The Rhode Island Motor Vehicle Inspection/Maintenance Program

SIP Revision

December 2016
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Executive Summary

This State Implementation Plan (SIP) revision is required under the Clean Air Act Amendments of 1990 and federal regulations, 42 United State Code section 7511a, section 182(c)(3)(A) and ensures changes to Rhode Island’s Inspection and Maintenance (I/M) program are fully documented. The structure of this document is consistent with requirements that have been established by the United States Environmental Protection Agency (EPA) for I/M programs. The I/M program, designed to identify vehicles that emit pollutants that exceed acceptable standards and require such vehicles to get repaired is an important part of the strategies that Rhode Island is implementing to reduce measured air quality below the National Ambient Air Quality Standard (NAAQS) for Ozone.

Under the Clean Air Act as amended in 1990, 42 U.S.C. §§ 7401 et. seq., states, are required to implement vehicle emission inspection and maintenance (I/M) programs, and further required to incorporate a check of the On-Board Diagnostic (OBD) system as part of the program. On November 5, 1992 the United States Environmental Protection Agency (EPA) published a rule relating to state air quality implementation plans for I/M programs. (See 57 Fed. Reg. 52950). At the time of the November 5, 1992 regulation, however, federal OBD certification standards had not yet been developed and published. To address the Clean Air Act's OBD-I/M requirement, EPA reserved sections in the regulations with the understanding that these reserved sections would be amended at some future date. Although the federal requirement to incorporate OBD into new vehicles began with the 1994 model year (MY), manufactures were allowed to request waivers on vehicles for MY 1994-95. Full compliance was thus not required on all light duty cars and trucks sold in the United States until MY 1996.

Rhode Island is submitting this revised SIP based on amendments to Vehicle Inspection Maintenance Program Requirements incorporating the Onboard Diagnostic Check.
Introduction

This document outlines the Rhode Island I/M program with each section providing both the details and specific elements of the program, including citations to the statutory and regulatory authority to conduct these specific elements.

Rhode Island is required to adopt and implement an enhanced inspection and maintenances (I/M) program, pursuant to 42 United States Code section 7511a, section 182(c)(3)(A) of the Clean Air Act Amendments of 1990. The Rhode Island Motor Vehicle Inspection/Maintenance (I/M) Program was implemented in January of 2000. The contract negotiations and the resulting contract with the previous Program Manager, Applus Technologies,(1999-2006) SysTech Technologies, (2007-2014), and current Contractor OPUS Technologies (2015-2016) produced program revisions such as:

- Implementation of a repair effectiveness program in April 2001,
- Implementation of onboard diagnostic vehicle testing in January 2003,
- Proposed regulation revisions to Division of Motor Vehicles Rhode Island Motor Vehicle Safety and Emissions Control Regulation No. 1 and Department of Environmental Management Rhode Island Vehicle Inspection/Maintenance Program Regulation No. 34 in March 2003,
- Implementation of a light duty diesel vehicle testing program in March 2005,
- Selection of the second program manager (SysTech) in October 2006,
- Proposed regulation amendments to both Division of Motor Vehicles Rhode Island Motor Vehicle Safety and Emissions Control Regulation No. 1 and Department of Environmental Management Rhode Island Vehicle Inspection/Maintenance Program Regulation No. 34, in March 2007,
- Promulgation of regulations, Division of Motor Vehicles Rhode Island Motor Vehicle Safety and Emissions Control Regulation No. 1 and Department of Environmental Management Rhode Island Vehicle Inspection/Maintenance Program Regulation No. 34, December 2008, and
- Partial SIP revision submitted in January 2009, and

Due to these program changes, Rhode Island is revising the state implementation plan (SIP) for submittal to the United States Environmental Protection Agency (EPA).

This SIP revision is being submitted in accordance with regulations from 40 Code of Federal Regulations (CFR), Part 51, Subpart S.

The State of Rhode Island entered into a contract with SysTech Technologies in 2007. SysTech Technologies is now known as Opus Inspection (Contractor). This contract (Inspection Agreement) stipulates, among other things, that the Contractor must provide the capacity to test all light-duty vehicles and light-duty trucks 8,500 pounds (lbs.) gross vehicle weight rating (GVWR).1

1 See Appendix B.
1.0 Applicability (§51.350)

Rhode Island will continue to maintain the enhanced inspection and maintenance program statewide. Vehicles subject to the inspection requirement include all light-duty vehicles, 25 years old and newer, up to 8,500 pounds GVWR. Vehicles over 25 years of age are required to undergo inspection but the results relating to emissions are advisory and compliance with the standards is voluntary. New vehicles, less than two years old that have not exceeded 24,000 miles, are exempt from emission testing.

Rhode Island's legal authority to establish and implement an I/M Program is included in Appendix A. The Rhode Island Department of Environmental Management (DEM) and the Rhode Island Department of Motor Vehicles (DMV) are jointly responsible for the operation of the program and have adopted regulations for the I/M program. DMV regulations govern the day-to-day administrative and enforcement operation of the I/M program and the DEM regulations establish the responsibility of the department to provide supervision of the operational aspects and establish appropriate emission standards.

2.0 Enhanced I/M Performance Standard (§51.351)

The Rhode Island I/M Program meets the scope of the federal requirements. The Rhode Island I/M Program tested 335,749 vehicles in 2015. Due to the biennial nature of the program 680,266 vehicles were tested during 2014 and 2015.² The majority of vehicles tested during 2015 were tested using OBD. Approximately 96% of the fleet was subjected to OBD testing, whereas tailpipe testing has decreased to 4% of the fleet tested.

Vehicles are tested using one of three methods: on-board diagnostic (OBD) testing for MY1996 and newer, a dynamometer test (NYTEST with Bar 31 trace) using a VMAS system to obtain mass measurement of emissions, or the two-speed idle test for vehicles with drive configuration that prevents a dynamometer test are tested for hydrocarbons (HC) and carbon monoxide (CO). OBD testing is required of all OBD equipped vehicles. If not OBD equipped, the tailpipe testing is required.

