

**ILLINOIS STATE IMPLEMENTATION PLAN**

**REVISIONS TO THE  
ILLINOIS VEHICLE INSPECTION AND MAINTENANCE PROGRAM**

**October 5, 2012**

**Illinois Environmental Protection Agency  
Bureau of Air  
Division of Mobile Source Programs  
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## LIST OF ACRONYMS AND ABBREVIATIONS

CAA	Clean Air Act
CO	Carbon monoxide
DTC	Diagnostic trouble codes
GVWR	Gross vehicle weight rating
HDVs	Heavy-duty vehicles
I/M	Inspection and maintenance
IM240	Transient loaded mode exhaust test
Illinois EPA	Illinois Environmental Protection Agency
LDTs	Light-duty trucks
LDT1	Light-duty truck 1
LDT2	Light-duty truck 2
LDVs	Light-duty vehicles
MIL	Malfunction indicator light
MOVES	Motor Vehicle Emissions Simulator
NAAQS	National ambient air quality standard
NOx	Oxides of nitrogen
OBD	On-board diagnostics
PCM	Powertrain control module
PID	Parameter identification
PM	Particulate matter
PPM	Parts per million
ROP	Rate of progress
RFP	Reasonable further progress
RPM	Revolutions per minute
SAE	Society of Automotive Engineers
SIP	State Implementation Plan
SOS	Illinois Secretary of State
tpd	Tons per day
TPM	Test procedures monitoring
tpy	Tons per year
USEPA	United States Environmental Protection Agency
VEIL	Vehicle Emissions Inspection Law
VID	Vehicle inspection database
VIN	Vehicle identification number
VIR	Vehicle inspection report
VOC	Volatile organic compounds

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| Attachment 9  | Contract for Services, VI-7303: Vehicle Emissions Testing Services (June 14, 2007), as amended   |
| Attachment 10 | State of Illinois Interagency Agreement By and Between the Illinois Environmental Protection Agency and the Illinois Secretary of State (February 27, 2008) and Amendment Number 1 (January 7, 2010)   |
| Attachment 11 | Applus+ Illinois Vehicle Emissions Testing Program – Quality Assurance Manual (March, 2012)  |

- Attachment 12            OBDII Analyzer Audit Module (November 2010)
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- Attachment 14            Illinois Vehicle Emissions Test Notice (2012 sample)
- Attachment 15            Listing of Chicago and Metro-East St. Louis NAA Facility Closures (July 2012)
- Attachment 16            Maintenance Plan for the Metro-East St. Louis Ozone Nonattainment Area for the 1997 8-Hour Ozone National Ambient Air Quality Standard (Revised) (June 29, 2011)

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Section 1:            2000 Amendments to Part 240: Emission Standards and Limitations for Mobile Sources (R01-12) (Attachments 17 through 31)

- Attachment 17            Agency Rulemaking Proposal: Enhanced Inspection and Maintenance (I/M) Regulations, Amendments to 35 Ill. Adm. Code Part 240, filed with the Board on August 21, 2000 (certain documents omitted)
- Attachment 18            Proposed Rule, Proposal for Public Comment, Opinion and Order of Board by C.A. Manning, dated August 24, 2000
- Attachment 19            Hearing Officer Order, Notice of Hearings, dated August 29, 2000, with certificates of publication
- Attachment 20            Notice of Proposed Amendments, Illinois Register publication, 24 Ill. Reg. 13820, September 15, 2000
- Attachment 21            JCAR First Notice Changes, dated September 12, 2000
- Attachment 22            JCAR Addendum to First Notice Changes, dated September 19, 2000
- Attachment 23            Record of Hearing held October 11, 2000 (Pages 1-2, 34; full transcript omitted)
- Attachment 24            Record of Hearing held October 20, 2000 (Pages 1-3, 26; full transcript omitted)

