testing under the limited unset readiness exemption provided in today's action. Because we see no good regulatory reason to prohibit a state from voluntarily pursuing such additional emission benefits, EPA invites interested states to develop the information necessary to quantify any additional SIP credit for either full or limited dual testing, based upon actual, operating program data. EPA will determine the adequacy of these demonstrations through rulemaking on a case-by-case basis.

B. Impact on Existing and Future I/M Programs

States with approved I/M SIPs will not have to remodel the emission reduction potential of their I/M programs if

they choose to exempt MY 1996 and newer, OBD-equipped vehicles from traditional I/M tests in favor of mandatory OBD-I/M checks on those same 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 action is aimed at lessening the overall burden on states while also improving program efficiency and cost effectiveness; the action 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 action provides states with an incentive to increase the cost effectiveness and efficiency of their existing I/M programs. The action will lessen rather than increase the potential economic burden on states. Most significantly, today’s action allows states the discretion to suspend traditional I/M tests on MY 1996 and newer, OBD-equipped vehicles in favor of conducting the OBD-I/M check on these same vehicles. This constitutes a net lessening of the burden relative to the requirement in place prior to today’s action (i.e., that MY 1996 and newer, OBD-equipped

vehicles receive both the traditional I/M test(s) and the OBD-I/M check). Furthermore, states are under no obligation, legal or otherwise, to modify existing plans meeting the previously applicable requirements as a result of today's action.

VII. Administrative Requirements

A. Administrative Designation

It has been determined that these 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 these amendments create an annual effect on the economy of $100 million or more or otherwise adversely affect the economy or the environment. This action 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 these amendments 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 Analysis

EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule. EPA has also determined that this rule will not have a significant economic impact on a substantial number of small entities. For purposes of assessing the impact of today's rule on small entities, small entities are defined as including small government jurisdictions, 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 however only apply to urbanized areas with population in excess of either 100,000 or 200,000 depending on location.

Therefore, after considering the economic impacts of today's final rule on small entities, EPA has concluded that this action will not have a significant economic impact on a

substantial number of small entities. This final rule will not impose any requirements on small entities, since all jurisdictions effected by the rule exceed the definition of small government jurisdictions. Furthermore, the impact created by this action does not increase the preexisting burden of the existing rules which this action amends.

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 today's 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

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 enable them to lower economic burdens relative to those resulting from the currently existing I/M rule which today's action amends.

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.

Today's action 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 amendments is to provide states greater flexibility with regard to pre-existing regulatory 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. Consultation and Coordination with Indian Tribal Governments

On November 6, 2000, the President issued Executive Order 13175 (65 FR 67249) entitled, "Consultation and Coordination with Indian Tribal Governments." Executive Order 13175 took effect on January 6, 2001, and revokes Executive Order 13084 (Tribal Consultation) as of that date. EPA developed this final rule, however, during the period when Executive Order 13084 was in effect; thus, EPA addressed tribal considerations under Executive Order 13084.

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 action does not significantly or uniquely affect the communities of Indian tribal governments. Today's action does not create a mandate on tribal governments or create any additional burden or requirements for tribal government. The action 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. Today's action 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, through OMB, with explanations when an agency decides not to use available and applicable voluntary consensus standards.

Today's action does not involve technical standards. Therefore, EPA is not considering the use of any voluntary consensus standards.

I. Congressional Review Act

The Congressional Review Act, 5 U.S.C. section 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. This rule is not a "major rule" as defined by 5 U.S.C. section 804 (2).

J. Judicial Review

Under section 307 (b)(1) of the Act, EPA hereby finds that these regulations are of national applicability. Accordingly, judicial review of this action is available only by filing of a petition for review in the United States Court of Appeals for the District of Columbia Circuit within 60 days of publication in the Federal Register. Under section 307 (b)(2) of the Act, the requirements which are the subject of today's rule may not be challenged later in judicial proceedings brought by EPA to enforce these requirements. This rulemaking and any petitions for review are subject to the provisions of section 307 (d) of the Clean Air Act.

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, Transportation.

40 CFR Part 85

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

Dated:_____

_____

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 amended to read as follows:

PART 51-[AMENDED]

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

Authority: 23 U.S.C. 101; 42 U.S.C. 7401-7671q.

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

§51.351 Enhanced I/M performance standard.