Table 1 and the associated graph, Figure 1, show the emission benefits and MOVES2014 model results of Rhode Island’s statewide I/M Program. Benefits of the I/M program currently in operation in Rhode Island (the new program) were compared with the emissions resulting from Rhode Island’s I/M program as previously approved into the Rhode Island SIP (the old program) and to the emissions resulting from the Federal Low-Enhanced performance standard (EPS). The evaluation years, 2015, 2016, and 2017 were selected in consultation with EPA.³

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² See Appendix C, Section 8.
³ See Appendix K, MOVES2014 model results
Table 1. Annual Comparison of Emissions from Light-Duty Vehicles in Providence County for EPS, Old, and New IM Program Pollutants (U.S. tons)\(^4\)

<table>
<thead>
<tr>
<th>RunName</th>
<th>Carbon Monoxide (CO)</th>
<th>Non-Methane Organic Gases (NMOG)</th>
<th>Oxides of Nitrogen (NOx)</th>
<th>NMOG + NOx</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015 EPS</td>
<td>1987.9</td>
<td>184.8</td>
<td>227.1</td>
<td>411.9</td>
</tr>
<tr>
<td>2015 New Program</td>
<td>1711.2</td>
<td>175.0</td>
<td>212.3</td>
<td>387.2</td>
</tr>
<tr>
<td>2015 Old Program</td>
<td>1709.4</td>
<td>175.0</td>
<td>217.6</td>
<td>392.7</td>
</tr>
<tr>
<td>2016 EPS</td>
<td>1691.4</td>
<td>154.4</td>
<td>181.9</td>
<td>336.3</td>
</tr>
<tr>
<td>2016 New Program</td>
<td>1470.0</td>
<td>148.7</td>
<td>171.1</td>
<td>319.9</td>
</tr>
<tr>
<td>2016 Old Program</td>
<td>1472.3</td>
<td>149.5</td>
<td>176.6</td>
<td>326.1</td>
</tr>
<tr>
<td>2017 EPS</td>
<td>1602.4</td>
<td>139.8</td>
<td>141.6</td>
<td>281.4</td>
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<tr>
<td>2017 New Program</td>
<td>1395.2</td>
<td>135.3</td>
<td>132.6</td>
<td>267.9</td>
</tr>
<tr>
<td>2017 Old Program</td>
<td>1399.0</td>
<td>136.3</td>
<td>138.2</td>
<td>274.5</td>
</tr>
</tbody>
</table>

Figure 1. Annual Comparison of Emissions from Light-Duty Vehicles in Providence County for EPS, Old, and New IM Program Pollutants (U.S. tons)\(^5\)

\(^4\) See Appendix K.
\(^5\) See Appendix K.
3.0 Network Type and Program Evaluation (§51.353)

The program requires the inspection of all vehicles newer than twenty-five years old in order to achieve emission reduction credits needed to meet short and long-term emission reduction goals. Network type is no longer part of modeling an I/M program because the difference between centralized and decentralized programs has become insignificant.

Rhode Island has maintained a decentralized test and repair program since January 2000. This decentralized infrastructure meets all the I/M requirements, including the OBDII testing requirements. The State entered into an inspection agreement with Applus Technologies, (1999-2006), SysTech International, LLC, (2007-2014), and the current program manager OPUS Inspection (2015-2016) to oversee the program operation. This contract (Inspection and Maintenance Program Services Agreement) requires a Vehicle Inspection Database (VID) on their premises to oversee the day to day inspection operations of approximately 294 Authorized Inspection and Repair Stations (AIRS) located throughout the state.  

4.0 Adequate Tools and Resources (§51.354)

States are required to document that adequate fees are collected to support the I/M program according to 40 CFR 51.354. The Rhode Island Safety and Emissions Inspection fee is currently set at fifty-five (55) dollars with the inspection required every two years.

The fee structure is adequate for providing the resources needed for program administration, quality control, quality assurance, data analysis and reporting. The fee is distributed as follows:

<table>
<thead>
<tr>
<th>Fee Distribution</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorized Inspection Repair Station</td>
<td>$21.25</td>
</tr>
<tr>
<td>Rhode Island General Fund</td>
<td>$33.25</td>
</tr>
<tr>
<td>Program Manager Administration</td>
<td>$0.50</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>$55.00</td>
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</table>

The Rhode Island I/M Program is funded through part of the vehicle inspection fee. Thirty three dollars and twenty-five cents of the fee is deposited into a restricted receipt account within the State’s general fund. The restricted receipt account has been established to offset the costs of administering the activities of the Department of Administration’s Division of Motor Vehicles and the Department of Environmental Management’s Office of Air Resources. The Program Manager receives a portion of the inspection fee ($0.50) for the support services and equipment provided. The AIRS retain a portion of the inspection fee as set by regulation for the work of inspecting vehicles ($21.25).

6 See Appendix B.
Rhode Island commits to maintaining an adequate staff dedicated to overt and covert auditing, data analysis, program administration, enforcement, and the other necessary program functions.

The Department of Environmental Management continues to contribute support to the I/M program beyond that provided by the Program Manager and DMV. An Air Quality Specialist in the Office of Air Resources continues to act as DEM’s liaison to the I/M program on a full time basis. The following table describes the work of DEM personnel devoted to the I/M program.