- Attachment 25 Exhibit List from the Hearings, dated October 30, 2000  
 Exhibit 1 – Illinois EPA Errata Sheet  
 Exhibit 2 (omitted) – Amendments to Vehicle Inspection Maintenance Program Requirements Incorporating the Onboard Diagnostic Check, Proposed Rule, 65 Fed. Reg. 56844, September 20, 2000
- Attachment 26 Illinois EPA Comments, dated November 9, 2000
- Attachment 27 Final Order, Adopted Rule, Opinion and Order of the Board by C.A. Manning, dated December 7, 2000
- Attachment 28 Notice of Adopted Amendments, Illinois Register publication, 24 Ill. Reg. 19188, December 29, 2000
- Attachment 29 JCAR Recommendation to Exempt Rulemaking, dated January 9, 2001
- Attachment 30 Notice of Expedited Corrections, Illinois Register publication, 25 Ill. Reg. 5973, May 4, 2001
- Attachment 31 JCAR Certification of Correction to Adopted Rulemaking, dated May 15, 2001

Section 2:      2001 Amendments to Part 240: Emission Standards and Limitations for Mobile Sources (R02-08) (Attachments 32 through 41)

- Attachment 32 Agency Rulemaking Proposal: Enhanced Inspection and Maintenance (I/M) Regulations, Amendments to 35 Ill. Adm. Code Part 240, filed with the Board on August 20, 2001 (certain documents omitted)
- Attachment 33 Proposed Rule, Proposal for Public Comment, Opinion and Order of Board by T.E. Johnson, dated August 23, 2001
- Attachment 34 Hearing Officer Order, Notice of Hearings, dated August 31, 2001 with certificates of publication
- Attachment 35 JCAR First Notice Changes, dated September 5, 2001
- Attachment 36 Notice of Proposed Amendments, Illinois Register publication, 25 Ill. Reg. 11328, September 7, 2001
- Attachment 37 Record of Hearing held October 12, 2001 (Pages 1-3, 13; full transcript omitted)



- Attachment 38 Record of Hearing held October 19, 2001 (Pages 1-2, 10; full transcript omitted)
- Attachment 39 Final Order, Adopted Rule, Opinion and Order of the Board by R.C. Flemal, dated December 6, 2001
- Attachment 40 Notice of Adopted Amendments, Illinois Register publication, 25 Ill. Reg. 16379, December 28, 2001
- Attachment 41 JCAR No Objection, dated January 9, 2002

Section 3:      2011 Amendments to Part 240: Emission Standards and Limitations for Mobile Sources (R11-19) (Attachments 42 through 57)

- Attachment 42 Agency Rulemaking Proposal, Enhanced Inspection and Maintenance (I/M) Regulations, 35 Ill. Adm. Code Part 240, filed with the Board on December 8, 2010
- Attachment 43 Proposed Rule, Proposal for Public Comment, Opinion and Order of Board by A.S. Moore, dated December 16, 2010
- Attachment 44 Hearing Officer Order, Notice of Hearings, dated December 16, 2010, including Certificates of Publication
- Attachment 45 Notice of Proposed Amendments, Illinois Register publication, 35 Ill. Reg. 129, Issue 1, Jan. 3, 2011
- Attachment 46 Prefiled Testimony of Michael Hills, dated January 18, 2011
- Attachment 47 JCAR First Notice Version, dated January 20, 2011
- Attachment 48 Hearing Officer Order, Continuing Hearings, dated February 3, 2011
- Attachment 49 Record of Hearing held February 3, 2011 (Pages 1-2, 5; full transcript omitted)
- Attachment 50 Hearing Officer Order, Hearings, dated February 10, 2011

- Attachment 51            Record of Hearing held February 10, 2011 (Pages 1-3, 17; full transcript omitted)
  
- Attachment 52            Exhibit from Hearing held February 10, 2011, Testimony of Michael Hills (Omitted, see Attachment 5)
  
- Attachment 53            Record of Hearing held February 23, 2011 (Page 1; full transcript omitted)
  
- Attachment 54            Agency Post-Hearing Comments, dated March 3, 2011
  
- Attachment 55            Final Order, Adopted Rule, Opinion and Order of the Board by A.S. Moore, dated March 17, 2011
  
- Attachment 56            Notice of Adopted Amendments, Illinois Register publication, 35 Ill. Reg. 5552, Issue 14, April 1, 2011
  
- Attachment 57            JCAR Certification of No Objection to Rulemaking, dated April 12, 2011

