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The State of New Jersey
Department of Environmental Protection

Enhanced Inspection and Maintenance (I/M) Program for the State of New Jersey

Amendments to the New Jersey Division of Motor Vehicles' Enhanced Inspection and Maintenance (I/M) Rules

Proposed SIP Revision

June 9, 2001

Preface

This document is a revision to the State of New Jersey's Enhanced Inspection and Maintenance (I/M) Program State Implementation Plan (SIP). The New Jersey Division of Motor Vehicles (NJDMV) has proposed several amendments to its rules governing the implementation and operation of the State's enhanced I/M program. This rule proposal, which appeared in the June 4, 2001 New Jersey Register, contains several rule changes which, if adopted, will have some impact on the overall emission reduction potential of the I/M program. As such, the purpose of this document is to explore those proposed rule amendments which relate to the emission testing portion of the enhanced I/M program, and determine the significance of their impact on the environmental benefits of the program.

Acknowledgments

The New Jersey Department of Environmental Protection (NJDEP) acknowledges the efforts and assistance of the many agencies and individuals whose contributions were instrumental in the preparation of this SIP revision. In particular, the NJDEP wishes to acknowledge the many individuals within the New Jersey Department of Transportation (NJDOT), the New Jersey Division of Motor Vehicles (NJDMV), the USEPA Region II, and the staff within the NJDEP for their assistance and guidance.

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Acronyms and Abbreviations:

ASM	Acceleration Simulation Mode
CIF	Central Inspection Facility
CO	Carbon monoxide
ERF	Emission Repair Facility
Fed. Reg.	Federal Register
HC	Hydrocarbons
I/M	Inspection and Maintenance
MY	Model Year
NAAQS	National Ambient Air Quality Standards
NJDEP	New Jersey Department of Environmental Protection
NJDMV	New Jersey Division of Motor Vehicles
NJDOT	New Jersey Department of Transportation
NO	Nitric Oxide
NO_x	Oxides of Nitrogen
PI&TG	Parsons Infrastructure and Technology Group
PIF	Private Inspection Facility
ppm	parts per million
RPM	Revolutions per Minute
SIP	State Implementation Plan
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds

Executive Summary

This document revises the State of New Jersey's Enhanced Inspection and Maintenance (I/M) State Implementation Plan (SIP) to include amendments to the New Jersey Division of Motor Vehicles' (NJDMV) rules governing the implementation and operation of the State's enhanced I/M program. The NJDMV's proposed rule amendments, which appeared in the June 4, 2001 edition of the New Jersey Register, makes numerous changes to the current I/M program. Some of the program changes are administrative in nature or relate solely to the safety portion of the State's inspection program, and as such do not impact the emission reduction potential of the I/M program. These non-emission-related amendments will not be discussed in this document nor are they considered part of this SIP revision. For more information on these non-emission-related proposed rule changes, please see the NJDMV's regulatory proposal, included as Appendix I of this document.

The NJDMV's proposed rulemaking does make the following changes to the NJDMV's I/M regulations which could impact the air quality benefits associated with the enhanced I/M program:

- provides that if leasing companies and out-of-state new motor vehicle dealerships inspect a new motor vehicle's safety and emission control devices to insure that they conform to the specifications established by the manufacturer and contained in the pre-delivery checklist, the vehicle can be issued a temporary inspection decal. This decal allows the motorist to present the vehicle at the exit end of any CIF and be issued a two year inspection decal;

- exempts gasoline-fueled school buses, which are subject to inspection by the NJDMV's School Bus Inspection Unit, from the inspection requirements of the enhanced I/M program;

- allows any motor vehicle that passes an on-road inspection within the two-month period prior to its regularly scheduled biennial inspection to use the on-road

inspection result in lieu of the complete biennial inspection, so long as the tests performed on-road are the same tests that would be performed on the vehicle as part of the biennial inspection process;

- exempts from dynamometer testing any motor vehicle "with a chassis height that has been modified so as to make its operation on a dynamometer either impractical or hazardous, as will be determined in the discretion of the Director [of the NJDMV]''; and,

- changes the minimum cost expenditure value needed for the issuance of a cost waiver from $200 to $450 as of January 1, 2002.

None of the proposed amendments to the NJDMV's rules will significantly impact the emission reduction potential of the enhanced I/M program. As such, no remodeling of the emission reduction benefits of the program for SIP purposes is necessary.