<table>
<thead>
<tr>
<th>Title</th>
<th>Duties</th>
<th>Time Devoted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality Specialist</td>
<td>-liaison with Program Manager and DMV twice monthly</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>-develop database to monitor testing results</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-creation of reports for EPA, DEM and general distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-regional and national contact person for I/M program</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-monitor I/M program adherence to Air Pollution Control Regulation No.34 and federal regulations</td>
<td></td>
</tr>
<tr>
<td>Supervising Air Quality Specialist</td>
<td>-supervision</td>
<td>30%</td>
</tr>
<tr>
<td>Chief of Air Resources</td>
<td>-supervision</td>
<td>5%</td>
</tr>
</tbody>
</table>

5.0 Test Frequency and Convenience (§51.355)

The test frequency is biennial for all gasoline and diesel powered light duty vehicles and light duty trucks. Vehicles less than 25 years old, rated up to 8,500 pounds (GVWR) Gross Vehicle Weight Rating are subject to a biennial inspection, except any new motor vehicle until twenty-four (24) months after its date of initial purchase or 24,000 miles, whichever occurs first.

The number of AIRS has remained steady during the duration of the program, ranging from 287-294 stations including those at the DMV and the facility run by OPUS Inspection, the current Program Manager. To assure motorist's convenience, geographic criteria has been set with a minimum of one AIRS location in each city or town in Rhode Island.7

6.0 Vehicle Coverage (§51.356)

All gasoline and diesel powered light duty vehicles and light duty trucks, less than 25 years old, rated up to 8,500 pounds (GVWR) Gross Vehicle Weight Rating are subject to a biennial inspection, except any new motor vehicle until twenty-four (24) months after

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7 See Appendix A, Section 1.2. “Rhode Island Motor Vehicle Safety and Emissions Control Regulation No.1.” Also see Appendix D.
its date of initial purchase or 24,000 miles, whichever occurs first. There are approximately 350,000 vehicles inspected each year in this biennial program.

As of December 2015, approximately 671,497 light duty vehicles (MY 1991-2013) were registered with DMV. The actual number of vehicles requiring inspection during 2015 can be estimated from the total number of vehicles registered. Additionally, because the requirement for inspection exempts vehicles 25 years old and older and vehicles two years old or newer, the number of vehicles subject to inspection in a given year is also impacted. Reviewing the registration data as of December 2015, and assuming a 50-50 biennial split, as many as 335,749 vehicles may have been required to be inspected during 2015. Based on data from Opus, (MY 1991-2013) there were 326,273 vehicles inspected. This leaves a balance of approximately 9,476 (2.8%) vehicles possibly not in compliance.

As mentioned in the above paragraph these totals are estimated based on the data provided to DEM from DMV. The data submitted to DEM for the number of non-exempt vehicles (1991-2013) has been recorded only through to December 4, 2015. Due to the limitations in DMV's existing data management system, it is not possible to know precisely how many vehicles were registered.⁸

7.0 Test Procedure and Standards (§51.357)

As noted in Section 1.0, the Rhode Island I/M Program, applies to all 1985 model year vehicles and newer. All vehicles subject to OBD testing are conducted using procedures that meet the procedural requirements set forth in 40 CFR 85.222 and are generally consistent with EPA’s guidance document, “Performing Onboard Diagnostic System Checks as Part of a Vehicle Inspection and Maintenance Program” (June 2011). The DMV Safety and Emissions Control Regulation No. 1 and the DMV Motor Vehicle Inspection Manual are used as day to day guidance for operational procedures.

Vehicles are inspected for safety including: lights, body integrity, braking system, exhaust system, fuel leaks, glass, horn, mirrors, seats and seat belts, windshield wipers, steering, steering alignment and suspension, springs, and tires, and wheels. Complete safety inspection requirements are described in the DMV’s, Official Manual for Vehicle Inspection.⁹

Rhode Island vehicles are tested using one of three methods: on-board diagnostic (OBD) testing is required of all OBD equipped vehicles (typically MY1996 and newer), a dynamometer test (NYTEST with Bar 31 trace) using a VMAS system to obtain mass measurement of emissions, or a two-speed idle test for vehicles with a drive configuration that prevents a dynamometer test are tested for hydrocarbons (HC) and carbon monoxide

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⁸ See Appendix C, Section 8.
⁹ See Appendix F, Section IV.D.13. Also see Appendix G.
Vehicles that fail any of the tests must be retested after completing needed repairs.

Bi-fuel and flex-fuel vehicles using gasoline as one of the fuels are tested when operating on gasoline. The presumption is that, the gasoline operation would have the potential for greater emissions; therefore a failure would more likely occur on this fuel. Motor vehicles with exchanged engines will be inspected for emission compliance by applying the emission standards and criteria for motor vehicle emissions inspections based on the chassis model year of the vehicle. If the engine installed in the vehicle at the time of inspection is newer than the chassis model year, the inspection standards and criteria for motor vehicle emissions inspections are based on the model year of engine.

The DMV Safety and Emissions Control Regulation No. 1 and the DMV Motor Vehicle Inspection Manual are used as day to day guidance for operational procedures.

During 2008, the amended Air Pollution Control (APC) Regulation No. 34, entitled "Rhode Island Motor Vehicle Inspection/Maintenance Program” was promulgated with revisions to change the failure condition from more than two monitors not set as ready, to more than one monitor not set as ready, in a vehicle's on-board computer.

By the end of December 2008, the Program Manager replaced the equipment in 73 AIRS and was able to properly inspect the OBD vehicles with the changes in the monitors for the failures for MY 2001 and newer vehicles, with more than one monitor in a vehicle's on-board computer not ready and for MY 1996-2000 vehicles with more than two monitors in a vehicle's on-board computer not ready, along with the newer OBD-equipped vehicles with the Controller Area network (CAN) communication protocol. By the end of February 2009, the remaining equipment was replaced.

8.0 Test Equipment (§51.358)

Test equipment standards are included in the contract and meet the requirements of the OBD and tailpipe testing procedures.

The I/M contract requires written test equipment specifications. Each inspection station is equipped with the necessary equipment for OBD and tailpipe inspections. All test equipment is fully computerized and all processes are automated to the highest degree possible. All computer equipment has lock out features to prevent tampering by unauthorized personnel.