Section 4:            2012 Amendments to Part 240: Emission Standards and Limitations for Mobile Sources (R12-12) (Attachments 58 through 67)

- Attachment 58            Agency Rulemaking Proposal, Revision of Enhanced Vehicle Emission Inspection and Maintenance (I/M) Regulations, 35 Ill. Adm. Code Part 240, filed with the Board on October 3, 2011
  
- Attachment 59            Proposed Rule, Proposal for Public Comment, Opinion and Order of Board by J.A Burke, dated October 6, 2011
  
- Attachment 60            Hearing Officer Order, Notice of Hearings, dated October 6, 2011, including Certificates of Publication
  
- Attachment 61            Notice of Proposed Amendments, Illinois Register publication, 35 Ill. Reg. 17178, Issue 44, October 28, 2011
  
- Attachment 62            Prefiled Testimony of Michael Hills, dated November 2, 2011
  
- Attachment 63            Record of Hearing held November 17, 2011 (Pages 1-2, 16; full transcript omitted)

- Attachment 64 Exhibit from Hearing held November 17, 2011, Testimony of Michael Hills (Omitted, see Attachment 5)
- Attachment 65 Record of Hearing held November 30, 2011 (Pages 1-3, 8; full transcript omitted)
- Attachment 66 Final Order, Adopted Rule, Opinion and Order of the Board by J.A Burke, dated January 5, 2012
- Attachment 67 Notice of Adopted Amendments, Illinois Register publication, 36 Ill. Reg. 1066, Issue 4, January 27, 2012

Section 5:      2002 Amendments to Part 276: Procedures to be Followed in the Performance of Inspections of Motor Vehicle Emissions (Attachments 68 through 76)

- Attachment 68 First Notice version of Amendments dated August 28, 2001
- Attachment 69 Notice of Proposed Amendments, Illinois Register publication, 25 Ill. Reg. 10973, August 31, 2001
- Attachment 70 Notices of Public Hearing published in the Chicago Sun Times, Belleville News Tribune, and the Edwardsville Intelligencer
- Attachment 71 Notice of Public Hearing, Illinois Register publication, 25 Ill. Reg. 11943
- Attachment 72 Record of Hearing held September 28, 2001
- Attachment 73 Agency's Second Notice package sent to JCAR, dated January 30, 2002
- Attachment 74 Memo from JCAR accepting Second Notice, dated January 31, 2002
- Attachment 75 JCAR Certification of No Objection, Second Notice changes, dated March 5, 2002
- Attachment 76 Notice of Adopted Amendments, Illinois Register publication, 26 Ill. Reg. 8113, May 31, 2002

Section 6:      2011 Amendments to Part 276: Procedures to be Followed in the Performance of Inspections of Motor Vehicle Emissions (Attachments 77 through 88)

- Attachment 77 Agency Rulemaking proposal, Procedures to be Followed in the Performance of Inspections of Motor Vehicle Emissions, 35 Ill. Adm. Code 276; Filed with Secretary of State on December 15, 2010
- Attachment 78 Secretary of the State letter accepting Notice of Proposed Amendments for Publication dated December 27, 2010
- Attachment 79 Notice of Proposed Amendments, Illinois Register publication, 35 Ill. Reg. 14, January 3, 2011
- Attachment 80 Notice of Public Hearing, Illinois Register publication, 35 Ill. Reg. 1471, January 21, 2011
- Attachment 81 JCAR memorandum requesting Agency Economic and Budgetary Effects Analysis and States Mandates Act Questionnaire, dated January 21, 2011
- Attachment 82 Record of hearing held February 23, 2011 (Pages 1-3, 28; full transcript omitted)
- Attachment 83 Record of hearing held March 2, 2011 (Pages 1-2, 28; full transcript omitted)
- Attachment 84 Exhibit List from the Hearings  
 Exhibit 1 – Notice of Hearings (Omitted, see Att. 4)  
 Exhibit 2A – Notice of Proposed Amendments filed by the Agency (Omitted, see Att. 1)  
 Exhibit 2B – Proposed Amendments filed by the Agency (Omitted, see Att. 1)  
 Exhibit 2C – JCAR version of Notice of Proposed Amendments  
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- Attachment 85 Agency’s Second Notice package sent to JCAR, dated April 11, 2011
- Attachment 86 Memo from JCAR accepting Second Notice dated April 15, 2011
- Attachment 87 JCAR’s Certification of No Objection, Second Notice changes, dated May 10, 2011
- Attachment 88 Notice of Adopted Amendments, filed and effective June 28, 2011, Illinois Register publication, 35 Ill. Reg. 11268, July 15, 2011