I. Introduction:

A. Background

In accordance with the requirements of the Clean Air Act (CAA), the State of New Jersey implemented an enhanced inspection and maintenance (I/M) program on December 13, 1999. The implementation of this program is an integral part of New Jersey's plan to attain and maintain compliance with the health-based National Ambient Air Quality Standards (NAAQS) for ozone and for carbon monoxide (CO). According to the State's 1996 Emission Inventory for the State, gasoline-fueled motor vehicles contributed approximately 29 percent of the volatile organic compounds, 34 percent of the oxides of nitrogen (NO_x) and 45 percent of the summertime carbon monoxide. NO_x and VOC[1] are precursors to the formation of ozone. As such, any measure aimed at reducing the emission of these pollutants will help the State in its efforts to improve its air quality, protect the health and welfare of its citizens and attain and maintain the NAAQS for ozone and carbon monoxide.

The enhanced I/M program is designed to detect gasoline-fueled motor vehicles operating with excessive emissions under test conditions that represent more realistic driving conditions compared to New Jersey's previous, basic I/M program. In addition, the enhanced program inspects vehicles to detect excess emissions of nitric oxide (NO), a pollutant that was not measured as part of the basic I/M program.

New Jersey's enhanced I/M program design is a hybrid network system that consists of both centralized, test-only and decentralized test-and-repair facilities. A private contractor, Parsons Infrastructure and Technology Group (PI&TG), operates the centralized portion of the inspection network. The decentralized network is comprised of over 1,400 Private Inspection Facilities (PIFs) that are privately owned and operated, and licensed by the NJDMV to perform vehicle inspections on behalf of the State. This hybrid network design gives motorists a choice as to where to have their vehicles

[1] Hydrocarbons (HCs), which are the pollutants detected by the enhanced I/M system, are a subset of the VOC category of pollutants. Similarly, nitric oxide (NO), the pollutant measured by the enhanced I/M system, is a subset of the NO_x category of pollutants.

inspected.

B. Purpose

The purpose of this document is to revise the State of New Jersey's enhanced I/M SIP to include amendments to the NJDMV's rules governing the implementation and operation of the enhanced I/M program.

II. History of New Jersey's I/M SIP

A. Basic I/M SIP

In 1974, New Jersey, under commitments made in its basic I/M SIP, began mandatory enforcement of its basic I/M program. The State's basic I/M SIP consisted of an annual inspection program whereby all gasoline-fueled motor vehicles, unless specifically exempt through law or regulation, were subject to an idle exhaust emission test. Although several subsequent revisions were made to the State's basic I/M SIP, the core of the program remained unchanged. Major changes in the State's basic I/M program over time included: 1) the addition of a visual inspection for the presence of a catalytic converter, 2) the addition of an inlet restrictor test to determine whether a vehicle's fuel inlet was sufficiently narrow to preclude use of a leaded gasoline nozzle, thereby preventing the use of leaded fuel, and 3) modification of the program network design to allow for private inspection facilities. This third major change expanded the inspection facility network to include non-state operated inspection facilities that could do both inspections and repairs. Although these private facilities were originally only allowed to perform re-inspections, their responsibilities were later augmented to included initial inspection as well.

B. Enhanced I/M SIP

The Clean Air Act (CAA) required the implementation of enhanced I/M programs for areas meeting one or more of the following criteria:

2) designated as a serious, severe or extreme ozone non-attainment area with urbanized populations of 200,000 or more[2] ;

2) designated as a carbon monoxide non-attainment area that exceeds a 12.7 ppm design value with urbanized populations of 200,000 or more[3]; or,

3) part of a Metropolitan Statistical Area with a population of 100,000 or more

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[2] 42 U.S.C.A. §7511a (c)(3).

[3] 42 U.S.C.A. §7512a(a)(6).

in the Northeast Ozone Transport Region (OTR)[4] .

[4] 42 U.S.C.A. §7511c(b)(1)(A).

New Jersey met all three of these criteria for required implementation of an enhanced I/M program. As part of this requirement, Congress established performance specifications that were further elucidated by the USEPA. Specifically, the USEPA's promulgated rules and established guidance, including a performance standard and program administration features, for the implementation of enhanced I/M programs. The USEPA's final rule on Inspection/Maintenance Program Requirements was promulgated on November 5, 1992.[5] Subsequently, on June 29, 1995, New Jersey submitted a SIP to the USEPA that described its enhanced I/M program design. This SIP described an inspection program whereby all 1968 and newer gasoline fueled motor vehicles, unless specifically exempt through law or regulation, would be subject to a steady-state dynamometer-based exhaust emission test known as the ASM5015. In addition, post-1974 (i.e., 1975 and newer) vehicles would receive pressure and purge tests designed to detect any malfunctions with the vehicle's evaporative emission control system. All pre-1968 vehicles would continue to be subject to the idle exhaust emission test. New Jersey's enhanced I/M SIP also accounted for a hybrid (i.e., both centralized, test-only and decentralized, test-and-repair facilities) inspection network, similar to the one established for New Jersey's basic I/M program. This SIP stated that, in accordance with the NJDEP rules at N.J.A.C. 7:27-15.5(b), once the enhanced I/M program was fully implemented, all subject motor vehicles would be inspected at least once every two years (i.e., biennially).