The test equipment consists of: inspection grade transient exhaust mass emissions inspection equipment; two speed idle test equipment; diesel exhaust opacity testing.

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10 See Appendix F.
11 See Appendix A and Appendix G.
12 See Appendix A, Section 34.5(a)(b).
13 See Appendix C.
equipment; on-board diagnostic testing equipment; and, gas cap testing equipment for MY 1995 and older.14

Test equipment provides the motorist with a test record, including the reasons for any test failure, and the name of the inspection station and the inspector performing the test. Also, if the vehicle is turned away from testing, the reasons for the turnaway is included in the record.

9.0 Quality Control (§51.359)
Rhode Island has taken all steps necessary to meet the applicable I/M performance standard while ensuring motorists receive consistent and accurate test results. To this end the State has required the new Program Manager to replace and install the existing workstations with upgraded dependable and accurate inspection equipment, a host computer system with ample information database with daily submissions of inspection data to the DMV for registration denial, a user-friendly communications network with AIRS analyzers, and a reporting system to support program management and evaluation, and quality objectives. Overt visual audits are conducted using high resolution wide angle video cameras at each station. Additional audits include OBD fraud digital auditing with VIN mismatches, OBD readiness monitor mismatches and all OBD parameters, gas bench audits, vehicle mass analysis system (VMAS) audits, zero air generator (ZAG) audits, and digital biometric user authentication fingerprint reader devices audits.

The Program Manager is responsible by contract for: developing and distributing programs or software associated with the program-specific user interface to the DMV; DEM and AIRS network participants; creating a computer management system with the capacity for collecting, analyzing and reporting of vehicle test data to the DMV for vehicle registration enforcement; implementing procedures which will assure that no official inspection can occur without being monitored by the computer management system; using baseline profiling and statistical process control to continuously analyze program data and identify out-of-profile inspections in order to supervise conformance; providing a link to the EPA recall database; and, provides training including periodic updates and changes that are required throughout the program duration.

AIRS are required to maintain and calibrate the emissions inspection equipment. The AIRS must obtain calibration and maintenance services from the program contractor. Failure on the part of the AIRS to continue the agreement for these services constitutes a violation of the contract which can trigger a lockout of the ability to perform inspections and the subsequent removal of the testing equipment.

Should the AIRS fail to comply with program rules, the DMV may suspend or revoke the AIRS authorization to perform inspections. All AIRS have entered into an agreement with the Program Manager specifying performance criteria and provisions for

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14 See Appendix F, Section II.B.1
nonpayment and for removal of test equipment in the case of nonperformance or noncompliance. \(^{15}\)

### 10.0 Waivers and Compliance via Diagnostic Inspection (§51.360)

The Rhode Island proposed I/M program is equivalent or greater in stringency than its old I/M program, and both are more stringent than the default enhanced performance standard.

In Rhode Island only the DMV conducts the waiver program and issues waivers. All records of waivers issued are tracked in the database for the duration of the program. Waiver “Requirements and Conditions” precludes warranty reimbursement, or reversal of tampering costs from counting towards the waiver repair cost limit. Tampering will be determined through the application of the transient test. All expenditures will require documentation that the repair is appropriate to the cause of the emissions test failure.

The Rhode Island I/M program allows for three different types of waivers if a vehicle fails the emissions test and a retest. The following are the different types of waiver types,

a) a diagnostic waiver applies to vehicle owners whose vehicles have all emission control devices in place and operating and no additional repairs are reasonably possible or because they are unable to get their vehicle repaired because the necessary emission parts are no longer available or no longer manufactured;

b) a repair cost limit waiver applies to vehicle owners if the vehicle failed the emission test and the owner has spent a minimum of $700 on emission-related parts and/or labor (labor must be performed by a CIRT to qualify and the vehicle still does not pass,

c) a repair time delay waiver is available for vehicle owners who can prove financial hardship.

The DMV may issue a waiver certificate after a diagnostic inspection. To qualify for such a waiver, a vehicle failing an inspection and subsequent re-inspection for emissions must undergo a complete, documented physical and functional diagnosis and inspection, conducted by the DMV. If the inspection indicates that no additional emission related repairs are reasonably possible because the emission control devices originally required for federal certification are in place and functioning as designed or no further repairs can be made because the parts required for the repairs are no longer manufactured, the vehicle is eligible for the diagnostic waiver. A repair time delay for repairs can also be granted to persons who qualify under DMV low income guidelines.

The conditions for waiver issued are: only after a vehicle has failed a retest and all qualified repairs are made; repairs covered by a warranty are not included in the cost of repairs; waivers are not issued to owners of tampered vehicles; repairs must be

\(^{15}\) See Appendix B.
appropriate to the cause of failure; and, waiver repairs are only performed by a certified inspection repair technician (CIRT). A minimum expenditure of parts and labor appropriate to the cause of the emissions inspection failure must be met to demonstrate reasonable repair attempts. DMV requires that all documentation of repairs be original documents, which DMV retains in their control.\textsuperscript{16}

Given the waiver rate commitment, the substantial increase in waiver cost thresholds, and the annual CPI adjustment to waiver costs thresholds the current State program requires motorists to make an expenditure of at least seven hundred dollars ($700) on actual, non-tampering related repairs to qualify for a waiver. It is the State’s intention to annually update the cost of repairs to qualify for a waiver.

11.0 Motorist Compliance Enforcement (§51.361)

Under DMV’s motorist compliance enforcement program, an inspection sticker is issued to a vehicle operator whose vehicle has passed inspection and is in compliance with regulations. Inspection stickers are issued only upon successful completion of an inspection. The DMV, in conjunction with State and municipal police, have continued throughout the years to enforce motorists’ compliance by conducting roadside pullovers of vehicles with out-of-date or missing inspection stickers. Motorists found in violation are issued a 5 day notice and demand tag to obtain an inspection within 5 days. Failure to do so makes the motorist subject to a minimum fine of $50 and registration suspension. During the last ten years of the program some 68,479 5-day notice and demand tags were issued and 22,249 motorists had their registrations suspended by DMV. Approximately 68\% have complied.