Section 7:            2012 Amendments to Part 276: Procedures to be Followed in the Performance of Inspections of Motor Vehicle Emissions (Attachments 89 through 100)

- Attachment 89            Agency Rulemaking proposal, Procedures to be Followed in the Performance of Inspections of Motor Vehicle Emissions, 35 Ill. Adm. Code 276; Filed with Secretary of State on October 5, 2011
- Attachment 90            Secretary of the State letter accepting Notice of Proposed Amendments for Publication dated October 13, 2011
- Attachment 91            Notice of Proposed Amendments, Illinois Register publication, 35 Ill. Reg. 16918, October 21, 2011
- Attachment 92            Notice of Public Hearing and Certificates of Publication
- Attachment 93            JCAR Memorandum requesting Agency Economic and Budgetary Effects Analysis, dated October 28, 2011
- Attachment 94            Record of hearing held November 17, 2011 (Pages 1-2, 20; full transcript omitted)
- Attachment 95            Record of hearing held November 30, 2011 (Pages 1-2, 8; full transcript omitted)
- Attachment 96            Exhibit List from the Hearings  
Exhibit 1 – Notice of Hearings (Omitted, see Att. 4)  
Exhibit 2A – Notice of Proposed Amendments (Omitted, see Att. 2)  
Exhibit 2B – Proposed Amendments (Omitted, see Att. 4)  
Exhibit 3 – Public Comment dated November 4, 2011 and Agency Response dated November 7, 2011  
Exhibit 4 – Testimony of Michael Hills
- Attachment 97            Agency’s Second Notice package sent to JCAR, dated December 20, 2011
- Attachment 98            Memo from JCAR accepting Second Notice dated December 22, 2011
- Attachment 99            JCAR’s Certification of No Objection, dated January 10, 2012
- Attachment 100            Notice of Adopted Amendments, filed and effective January 30, 2012; Illinois Register publication, 36 Ill. Reg. 2257, February 10, 2012

**- PART 3 -**

Attachment 101      Notice of Public Comment Period and Public Hearing for Illinois Vehicle  
Emissions Inspection and Maintenance Program State Implementation Plan (SIP)  
Submittal

## EXECUTIVE SUMMARY

Following adoption of the Clean Air Act (CAA) Amendments of 1990, Illinois' ozone air quality was re-evaluated, and it was determined that the Chicago and Metro-East St. Louis metropolitan areas did not meet the 1-hour ozone National Ambient Air Quality Standard (NAAQS) and were therefore designated by the United States Environmental Protection Agency (USEPA) as "nonattainment." Based upon monitored ozone air quality, the Chicago area was classified as a "Severe" nonattainment area (NAA) and the Metro-East St. Louis area was classified as a "Moderate" NAA. Under these designations, Illinois was required to implement a Vehicle Emission Inspection and Maintenance (I/M) program that met the "Enhanced" performance standard in the Chicago NAA and the "Basic" performance standard in the Metro-East St. Louis NAA. In order to maintain consistency throughout the state, the Illinois Environmental Protection Agency (Illinois EPA or Agency) chose to implement an I/M program that met the enhanced performance standard in both NAAs.

In February 1999, the Illinois EPA implemented the Illinois Enhanced I/M Program, consisting of significant upgrades to the program, introducing the following:

- Transient mode exhaust test (IM240 transient test implemented in Illinois)
- Gas cap pressure test
- Advisory vehicle on-board diagnostic (OBD) system test

In 2002, the Illinois EPA requested that USEPA find that the Metro-East St. Louis NAA had attained the 1-hour ozone standard and to redesignate the area to attainment. This request was approved on May 12, 2003 (68 *FR* 25442). In 2007, the Illinois EPA requested that USEPA find that the Chicago NAA attained the revoked 1-hour ozone NAAQS. USEPA made this determination on December 30, 2008 (73 *FR* 79652).