C. Enhanced I/M SIP Revision - March 27, 1996

On March 27, 1996, New Jersey submitted a revision to its June 29, 1995 enhanced I/M SIP, modifying its enhanced I/M program design to take advantage of the additional flexibility afforded states by Congress in designing their enhanced I/M programs. Specifically, the National Highway System Designation Act of 1995, P.L. 104-59 [S.440], (NHSDA) prohibited the USEPA from automatically discounting decentralized program formats by 50 percent, as had previously been prescribed in the USEPA's final rule on I/M program requirements.[6] Rather, the NHSDA allowed states to claim any reasonable amount of credit for their decentralized programs that they deemed appropriate, so long as 18 months from the approval of their enhanced I/M SIP the State could show six month of full implementation enhanced I/M program data substantiating their credit claim. Consistent therewith, as part of its March 27, 1996 enhanced I/M SIP revision, New Jersey claimed 80 percent credit for the decentralized portion of its enhanced I/M program. On December 13, 2000, in compliance with its NHSDA credit claim, New Jersey submitted to the USEPA a qualitative analysis of four month of data showing the effectiveness of the decentralized portion of its enhanced I/M program relative to its centralized test-only network. On May 4, 2001, New Jersey proposed its final report for NHSDA compliance, which evaluated six full months of program implementation data using various data analysis methodologies.

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[5] 40 C.F.R. _51, 57 Fed. Reg. 52950 (November 5, 1992).

[6] 40 C.F.R. _51.353, 57 Fed. Reg. 52990 (November 5, 1992).

In addition to taking advantage of the flexibility afforded by the NHSDA, the March 27, 1996 enhanced I/M SIP revision modified the model year coverage of the ASM5015 test and evaporative system pressure and purge test to the following: all 1981 and newer light-duty vehicles, other than low mileage and full-time four-wheel drive vehicles, would be subject to the steady-state dynamometer-based exhaust emission test known as the ASM5015, as well as an evaporative system pressure and purge test. Vehicles 1980 and older would be subjected to the basic idle emission test, as well as a gasoline cap pressure test.

Finally, as part of this March 27, 1996 revision to the State's enhanced I/M SIP, the test frequency of the State's current inspection process was slightly modified in connection with an enhanced demonstration phase. During this demonstration phase, vehicles that successfully passed a voluntary enhanced emission test would receive an inspection sticker valid for two years.

On May 14, 1997, the USEPA granted conditional interim approval to New Jersey's enhanced I/M SIP.[7] This conditional interim SIP approval, which became effective on June 13, 1997, addressed both the State's original June 29, 1995 enhanced I/M SIP submittal and its subsequent March 27, 1996 SIP revision. New Jersey subsequently satisfied the conditions of this approval by rectifying the two major deficiencies in its enhanced I/M SIP identified by the USEPA (New Jersey cured the first major enhanced I/M SIP deficiency by providing final and complete test equipment specifications, test procedures and emission standards to the USEPA by January 31, 1997[8]; and cured the second major enhanced I/M SIP deficiency by providing enhanced I/M performance standard modeling to the USEPA by February 1, 1998[9]). In addition, on December 14, 1998, New Jersey cured the eight (8) de minimis deficiencies identified by the USEPA[10], even though the satisfaction of those de minimis deficiencies had no effect on the USEPA's interim approval.[11]

D. Enhanced I/M SIP Revision - June 5, 1998

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[7] 40 C.F.R. 52, 62 Fed. Reg. 26401 (May 14, 1997).

[8] These documents were submitted as an attachment to a letter dated January 31, 1997 from Commissioner Robert C. Shinn, Jr., New Jersey Department of Environmental Protection, to Jeanne M. Fox, Regional Administrator, USEPA, Region II.

[9] This modeling and its supporting documentation were submitted as an attachment to a letter dated January 30, 1998 from Commissioner Robert C. Shinn, Jr., New Jersey Department of Environmental Protection to William J. Muszynski, P.E., Deputy Regional Administrator, USEPA, Region II.

[10] The State of New Jersey Department of Environmental Protection, Revision to the State Implementation Plan (SIP) for the Inspection and Maintenance (I/M) Program for the State of New Jersey, December 14, 1998.