Any person who operates their vehicle on the highways in Rhode Island that is not in compliance will face a suspension of their registration and a fine of up to $1,000. The DMV, State and municipal police have the authority to issue citations or notices of demand requiring the vehicle owner to obtain an inspection.\textsuperscript{17}

Full registration denial has been delayed in the past due to limitations in DMV’s existing data management system. The new computer system was originally scheduled to be implemented by June 2010; unfortunately, the DMV has experienced implementation delays due to the technical complexity of the application and the intricacy of data migration. However, progress continues to be made towards implementation by mid-2017. However, for the past four years, the DMV has received data from the Program Manager when vehicles are inspected. Based on DMV records from previous inspections, a notice of action is mailed out to vehicle owners who have failed to obtain a vehicle inspection when due. The notice indicates the vehicle owner has 30 days to obtain an inspection before the vehicle’s registration is suspended. At the end of 30 days, if the vehicle has not passed an inspection based on the daily data submission from the Program Manager, the registration is suspended in the DMV registration database.

\textsuperscript{16} See Appendix A, Rhode Island Motor Vehicle Safety and Emissions Control Regulation No. 1.
\textsuperscript{17} See Appendix A, Section 1.7.4 and RI Motor Vehicle Safety and Emissions Control Reg No.1, Section 1.12.2(b).
As of January 2005, a vehicle owner was required to present evidence of compliance to the DMV in order to obtain a new registration or to transfer a registration for a motor vehicle which is subject to the Rhode Island I/M Program. The evidence must indicate that the vehicle has been inspected within twenty-four (24) months prior to the date of registration application. Evidence of compliance consists of one of the following: electronic verification from the DMV/Rhode Island I/M Program computer network; a Compliance Certificate; a Waiver Certificate; a time extension approval; proof of exemption by law or regulation; or other documentation approved by the DMV which shows compliance.

The centralized computer auditing consists of an analysis of inspection data to uncover any irregularities and unusual testing patterns, including OBD VIN mismatches. These inspection tests are scanned daily for any inconsistencies in the data. If any inconsistencies are found, each trigger results in an e-mail notification to the DEM and DMV for enforcement consideration. ¹⁸

Inspection documents including inspection reports, compliance reports, inspection stickers and waiver documents are individually numbered to allow tracking and to prevent fraudulent use. Inspection documents or inspection stickers will be worthless if misappropriated or stolen as they cannot be validated (printed) until testing is complete.

Written procedures are established for registry personnel and inspection auditors to assure proper document handling and processing. Registry personnel are also trained to analyze registration change applications to recognize potential violations.

A used vehicle dealer is prohibited from selling a used vehicle that is subject to the Rhode Island I/M Program unless a new inspection of the vehicle has been conducted and a compliance certificate has been issued within 90 calendar days prior to the date of sale. ¹⁹

Fleet vehicles including rental vehicles, leased vehicles and private fleets are subject to inspection. Federal agency fleets will be inspected as appropriate under the "Interim Guidance for Federal Facility Compliance with the Clean Air Act Sections 118(c) and 118(d) EPA420-D-99-003" The majority of fleet owners have not acquired testing equipment but are rather obtaining inspections through the AIRS network.

12.0 Motorist Compliance Enforcement Program Oversight (§51.362)

Periodic audits of test program compliance documentation and other work products of DMV auditors are conducted by DMV supervisory personnel. The waiver process and waiver documentation are routinely scrutinized by DMV supervisory personnel.

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¹⁸ See Appendix E.
¹⁹ See Appendix A, Section 1.4.7(b). “Rhode Island Motor Vehicle Safety Emissions Control Regulation No. 1.”
The DMV will suspend the registration of any vehicle owner or lessee who is determined to be in violation of DMV Safety and Emissions Control Regulation No.1 or who, after notice, does not comply with the regulations. When the new statewide computer system is implemented in 2017, registration will be denied to the owners or lessees of vehicles who do not comply with the regulations. The new computer system was originally scheduled to be implemented by June 2010; unfortunately, the DMV has experienced implementation delays due to the technical complexity of the application and the intricacy of data migration. However, progress continues to be made towards implementation in 2017.

Any person violating any of the provisions of the DMV Safety and Emissions Control Regulation No.1 is subject to a civil or administrative penalty of not more than one thousand dollars ($1,000.) for each violation.20

The Rhode Island Traffic Tribunal has jurisdiction to enforce the administrative provisions of DMV Safety and Emissions Control Regulation No.1.21 The Superior Courts for the State of Rhode Island shall have jurisdiction upon complaint of the Department to enforce against criminal violations of DMV Safety and Emissions Control Regulation No.1.22

13.0 Quality Assurance (§51.363)

In accordance with 40 CFR 51.363, the Rhode Island program performs overt and covert performance audits. Auditing continues to provide a direct oversight of the testing process and ensures that accurate quality inspections are being conducted by (AIRS). Overt, covert and computer auditing are employed in the Rhode Island Emissions & Safety Inspection Program. Auditing is conducted by DMV and Opus.

Overt audits will include: a check of document security, record keeping practices, certifications and required display information, observation and written evaluation of each inspector’s ability to perform the test procedure, and a quality control evaluation of test equipment.

Covert and overt audits are conducted to assure the quality of performance and other operational procedures of AIRS. The Program Manager quality control plan includes, at a minimum, 294 AIRS location audits for a total of 1,172 per year. Covert vehicle audits with a vehicle specifically set to fail is conducted at fifty (50) targeted AIRS locations.23 The locations to be audited are drawn from areas of concern prompted by vehicle emissions profiling, previous violations and/or other analysis conducting during the overt and covert audits.