* * * * *

(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 equivalent to performing the evaporative system purge test, the evaporative system fill-neck pressure test, and the IM240 using grams-per-mile (gpm) cutpoints of 0.60 gpm HC, 10.0 gpm CO, and 1.50 gpm NOx on MY 1996 and newer vehicles and assuming a start date of January 1, 2002 for the OBD-I/M portion of the performance standard. This interim credit assessment does not add to but rather replaces credit for any other test(s) that may be performed on MY 1996 and newer vehicles, with the exception of the gas-cap-only evaporative system test, which may be added to the State's program to generate additional HC reduction credit. 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. Once MOBILE6 is released and its use required, the interim, MOBILE5-based modeling methodology described in this section will be replaced by the OBD-I/M credit available from the MOBILE6 and subsequent mobile source emission factor models.

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3. Section 51.352 is amended by revising paragraph (c) to read as follows:

§51.352 Basic I/M performance standard.

* * * * *

(c) On-board diagnostics (OBD). The performance standard shall include inspection of all 1996 and later light-duty vehicles 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 I/M performance standard may be assumed to be equivalent to performing the evaporative system purge test,

the evaporative system fill-neck pressure test, and the IM240 using grams-per-mile (gpm) cutpoints of 0.60 gpm HC, 10.0 gpm CO, and 1.50 gpm NOx on MY 1996 and newer vehicles and assuming a start date of January 1, 2002 for the OBD-I/M portion of the performance standard. This interim credit assessment does not add to but rather replaces credit for any other test(s) that may be performed on MY 1996 and newer vehicles, with the exception of the gas-cap-only evaporative system test, which may be added to the State's program to generate additional HC reduction credit. 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. Once MOBILE6 is released and its use required, the interim, MOBILE5-based modeling methodology described in this section will be

replaced by the OBD-I/M credit available from the MOBILE6 and subsequent mobile source emission factor models.

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4. Section 51.356 is amended by adding a new paragraph (a)(6) to read as follows:

§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.

5. Section 51.357 is amended by revising paragraphs (a)(5), (a)(12), (b)(1), (b)(4) and (d) introductory text to read as follows:

§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. Coincident with mandatory OBD-I/M testing and repair of vehicles so equipped, MY 1996 and newer vehicles shall be rejected from testing if a scan of the OBD system reveals a "not ready" code for any component of the OBD system. At a state's option it may chose alternatively to reject MY 1996 - 2000 vehicles only if three or more "not ready" codes are present and to reject MY 2001 and later model years only if two or more "not ready" codes are present. This provision does not release manufacturers from the obligations regarding readiness status set forth in 40 CFR 86.094-17(e)(1): "Control of Air Pollution From New Motor Vehicles and New Motor Vehicle Engines: Regulations Requiring On-Board Diagnostic Systems on 1994 and Later Model Year Light-Duty Vehicles and Light-Duty Trucks." Once the cause for rejection has been corrected, the vehicle must return for testing to continue the testing process. Failure to return for testing in a timely manner 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. Alternatively, states may elect to phase-in OBD-I/M testing for one test cycle by using the OBD-I/M check to screen clean vehicles from tailpipe testing and require repair and retest for only those vehicles which proceed to fail the tailpipe test. An additional alternative is also available to states with regard to the deadline for mandatory testing, repair, and retesting of vehicles based upon the OBD-I/M check. Under this third option, if a state can show good cause (and the Administrator takes notice-and-comment action to approve this good cause showing as a revision to the State's Implementation Plan), up to an additional 12 months' extension may be granted, establishing an alternative start date for such states of no later than January 1, 2003. States choosing to make this showing will also have

available to them the phase-in approach described in this section, with the one-cycle time limit to begin coincident with the alternative start date established by Administrator approval of the showing, but no later than January 1, 2003. The showing of good cause (and its approval or disapproval) will be addressed on a case-by-case basis by the Administrator.

* * * * *

(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 loaded mode 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).