[11] 61 Fed. Reg. 56172, (October 31, 1996).

On June 5, 1998, New Jersey submitted a revision to its enhanced I/M SIP, clarifying the testing frequency during the transition between the basic I/M program and the full implementation of the enhanced I/M program. Although the previous SIP revisions clearly define the testing frequency of both New Jersey's basic and enhanced I/M programs, they did not definitively specify the testing frequency during the transition period between the two programs.

As part of the June 5, 1995 SIP revision, the State determined that during the transition period, the basic I/M program would continue to operate, but on a biennial, rather than annual, test frequency. This was done to accommodate the decreased availability of centralized inspection lanes while they were being retrofitted for enhanced testing. To make this modification to the basic I/M program's test frequency, this SIP revision quantified the emission reduction losses anticipated from this modification and provided an equivalency demonstration showing the State plan to offset those losses in emission reduction benefit. Specifically, to compensate for the loss in VOC emission reduction benefit from modifying the basic I/M program's test frequency, New Jersey: 1) began administering fuel cap pressure tests as part of its basic I/M program in its centralized inspection facilities, and 2) began fuel cap/evaporative emission control system visual inspections as part of its basic I/M program in its decentralized inspection facilities. The loss in carbon monoxide emission reduction benefit from modifying the basic I/M program's test frequency was offset by crediting emission reduction benefits gained from vehicle fleet turnover which had not already been claimed by the State in its carbon monoxide SIP[12]. Vehicle fleet turnover results in newer vehicles with more advanced emission controls replacing older, less advanced vehicles within the State vehicle population. The State submitted modeling analyses showing that both of the above strategies more than compensated for the loss in VOC and carbon monoxide emission reduction benefits from modifying the basic I/M program's test frequency. The USEPA approved the State's June 5, 1998 revision to its enhanced I/M SIP on August 26, 1998.[13]

E. Proposed Enhanced I/M SIP Revision - May 4, 2001

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[12] The New Jersey State Implementation Plan (SIP) Revision for the Attainment and Maintenance of the Carbon Monoxide National Ambient Air Quality Standard, November 17, 1994. The State, on July 10, 1997, proposed a revision to this SIP. A hearing on this proposal took place on August 11, 1997 and the comment period closed on August 20, 1997. This SIP revision was submitted to the USEPA on August 7, 1998. To date, the USEPA has taken no action on New Jersey's submittal.

[13] 63 Fed. Reg. 45402 (August 26, 1998).

On May 4, 2001, the State of New Jersey proposed a revision to its enhanced I/M SIP which included:

1) the State's final submittal for compliance with the National Highway Systems Designation Act (NHSDA); and,
2) a revision to New Jersey's performance standard modeling.

A hearing on this proposed SIP revision was held on June 6, 2001.

As part of this proposed SIP revision, the State included its final NHSDA report. This report was designed to support the claim New Jersey made in its March 27, 1996 enhanced I/M SIP revision that its decentralized network (the private inspection facilities, or PIFs) is at least 80 percent as effective as its centralized network (the centralized inspection facilities, or CIFs). This report showed that both New Jersey's centralized test-only and decentralized test-and-repair program networks are effectively identifying vehicles with unacceptably high levels of emissions, and the State-registered Emission Repair Facilities (ERFs) are significantly reducing vehicle emissions through effective repairs. Specifically, the NHSDA analyses show overall emission reductions of 55 percent for HC, 58 percent for NO_x and 84 percent for carbon monoxide from the vehicles repaired after failing inspection. These analyzes shows relatively uniform emission reductions attributable to both network types of New Jersey's enhanced I/M program, demonstrating that the PIFs are clearly 80 percent as effective as the CIFs, and in fact showing that the State was conservative in this original estimation.

The second section of the May 4, 2001 proposed enhanced I/M SIP revision addressed the State's performance standard modeling for the enhanced I/M program. The State originally submitted its performance standard modeling to the USEPA on January 30, 1998, to satisfy a condition of the USEPA's conditional interim approval of New Jersey's enhanced I/M program SIP.[14] At that time, the State had not yet implemented its enhanced I/M program, requiring the NJDEP to make certain assumptions about the program, such as the expected date for the implementation of final cutpoints. Since the State is now implementing its enhanced I/M program, the USEPA requested that the State update its performance standard modeling to more accurately reflect the program as implemented. The proposal's revised performance standard

[14] 40 C.F.R. 52, 62 Fed. Reg. 26401 (May 14, 1997).

[15]

modeling demonstrates that for an evaluation year of 2002, the State exceeds the applicable enhanced performance standard.