20 See Appendix A, Section 1.12.2(a). Rhode Island Motor Vehicle Safety and Emissions Control Regulation No.1
21 See Appendix A, Section 1.13.2.
22 See Appendix A, Section 1.13.1.
23 See Appendix H, Section 7.
Opus performs: overt station audits, covert visual audits (replaced with high resolution wide angle video camera audits), covert vehicle audits, covert digital audits including OBD fraud digital auditing with VIN mismatches, OBD readiness monitor mismatches and all OBD parameters, gas bench audits, vehicle mass analysis system (VMAS) audits, zero air generator (ZAG) audits, and digital biometric user authentication fingerprint reader device audits. The results of these audits and any irregularities discovered are noted and reported to DMV and DEM via e-mail notifications.

The Program Manager has developed an audit procedure for auditors to assure the integrity of the program. Auditors will be monitored using inspection data, audit results data and field supervisors’ observations. The work of the auditors will be measured using the number of audits conducted, completeness and thoroughness, enforcement effectiveness, feedback from AIRS, direct supervision and feedback of DMV Administration.

An audit is conducted of the database and its software, the AIRS workstation, and other records or documentation relating to the appropriate and effective performance of inspections. The equipment specifications and monitoring methods will prevent unauthorized tampering with the inspection equipment.

A system of security for vehicle inspection reports, compliance certificates/inspection stickers, waiver certificates and other sensitive documents was established. The security system prevents document theft and counterfeiting. The methods of loss prevention include strict accounting of all essential documents, and machine production or completion of each compliance certificate onsite for each vehicle eligible for each compliance certificate. The documents are counterfeit resistant, tamper-proof and include a serial number.

14.0 Enforcement Against Contractors, Stations and Inspectors (§51.364)

The contract executed by Rhode Island and the Program Manager requires the Program Manager to adhere to the requirements of the scope of work contained in the agreement. Failure to meet the requirements of the contract or in the eventuality of certain violations the State may exercise their option by sending OPUS a written notice along with its notice terminating the Agreement.

The recent contract with OPUS stipulated the following: the Program Manager will provide a smooth risk-free transition from the existing contractor, replace the existing workstations from the previous contractor with updated equipment to all 294 AIRS including the DMV facility, design a new Vehicle Information Database (VID) that

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24 See Appendix H, Section 7.
25 See Appendix F, Section IV.A.8.
26 See Appendix B, Section 27.
integrates with the AIRS work stations including the DMV workstation via a high-speed internet connection or other high speed communication protocol, must maintain a level of performance and cooperation with DMV or potentially face fines, and in the case of flagrant violations ultimately faces termination. A performance bond of $250,000 will be in place for the duration of the term in a form acceptable to the State.\textsuperscript{27}

The procedure dealing with Program Manager performance assurance would start with any normal request for action or information. Should the Program Manager’s employees fail to respond, the situation would be taken up with the Program Manager. If the Program Manager failed to respond or the non-performing activity continued, written notice of a hearing would be forwarded to the Program Manager management and the Program Manager. The hearing would determine the disposition of individual or multiple violations of failure to perform or disregarding an official order.\textsuperscript{28}

AIRS must meet and maintain specific requirements to be authorized to inspect vehicles subject to the Rhode Island I/M Program. Regulations allow for the withdrawal of authorization of AIRS by the State for good cause at any time. All AIRS will be required to execute an agreement with the Program Manager specifying performance criteria and provisions for nonpayment and for removal of test equipment in the case of nonperformance or noncompliance.

Audits are conducted to assure that AIRS maintain: equipment, inspection personnel, inspection procedures, station appearance requirements and adhere to the DMV Rhode Island Official Manual for Vehicle Inspection. DMV auditors follow a written inspection station report checklist in conducting audits of AIRS.

All AIRS are audited at least once per month, or about 4,700 audits per year in total. The audits are designed to uncover non-compliant situations. Should low-level infractions occur, DMV issues verbal warnings for each incident of violation prior to the implementation of any penalties. If infractions become more numerous or more serious the AIRS will be notified by DMV of a suspension hearing.

Should that hearing result in a suspension the AIRS will be stripped of their authority to perform any further inspections. The schedule of penalties calls for a first violation penalty of a minimum of ten days suspension, a second violation requires a minimum of thirty days; and the third and subsequent violations are subject to a minimum of six months (180 days) for each separate violation. In addition to the suspension penalties the Administrator may, at his discretion, impose a fine of up to $1,000. The AIRS may request for reinstatement at the end of each suspension period. Reinstatement shall be at the discretion of the hearing board or the Administrator. Should the infractions continue after reinstatement or become flagrant a termination of authority to inspect would be imposed and the testing equipment removed from the AIRS location.\textsuperscript{29}

\textsuperscript{27} See Appendix B, Section 29.
\textsuperscript{28} See Appendix B.
\textsuperscript{29} See Appendix A, Section 1.15.3(a)(b)(c). RI MV Safety and Emissions Regulation No.1
In the case of inspector incompetence, the inspector, if not discharged, is to be retrained and must successfully demonstrate the ability to perform the test procedure prior to the restoration of testing privileges. For cases of inspector violations resulting from factors other than incompetence, the inspector shall, at minimum, be suspended from testing for a period of time. Such suspensions shall increase with severity and frequency of violation, leading ultimately to permanent certification revocation.

15.0 Data Collection (§51.365)

The Program Manager is required by contract to: collect and maintain all the Rhode Island I/M Program data and provide full cooperation and assistance in all respects necessary for the Rhode Island I/M Program to meet the requirements for Rhode Island and EPA reporting requirements.