In 2004, the USEPA designated both the Chicago and Metro-East St. Louis Illinois areas as "Moderate" ozone NAAs under the 1997 8-hour ozone NAAQS (0.08 parts per million (ppm)). In 2011, the Illinois EPA submitted requests for redesignation to attainment of the 1997 8-hour ozone standard for the Chicago and the Metro-East St. Louis NAAs. The data submitted by the Illinois EPA showed that the Chicago and Metro-East St. Louis NAAs attained the 1997 8-hour ozone standard for the years 2008 through 2010. On June 12, 2012, the USEPA approved the redesignation of the Illinois portion of the Metro-East St. Louis NAA to attainment for the 1997 8-hour ozone NAAQS (77 *FR* 34819). The USEPA approved the redesignation of the Chicago NAA to attainment for the 1997 8-hour ozone NAAQS on August 13, 2012 (77 *FR* 48062).

On May 21, 2012, the USEPA designated the Metro-East St. Louis, Illinois (77 *FR* 30088) area as a "Marginal" ozone NAA under the newly-established 2008 8-hour ozone NAAQS (0.075 ppm). The same designation was made for the Chicago NAA on June 11, 2012 (77 *FR* 34221).

With this document, Illinois EPA is revising its State Implementation Plan (SIP) for the I/M program. As specified by 40 CFR § 51.351(g), the USEPA established the “Alternate Low Enhanced” I/M performance standard (low enhanced performance standard) for those areas that have an approved Rate-of-Progress (ROP) SIP for 1996, and do not have a disapproved plan for ROP for the period after 1996 or a disapproved plan for attainment of the air quality standards for ozone. On January 20, 1998, the USEPA approved the Illinois ROP plan for the purpose of reducing volatile organic compound (VOC) emissions in the Chicago and Metro-East St. Louis ozone NAAs by 15 percent by November 15, 1996, relative to 1990 baseline emissions (62 FR 66279) (December 18, 1997). Illinois is currently demonstrating compliance with the CAA requirements for ROP. Therefore, the Illinois EPA may implement an I/M program that meets the low enhanced performance standard for VOC and oxides of nitrogen (NOx) ozone precursors. The modeling included as part of this submittal demonstrates attainment of the low enhanced performance standard.

Since 1999, the primary revisions to the I/M program were the following:

- 2002-2004
  - Required OBD pass/fail testing for all 1996 and newer light-duty vehicles (LDVs) and light-duty trucks (LDTs)
  - Eliminated the IM240 transient loaded mode exhaust test for all 1996 and newer LDVs and LDTs
- 2007-2008
  - Eliminated the IM240 test for all vehicles beginning February 1, 2007
  - Eliminated the evaporative system integrity (gas cap pressure) test for OBD-compliant vehicles beginning February 1, 2007
  - Exempted pre-1996 model year vehicles in compliance with the emissions test requirement beginning February 1, 2007
  - Replaced the computer-matching enforcement mechanism with registration denial beginning January 1, 2008
- 2012
  - Eliminated the steady-state idle exhaust and gas cap pressure tests for all vehicles beginning February 1, 2012
  - Added a visual inspection test for vehicles that are equipped with OBD technology, but for which OBD testing is not possible due to the vehicle’s design beginning February 1, 2012
  - Exempted pre-2007 model year heavy-duty vehicles (HDVs) with a gross vehicle weight rating (GVWR) between 8,501 and 14,000 pounds beginning February 1, 2012
  - Exempted all HDVs with a GVWR greater than 14,000 pounds beginning February 1, 2012
  - Required OBD pass/fail testing for all 2007 and newer OBD-compliant HDVs



The enabling legislation for these I/M program changes is in the Vehicle Emissions Inspection Law of 2005, as amended (VEIL), 625 ILCS 5/13C (Attachment 1). In addition, 35 Ill. Adm. Code 240 (Attachment 2) and 35 Ill. Adm. Code 276 (Attachment 3) of the Illinois Administrative Code were amended to contain these program changes.