III. Proposed Regulatory Amendments

The NJDMV has proposed amendments to its rules governing the implementation and operation of the enhanced I/M program. This rule proposal is included as Appendix I of this document and appeared in the June 4, 2001 edition of the New Jersey Register.

The NJDMV's rule changes are numerous and considered substantive in nature. However, several of the rule changes are either administrative in nature or relate only to the safety portion of the State's enhanced I/M program. As such, these changes will not be discussed in this document and are not considered part of this SIP revision. The remainder of this section will discuss those NJDMV rule changes that could impact the emission reduction potential of the I/M program with regard to the State's enhanced I/M SIP.

Major NJDMV Rule Changes:

N.J.A.C. 13:20-7.2: Inspection of motor vehicles; test frequency; exempt vehicles

The NJDMV, with the concurrence of the NJDEP, has added to its list of vehicles exempt from the enhanced I/M program inspection requirements any gasoline-fueled vehicle registered as a school bus and subject to inspection by the NJDMV's School Bus Inspection Unit in accordance with N.J.S.A. 39:3B-18 et seq.

The current school bus regulations require biannual (that is, twice annually) inspections by the NJDMV's School Bus Inspection Unit for safety violations. In addition to these biannual safety inspections, the NJDMV's School Bus Inspection Unit inspected the majority of gasoline-fueled school buses annually using a 2500 RPM test. However, certain gasoline-fueled vehicles registered as school buses, such as vans and sport utility vehicles used by schools to transport students, because of their Gross Vehicle Weight Rating (GVWR) and body style configuration, were governed by the enhanced I/M requirements. As such, this small population of the overall gasoline-fueled school bus fleet is currently inspected biennially (that is, every other year), either at a centralized inspection facility or by a private inspection facility. As part of the enhanced program, these vehicles are subject to either a ASM5015 exhaust emission test, or for those which are not amenable to dynamometer testing (i.e., full time, four-wheel drive vehicles), a 2500 RPM test. This proposed rule amendment would exempt this subset of the school bus fleet from the enhanced I/M program requirements.

The NJDMV is in the process of modifying its school bus regulations, and anticipates proposing these amendments by September of this year. As part of this school bus regulation proposal, all school buses, including those specifically exempt from the enhanced I/M inspection requirements by this rule proposal, will be inspected for emissions biannually (that is, twice annually) with the 2500 RPM test. Since school buses are already inspected biannually for safety, adding an additional emission test to this regulation should not cause any additional resource or personnel requirements on the part of the NJDMV.

The 2500 RPM test measures for VOC and CO emissions; as opposed to the ASM5015 test, which also measures for NO. As such, conducting a 2500 RPM test in lieu of an ASM5015 test could result in some loss in overall NO_x reduction benefit. However, this loss in benefit will be at least partially compensated for by the increased inspection frequency, which could potentially result in increased VOC and/or CO emission reductions. This offset will occur because these vehicles typically have high mileage accumulation rates, and, as such, their engines have the potential to deteriorate more rapidly. In addition, as mentioned previously, some of these vehicles would have received a 2500 RPM test under the enhanced I/M requirements, due to their inability to be tested on dynamometer. For these vehicles, there would be no loss in overall NO_x reduction benefit.

The population of vehicles registered as school buses that would have been subject to the enhanced I/M regulations initially is minimal, approximately 3,800 vehicles, or 19 percent of the total school bus fleet. Taking all this into consideration, the State is confident that this proposed rule change will have minimal, if any, adverse impact on the emission reduction potential of the overall enhanced I/M program.

N.J.A.C. 13:20-7.4(b): Temporary authorization certificates; period of validity

As part of this section, the NJDMV has relieved new motor vehicle owners who purchase their vehicles out-of-state from the requirement of having that vehicle inspected at either a CIF or PIF within 14 days of the issuance of a temporary authorization certificate. Instead, these individuals can present the new vehicle at the exit end of any CIF for issuance of a new motor vehicle inspection decal.