The RI2007 analyzer data collection system meets the requirements specified under 40 CFR 51.365. The Program Manager is responsible for providing, installing and maintaining data system equipment, operating software and support for a communications link to the State computer systems, thereby allowing on-line access to the central data base. Each AIRS analyzer creates a detailed record of each emissions inspection performed including, but not limited to: test record number; inspection workstation number; inspector identification number; date of test; emissions test start time; the time final emissions pass/fail is determined; vehicle identification number; license plate number; test certificate number; GVWR; model year; make and vehicle type of each vehicle tested; number of cylinders/engine displacement and transmission type for transient emission tests; odometer reading; category of test performed; vehicle fuel type; type of preconditioning performed, if applicable; emission test sequences used; emission malfunction codes; or the results of an alternative test as approved by the EPA Administrator.

A master copy of all data is maintained by the Program Manager so the State will have easy access to needed information. Numbers of inspections and reinspections by AIRS/CIRT or CIT/time and the corresponding test data, all repair costs, fleet inspections, and audit data must be in the central computer system at the time of inspection. Weekly, monthly, annual and special reports as needed will be submitted to the State or obtained by the State links to the database.

The Program Manager is required by the contract to provide calibration and maintenance of all test equipment including the central data management system, ensuring quality control of all data collection.

16.0 Data Analysis and Reporting (§51.366)

The State in cooperation with the Program Manager shall submit to EPA, a report containing summary data based upon program activities taking place in the previous test
cycle. This report will provide statistics for the testing program, the quality control program, the quality assurance program and the enforcement program.

The State shall report on all changes made in the program design, funding, personnel levels, procedures, regulations, and legal authority. The report shall also detail and discuss any weakness or problems discovered in the program over the previous two years. In addition the report shall discuss the steps that were taken to address those problems, the results of any corrective actions, and any future efforts planned. The reports must meet the timeframes and contain all the information required by 40 CFR 51.366.

The contract requires data analysis and reporting to allow for monitoring and evaluation of the program. This reporting requirement is the responsibility of the contractor. The reporting requirement shall be a component of contract agreement.30

17.0 Inspector Training and Licensing or Certification (§51.367)
Rhode Island has two levels of technician training in the I/M Program. The first level is the Certified Inspection Technician (CIT). The second level is the Certified Inspection Repair Technician (CIRT).

There are two steps a technician must complete in order to become a CIT. The first step is to complete the training provided by DMV for the safety inspection portion of the I/M Program. The second step required is a four hour course provided by Opus training the CIT for the emissions inspection portion of the I/M Program. They are required to pass an exam before being certified. CITs are certified only to perform vehicle safety and emission inspections.

The CITs certification is valid for two years. During 2015, Opus sent notices to all technicians whose re-certification was expiring. When they received the re-certification notification, the inspector was able to go online to study the new updated curriculum. When they felt confident they were ready to take the test, they called the Opus office to schedule a test appointment. Re-certification test times were conveniently set every half hour from 8:30 A.M to 7:00 PM Monday thru Thursday and 8:30 A.M. to 5:00 P.M. on Friday. If the technicians had any problems passing the test, Opus was in the office to answer any questions.

This new re-certification program allows the technicians to complete their two year re-certification training on their two year anniversary of their last test, instead of the technicians having to wait for Opus to schedule the bi-annual exam. If the CIT neglects to obtain his or her re-certification license, Opus will de-activate him or her from the inspection program.

30 See Appendix B.
CIRTs perform both inspections and repairs for motor vehicle safety and emissions issues. Only CIRTs can perform repairs whose costs qualify for the repair cost waiver. CIRTs are required to first obtain their CIT certification, then pass the RI CIRT written exam or possess an Automotive Service Excellence (ASE) Level 1 Advanced Engine Performance license. If a CIRT does not have their ASE L1 license, they have two years to obtain it to continue certification.

DEM and DMV worked to obtain as much funding as possible to cover the expense of the inspector re-certification training and testing. The State of Rhode Island was able to fund half of the fee ($25.00) for the re-certification process from remaining (CMAQ) Congestion Mitigation Air Quality funds.

18.0 Public Information and Consumer Protection (§51.368)

Public awareness activities are conducted by the Program Manager with the approval of the DMV. The network computer system and station computer displays, continue to be used to provide program updates for CIRT exam sessions, training seminars and technical bulletins to the AIRS. The program’s website is used to outreach to the general public.  

There have been numerous "RI Emissions Safety Testing" annual newsletters produced over the last nine years; the most recent one produced during August 2016, which is distributed to the AIRS throughout the state. These newsletters are an excellent source of information for technicians that cover a variety of topics including: OBD and fraud detection, software updates regarding the new equipment, troubleshooting tips, and using drive cycles to verify repairs.

A Challenge Center has been established at the DMV that is available to the consumer, which consists of a dedicated bay equipped with emissions testing equipment, identical to that used in an AIRS inspection system. The Challenge Center is operated by the DMV and is open during normal operating hours.

The AIRS prominently displays, in the motorist waiting area, information on: how to arrange a challenge inspection; and, the potential for coverage under federal required emission control warranties.

19.0 Improving Repair Effectiveness (§51.369)

The Division of Motor Vehicles and the Program Manager implemented the Repair Effectiveness Index (REI) in April 2001. The rating system assigns a value to the repair effectiveness of Certified Inspection Repair Technicians (CIRTs). The most effective technician receives a five star rating. Vehicles repaired by CIRTs have passed the

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31 See Program website: [www.riinspection.org](http://www.riinspection.org)
32 See Appendix J.
inspection on the first retest 85% of the time. The REI is maintained on the I/M Program website.\textsuperscript{33}

The Program Manager and the DMV have cooperated with technical colleges and vocational training schools to assure that repair training continues for technicians. The training curriculum includes, but not limited to: DMV guidelines; EPA Air Quality Information; vehicle emissions in the I/M; overview of OBD history, purpose, operation and hardware; emissions testing/retest process; and emissions waiver process. Training support has been provided in the form of a training subsidy of up to $50 for repair technicians who have successfully completed the training. The training assistance program includes: screening tests; certification tests; support materials; administration; and, the training subsidies.\textsuperscript{34}

\textbf{20.0 Compliance with Recall Notices (§51.370)}

Procedures must be in place to provide an emissions recall information system that will provide a complete corrective action process for handling all vehicles targeted for emissions recall repairs.