* * * * *

(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. Alternatively, states may elect to phase-in OBD-I/M testing for one test cycle by using the OBD-I/M check to screen clean vehicles from tailpipe testing and require repair and retest for only those vehicles which proceed to fail the tailpipe test. An additional alternative is also available to states with regard to the deadline for mandatory testing, repair, and retesting of vehicles based upon the OBD-I/M check. Under this third option, if a state can show good cause (and the Administrator takes notice-and-comment action to approve this good cause showing), up to an additional 12 months' extension may be granted, establishing an alternative start date for such states of no later than January 1, 2003. States choosing to make this showing will also have available to them the phase-in approach described in this section, with the one-cycle time limit to begin coincident with the alternative start date established by Administrator approval of the showing, but no later than January 1, 2003. The showing of good cause (and its approval or disapproval) will be addressed on a case-by-case basis.

* * * * *

(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 is missing, has been tampered with or which has been altered in such a way as to make OBD system testing impossible. Such vehicles shall be failed for the on-board diagnostics portion of the test and are expected to be repaired so that the vehicle is testable. Failure to return for retesting in a timely manner after failure and repair 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 onboard computer shall be capable of testing all MY 1996 and newer, OBD-equipped light-duty vehicles and light-duty trucks.

* * * * *

7. Section 51.366 is amended by revising paragraphs (a)(2)(xi), (a)(2)(xii), (a)(2)(xiii), (a)(2)(xiv), (a)(2)(xv), (a)(2)(xvi), (a)(2)(xvii), and (a)(2)(xviii) to read as follows:

§51.366 Data analysis and reporting.

* * * * *

(a) * * *

(1) * * *

(2) * * *

* * * * *

(xi) Passing the on-board diagnostic check;

(xii) Failing the on-board diagnostic check;

(xiii) Failing the on-board diagnostic check and passing the tailpipe test (if applicable);

(xiv)Failing the on-board diagnostic check and failing the tailpipe test (if applicable);

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

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

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

(xviii) Failing both the on-board diagnostic check and I/M gas cap evaporative system test (if applicable);

* * * * *

8. Section 51.373 is amended by revising paragraph (g) to read as follows:

§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. Alternatively, states may elect to phase-in OBD-I/M testing for one test cycle by using the OBD-I/M check to screen clean vehicles from tailpipe testing and require repair and retest for only those vehicles which proceed to fail the tailpipe test. An additional alternative is also available to states with regard to the deadline for mandatory testing, repair, and retesting of vehicles based upon the OBD-I/M check. Under this third option, if a state can show good cause (and the Administrator takes notice-and-comment action to approve this good cause showing), up to an additional 12 months' extension may be granted, establishing an alternative start date for such states of no later than January 1, 2003. States choosing to make this showing will also have available to them the phase-in approach described in this section, with the one-cycle time limit to begin coincident with the alternative start date established by Administrator approval of the showing, but no later than January 1, 2003. The showing of good cause (and its approval or disapproval) will be addressed on a case-by-case basis.

PART 85--CONTROL OF AIR POLLUTION FROM MOBILE SOURCES

9. The authority citation for part 85 continues to read as follows:

Authority: 42 U.S.C. 7401-7671q.

10. Section 85.2207 is amended by revising paragraph (d) to read as follows:

§85.2207 On-board diagnostics test standards.

* * * * *

(d) 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.

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

§85.2222 On-board diagnostic test procedures.

* * * * *

(a) The on-board diagnostic inspection shall be conducted with the key-on/engine running (KOER), with the exception of inspecting for MIL illumination as required in section (d)(4) of this section, during which the inspection shall be conducted with the key-on/engine off (KOEO).

* * * * *

(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.

(1) Coincident with the beginning of mandatory testing, repair, and retesting based upon the OBD-I/M check, if the readiness evaluation indicates that any on-board tests are not complete the customer shall be instructed to return after the vehicle has been run under conditions that allow completion of all applicable on-board tests. If the readiness evaluation again indicates that any on-board test is not complete the vehicle shall be failed.

(2) An exception to paragraph (c)(1) of this section is allowed for MY 1996 to MY 2000 vehicles, inclusive, with two or fewer unset readiness monitors, and for MY 2001 and newer vehicles with no more than one unset readiness monitor.

Vehicles from those model years which would otherwise pass the OBD inspection, but for the unset readiness code(s) in question may be issued a passing certificate without being required to operate the vehicle in such a way as to activate those particular monitors. Vehicles from those model years with unset readiness codes which also have diagnostic trouble codes (DTCs) stored resulting in a lit malfunction indicator light (MIL) must 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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13. Section 85.2231 is amended by removing and reserving paragraph (d).