Currently, New Jersey licensed new car dealerships are authorized by the NJDMV to inspect the safety devices on a new motor vehicle and perform any services need to insure that the vehicle conforms to the specifications established by the manufacturer and contained in its pre-delivery checklist. At N.J.A.C. 13:20-28.4, the NJDMV is proposing to clarify that this new car "inspection" also includes emission control devices. After making the assessment that the vehicle conforms the manufacturer's specifications, these dealerships can then affix a new motor vehicle inspection decal on the vehicle, thereby eliminating the need for the motorist to have the vehicle fully inspected at a CIF. The NJDMV's rule change at N.J.A.C. 13:30-7.4(b) would

essentially make the same concession for any New Jersey motorist who purchases his or her vehicle out-of-state, by allowing the out-of-state dealership to inspect the vehicle to insure it conforms to manufacturer specifications so that a temporary inspection decal can be issued for the vehicle. These out-of-State dealership inspections would then eliminate the need for the motorist to have the vehicle fully inspected at a State-licensed inspection facility. New motor vehicles typically produce minimal, if any, excess emissions and are expected to pass the ASM5015 exhaust emission test and gas cap pressurization test. As such, the State already allows new motor vehicles, purchased in New Jersey, to bypass a full motor vehicle inspection upon purchase. This proposed rule change makes a similar concession for new motor vehicles purchased out-of-state and, as such, the NJDEP does not see this proposed rule change as having any impact on the emission reduction potential of the overall enhanced I/M program.

N.J.A.C. 13:20-28

Similar to the changes at N.J.A.C. 13:20-7.4(b) above, the NJDMV has extended new motor vehicle inspection rules to motor vehicle leasing companies. Specifically, this proposed rule change provides any motor vehicle leasing company that takes delivery of a new motor vehicle from a franchised New Jersey dealership with privileges similar to those ascribed to the dealership itself. That is, the leasing company can now: 1) inspect the safety and emission control devices on a new motor vehicle and perform any services needed to insure that the vehicle conforms to the specifications established by the manufacturer and contained in the manufacturer's pre-delivery checklist, and 2) if appropriate, affix a temporary inspection decal on the vehicles so that the vehicle owner can get a two year inspection decal at the exit end of any CIF without being subject to a full vehicle inspection.

As with the proposed regulatory change at N.J.A.C. 13:20-7.4(b), the NJDEP does not see this proposed rule change as having any impact on the emission reduction potential of the overall enhanced I/M program because of the high rate of compliance with the enhanced emission standards by such leased new motor vehicles. The NJDMV has also proposed amendments to N.J.A.C. 13:20-28.6 through 28.9, 28.11 and 28.12 which facilitate allowing leasing companies to perform new car inspections.

N.J.A.C. 13:20-29.2: Procedures

The NJDMV proposes to modify this section to allow any motor vehicle that passes an on-road inspection within the two-month period prior to its regularly scheduled biennial inspection to use the on-road inspection result in lieu of a complete biennial inspection, provided that the tests performed on-road are applicable to the motor vehicle pursuant to N.J.A.C. 13:20-43.8. That is, a motorist whose vehicle has passed an on-road inspection with the tests that are applicable to that vehicle during its biennial inspection, can, rather than taking the vehicle to be inspected at either a CIF

or a PIF, present the vehicle at the exit end of a CIF for the issuance of a certificate of approval for the biennial inspection cycle. For example, a 1981 or newer model year vehicle which is amenable to dynamometer testing could only utilize the on-road inspection results if the vehicle passed both an ASM5015 exhaust emission test and a gas cap pressurization test. In contrast, a 1981 or newer model year vehicle which is not amenable to dynamometer testing could only utilize the on-road inspection results if the vehicle passed both a 2500 RPM exhaust emission test and a gas cap pressurization test.

To date, the on-road inspection exhaust test, regardless of vehicle model year, is an idle test. However, the State anticipates on-road dynamometer testing for 1981 and newer vehicles to begin later this year as part of the on-road component of the biennial program evaluation testing. As such, this form of testing would be in effect before the effective date of the NJDMV's proposed rule change. However, until on-road dynamometer testing is available, this biennial exemption would only apply to pre-1981 vehicles that pass an on-road inspection within the two-month period prior to their regularly scheduled biennial inspection. Even after on-road dynamometer testing begins, the availability of on-road dynamometers will be limited to only a few on-road sites on any given day, such that this exemption will not be applicable to any dynamometer-testable 1981 and newer vehicle which is on-road tested without the on-road dynamometer. Likewise, in the future, a non-dynamometer-testable 1981 and newer vehicle could only take advantage of this exemption if the vehicle passed both a 2500 RPM exhaust emission test and a gas cap pressurization test as its on-road tests.

This proposed rule change does not exempt any vehicle from the tests that it would be subject to during its regularly scheduled biennial inspection, but instead alleviates the need for motorists whose vehicles have already passed those on-road tests from returning to an inspection facility for inspection. In addition, the time frame for which this "substitution" can occur is limited to a two-month period. As such, instead of a 24 month period between scheduled inspections, this extension could result in up to 26 months (full two year period plus up to 2 months) prior to the next scheduled inspection. This results in an approximate 8 percent increase in the interval between regularly scheduled inspections. Taking all this into account, the NJDEP believes this rule change will have no impact on the emission reduction potential of the enhanced I/M program would be minimal. The NJDMV has also proposed necessary amendments to N.J.A.C. 13:20-32.2(s) to facilitate the above changes.