Rhode Island I/M technicians have access to the National On-Board Diagnostics (OBD) Clearinghouse, provided by Weber State University and the Environmental Protection Agency.\textsuperscript{35} This is, an electronic means to access a computer data base identifying unresolved recalls.

\textbf{21.0 On-Road Testing (§51.371)}

The on-road testing program shall be conducted via remote sensing. Measurement of HC, CO, NO and/or CO\textsubscript{2} shall be taken. A minimum of 0.5 percent of the fleet, or 20,000 vehicles, whichever is less, shall receive valid remote sensing testing per inspection cycle. A valid remote sensing test is defined as any remote sensing test where the data received are sufficient to determine a subject vehicle’s identity and emissions. The State conducts as many remote-sensing tests as necessary to obtain the required number of valid tests. Rhode Island has authority to enforce an out of cycle inspection for vehicles believed to not be in compliance with the standards and criteria for motor vehicle emissions inspection.

Since 2001, the Program Manager along with the assistance of the DMV has conducted an evaluation of program effectiveness using an on-road remote sensing device system of no less than 0.5% of the vehicles subject to inspection or approximately 35,000 vehicles annually to evaluate the effectiveness of the I/M Program. The on road testing program conducted biennially, provides information on the emission of hydrocarbons (HC),

\textsuperscript{33} See Program website: \url{www.riinspection.org}
\textsuperscript{34} See Appendix I.
\textsuperscript{35} OBD Clearinghouse website: \url{http://www.obdclearinghouse.com}
carbon monoxide (CO) and oxides of nitrogen (NOx.) The Program Manager collects and analyzes the information and prepares a report of the findings each year.

DMV requires that vehicles it has reason to believe are not in compliance with the standards and criteria for motor vehicle emissions inspection submit to an out of cycle inspection at a challenge station and, if necessary, be brought into compliance. In addition, vehicle number-plate data obtained in on-road testing will be compared to the registration database to determine if the vehicle is properly registered.

The following table indicates the reductions and increases in CO, HC, and NOx beginning in 1998 thru 2011 and 2015.

<table>
<thead>
<tr>
<th>Study</th>
<th>Valid Readings</th>
<th>Average CO</th>
<th>Average HC</th>
<th>Average NOx</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>36,278</td>
<td>0.49%</td>
<td>166 ppm</td>
<td>1,020 ppm</td>
</tr>
<tr>
<td>2001</td>
<td>38,708</td>
<td>0.43%</td>
<td>40 ppm</td>
<td>332 ppm</td>
</tr>
<tr>
<td>2002</td>
<td>8,152</td>
<td>0.38%</td>
<td>30 ppm</td>
<td>232 ppm</td>
</tr>
<tr>
<td>2003</td>
<td>11,163</td>
<td>0.33%</td>
<td>36 ppm</td>
<td>206 ppm</td>
</tr>
<tr>
<td>2004</td>
<td>27,552</td>
<td>0.14%</td>
<td>39 ppm</td>
<td>209 ppm</td>
</tr>
<tr>
<td>2006</td>
<td>57,794</td>
<td>0.13%</td>
<td>16 ppm</td>
<td>222 ppm</td>
</tr>
<tr>
<td>2007</td>
<td>28,565</td>
<td>0.13%</td>
<td>22 ppm</td>
<td>227 ppm</td>
</tr>
<tr>
<td>2008</td>
<td>25,575</td>
<td>0.14%</td>
<td>22 ppm</td>
<td>188 ppm</td>
</tr>
<tr>
<td>2009</td>
<td>27,731</td>
<td>0.12%</td>
<td>25 ppm</td>
<td>176 ppm</td>
</tr>
<tr>
<td>2010</td>
<td>22,452</td>
<td>0.12%</td>
<td>16 ppm</td>
<td>131 ppm</td>
</tr>
<tr>
<td>2011</td>
<td>25,747</td>
<td>0.10%</td>
<td>15 ppm</td>
<td>138 ppm</td>
</tr>
<tr>
<td>2015</td>
<td>28,786</td>
<td>0.08%</td>
<td>9 ppm</td>
<td>86 ppm</td>
</tr>
</tbody>
</table>
22.0 State Implementation Plan Submissions (§51.372)

The following is a list of revisions to the I/M program since the 2001 SIP submittal.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keating Technologies, Inc.</td>
<td>June 1999</td>
</tr>
<tr>
<td>Commencement of I/M Program</td>
<td>January 2000</td>
</tr>
<tr>
<td>Repair Effectiveness Implementation</td>
<td>April 2001</td>
</tr>
<tr>
<td>On-Board Diagnostic (OBD) SIP Revisions</td>
<td>November 2001</td>
</tr>
<tr>
<td>Proposed Regulation Revisions</td>
<td>March 2003</td>
</tr>
<tr>
<td>DEM #34 and DMV #1</td>
<td>March 2003</td>
</tr>
<tr>
<td>Light Duty Diesel Implementation</td>
<td>March 2005</td>
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<tr>
<td>Issuance of Second RFP</td>
<td>August 2006</td>
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<tr>
<td>Selection of Second Program Manager</td>
<td>October 2006</td>
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<tr>
<td>Proposed Regulation Amended DEM # 34 and DMV #1 Regulations</td>
<td>March 2007</td>
</tr>
<tr>
<td>Promulgation of Regulations</td>
<td>December 2008</td>
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<tr>
<td>Partial SIP Revision Submitted</td>
<td>January 2009</td>
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<tr>
<td>SIP Revision Submitted</td>
<td>December 2010</td>
</tr>
<tr>
<td>SIP Revision Submitted</td>
<td>December 2016</td>
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23.0 Implementation Deadlines (§51.373)

As of December 2016 all aspects of the I/M Program have been implemented.