N.J.A.C. 13:20-43.8: Tests for emissions

The NJDMV's proposed amendment to N.J.A.C. 13:20-43.8 would exempt from dynamometer testing any motor vehicle "with a chassis height that has been modified so as to make its operation on a dynamometer either impractical or hazardous, as will be determined in the discretion of the Director [of the NJDMV]." The NJDEP, with

the support of the USEPA, has already made concessions for the exemption from dynamometer testing of vehicles that are deemed not amenable to dynamometer testing (e.g., full time four wheel drive vehicles and vehicles with non-switchable traction control). These previous exemptions were made because driving such vehicles on a dynamometer results in erratic driving patterns, and could cause unsafe conditions and/or damage to the motor vehicle itself. The new exemption is similar in nature to those previously approved by the USEPA, with the exception that vehicles with modified chassis height are usually aftermarket configurations, not the configurations originally produced by the vehicle manufacturer.

The population of vehicles that would qualify for this exemption is approximately .03 percent of the total vehicle fleet. However, the NJDMV believes that the number of vehicles actually qualifying for this exemption will be reduced because many of these modified vehicles will fail to pass inspection under the NJDMV's proposed amendments to its suspension standards at N.J.A.C. 13:20-33.5. Vehicles that fail the new suspension standards are required to make corrections to the chassis height modification to allow them to pass the vehicle suspension portion of NJDMV's safety inspections. Once corrected, these vehicles might qualify for testing on a dynamometer, leaving an even smaller population of vehicles exempt from dynamometer testing. In any event, the relatively small population of vehicles exempted from dynamometer testing by this proposed regulatory change will result in a minimal impact on the emission reduction potential of the overall enhanced I/M program.

N.J.A.C. 13:20-43.13:

The NJDMV proposes to change the minimum cost expenditure value needed for the issuance of a cost waiver. Currently, the minimum cost expenditure needed is set at $200 dollars. However, under the NJDMV's regulations, this amount is set to increase on January 1, 2002 to the enhanced level set forth in USEPA's regulations (that is, $450 adjusted from 1989 dollars by the Consumer Price Index (CPI)). For the year 2000, this CPI adjusted cost waiver expenditure amount is $627.29.[15] Prior to the implementation of its enhanced I/M program, the State had no waiver from inspection associated with its basic program. Motorists were expected to have their vehicles repaired to meet emission standards, regardless of cost. Because of the addition of NO_x testing, and the complexities involved in repairing vehicles that could fail for three, rather than two, exhaust pollutants, the State agreed to incorporate a cost waiver as part of its enhanced program. However, to insure that the vehicle's emissions did not degrade below the point established by the State's basic I/M program, the NJDMV required that any vehicle receiving a cost waiver must still pass

[15] United States Environmental Protection Agency, Office of Mobile Sources, EPA420-B-99-011, December 1999, Calculation of I/M Waiver Adjusted for CPI.

an idle test. This requirement of passing an idle test to receive a cost waiver will continue under the newly proposed cost waiver expenditure amount.

As mentioned previously, without this regulatory amendment, the new minimum dollar amount needed to qualify for a cost waiver would be $450 dollars, adjusted from 1989 dollars to the current year by the CPI, or $627.29. This is the amount set forth at 40 C.F.R. _51.360(a)(7) of the USEPA's Federal regulations for the implementation of enhanced I/M programs. The State was concerned about making such a large one-step change in the cost waiver expenditure amount, and, therefore proposes this interim step to facilitate a smoother transition for the motoring public to the increase in the cost waiver amount.

Both the NJDEP and the NJDMV did independent analyses of repair costs (see Appendix II), and concluded that the average emissions-related repair cost under the current program, with initial cutpoints, is approximately $146, below the current $200 waiver cost. See Table 1. These analyses also showed a grouping of emission-related repair costs between $200 and $450 dollars. Vehicles falling into this $200-$450 repair cost category accounted for approximately 21 percent of overall emission related failures. Although most motorists whose vehicles fell into this $200-$450 repair cost level did not apply for a cost waiver, their vehicles would nonetheless have qualified under the current $200 limit. As such, the State felt justified in adjusting the waiver amount to $450, thereby accruing significant additional emission-related vehicle repairs that would otherwise qualify for a cost waiver under the current $200 limit. The $450 amount covers the most significant and effective emission-related repairs without making the waiver unattainable for those who truly need it. See Table 2.

Table 1: Average New Jersey Repair Costs

Upper Bound Total Cost	Count	Cumulative starting at $200	Cumulative Fraction starting at $200
$		100,396	0.69
$		111,473	0.77
$		119,219	0.82
$		124,558	0.86
$		128,155	0.88
$		130,709	0.90
$		132,436	0.91
$		133,815	0.92
$		134,742	0.93
$		136,128	0.94
$		137,027	0.94
$		137,658	0.95
$ 1,000	7,562	145,220	1.00
Average Cost of Repair – $146			

Table 2: Emission Repairs by Type of Component

Repair Component	Number of Repairs	Fraction of Total Repairs
PCV		17%
Thermostatic Air Cleaner		1%
Air Injection System		2%
Air Pump		1%
Air Filter		12%
EGR System		12%
EGR Valve		11%
Evaporative Emissions Controls -- Other		1%
Fuel Cap		6%
Vapor Lines		1%
Charcoal Cannister		1%
Catalytic Converter or Thermal Reactor		9%
Ignition System -- Other		5%
Spark Plugs / Ignition Wires		17%
Timing		19%
Fuel Filter		7%
Carburetor Adjustment		12%
Carburetor Rebuild/Replace		2%
Fuel Injectors		2%
Fuel Injection System - Other		9%
Engine Mechanical - Other		2%
Vacuum Hoses/Fittings		9%
Computer System or ECM		1%
Oxygen Sensor		12%
Other misc. Electronic Sensor		2%
Other Repairs/Unknown		15%
Total Number of repairs <$1000 for CIF or PIF	138,078	

It is important to note that $450 does not represent an average repair cost, but is the minimum that a motorist would need to expend on emission repairs to qualify for a cost waiver. The average emission-related repair costs under the enhanced I/M program are well below the $450 amount.

Under the current cost limit of $200, the State waiver rate for the year 2000 was 0.1 percent. The maximum waiver rate that is assumed in the New Jersey

enhanced I/M SIP is 3 percent. The State does not anticipate a significant increase in the waiver rate due to this cost expenditure change. It also appears that the majority of motorists in New Jersey are accustomed to having their vehicles fully repaired following an inspection failure and are not utilizing the cost waiver provision. However, the State understands that should it exceed the 3 percent waiver rate, it is responsible for making up the loss in credit resulting from this exceedance.

Other NJDMV Rule Changes:

In addition to the rule changes discussed above, the NJDMV has made several enhancements to its I/M regulations, which codify already existing enforcement requirements and strengthen the overall integrity of the State's I/M program. These changes, which are listed briefly below, can only serve to increase the emission reduction potential of the overall enhanced I/M program.

N.J.A.C. 13:20-32 proposes to establish:

1) a provision establishing additional CIF procedures for issuing inspection rejection stickers for certain specific model year vehicles which have failed inspection; and
2) a provision whereby any motor vehicle which is presented for re-inspection at a CIF more than 45 days from the date of the most recent inspection rejection is subjected to a complete re-inspection.

N.J.A.C. 13:20-33 proposes to establish that:

3) all licensed PIFs cannot perform emission-related repairs unless they are registered with the NJDMV as a Emission Repair Facility (ERF);
4) a PIF license requires that the PIF perform a re-inspection and certification of a vehicle when someone other than the PIF, under its capacity as an ERF, performed the repairs, adjustments, or corrections; and,
5) any motor vehicle that is presented for re-inspection at a PIF more than 45 days from the date of the most recent inspection rejection is subjected to a complete re-inspection.

N.J.A.C. 13:20-43:

1) incorporates more specific references to the NJDEP's rules than were previously set forth in this subsection;
2) requires that any emission-related inspection repairs be performed by a registered ERF or by the owner or lessee of the motor vehicle and establishes documentation requirements (i.e., previously issued motor vehicle inspection report, any inspection report supplements, if applicable, and a completed pre-inspection repair form) for re-inspection of a failed motor vehicle;
3) clarifies vehicle registration denial/suspension notification requirements; and,
4) establishes requirements and standards for inspector training courses.

N.J.A.C. 13:20-44 clarifies that the following activities constitute additional reasons for the suspension or revocation of a PIF license or the refusal to issue or renew such a license:

1) performing emission-related repairs without being a registered ERF; and,
2) failure to provide a customer with an invoice or a list of registered ERFs in the State.

Finally, N.J.A.C. 13:20-45 now requires registered ERFs to imprint pertinent facility information on the emission repair form using a stamp. This information will include the facility's registration number and the date the emission repairs were performed.