This SIP revision evaluates the emissions impacts of the I/M program changes by comparing emissions reductions achieved using USEPA's low enhanced performance standard (specified in 40 CFR § 51.351(g)) to those achieved with the 2012 Illinois I/M program. These emissions reductions were calculated using the USEPA Motor Vehicle Emissions Simulator (MOVES) model (MOVES2010a).

The I/M program in place for 2012 in Illinois is designed to identify polluting vehicles equipped with computer-monitored emissions and engine controls found in the modern fleet. In addition, the primary test used in the 2012 program, OBD, adds evaporative VOC and NOx emission reduction benefits. The modeling results contained in Tables 1 and 2 below demonstrate that the 2012 Illinois I/M program meets or exceeds the stringency of the USEPA's low enhanced performance standard. Specifically, the modeling results show:

**TABLE 1**  
**ILLINOIS I/M PROGRAM PERFORMANCE MODELING RESULTS**  
**CHICAGO NONATTAINMENT AREA**  
 (Grams per mile)

<b>PROGRAM TYPE</b>	<b>VOC</b>	<b>NOx</b>
Alternate Low Enhanced I/M Performance Standard	0.37	1.29
Illinois 2012 I/M Program	0.37	1.24

**TABLE 2**  
**ILLINOIS I/M PROGRAM PERFORMANCE MODELING RESULTS**  
**METRO EAST ST. LOUIS NONATTAINMENT AREA**  
 (Grams per mile)

<b>PROGRAM TYPE</b>	<b>VOC</b>	<b>NOx</b>
Alternate Low Enhanced I/M Performance Standard	0.46	1.50
Illinois 2012 I/M Program	0.47*	1.45

\*Value is within the +/- 0.02 grams per mile margin for error allowed for by the USEPA.

Section 110(l) of the CAA requires revisions to SIP-approved control measures to demonstrate that the revision would not interfere with any applicable requirement concerning attainment and reasonable further progress or any other applicable requirement of the CAA. The changes to the I/M program have not interfered with the attainment of the 8-hour ozone or fine particulate matter (PM2.5) NAAQS in either the Chicago or Metro-East St. Louis NAAs. Additionally, any emissions increases resulting from the changes in the I/M program have been compensated for through other emissions control measures.

Therefore, this I/M program SIP revision demonstrates that Illinois continues to meet the applicable I/M performance standard, and that the changes to the I/M program did not, and will not, compromise the State's efforts to meet and/or maintain the 8-hour ozone or PM2.5 NAAQS.

## **PART 1: COMPLIANCE WITH THE VEHICLE INSPECTION AND MAINTENANCE SIP** **SUBMITTAL REQUIREMENTS OF 40 CFR PART 51, SUBPART S**

### **1. Applicability (40 CFR § 51.350 and 40 CFR § 51.351)**

**History** - The Clean Air Act of 1990 (CAA) required the establishment of either "Basic" or "Enhanced" vehicle inspection and maintenance (I/M) programs in ozone nonattainment areas (NAAs), depending on the severity of the nonattainment problem. States are allowed to propose and implement their vehicle testing programs, so long as they meet CAA requirements, and the program is approved by the United States Environmental Protection Agency (USEPA). The CAA provides sanctions in the event a state does not meet its obligations, including the imposition of a federally-designed and implemented vehicle emissions testing program, 2:1 new source review offset sanctions, and the loss of a state's federal highway funding. Enhanced I/M was required in the Chicago NAA due to the "Severe" nonattainment classification of the area for the 1990 1-hour ozone standard. Basic I/M was required in Metro-East St. Louis based upon its "Moderate" classification. In order to maintain consistency within the State, the Illinois EPA chose to implement an Enhanced I/M program in both the Chicago and Metro-East St. Louis NAAs.

**Enhanced I/M Program** - In February 1999, the Illinois EPA fully implemented the Illinois Enhanced I/M Program, consisting of significant upgrades to the earlier program:

- 1999
  - Introduced new test procedures, such as the IM240 transient mode exhaust (IM240) test, the gas cap pressure test, and the vehicle on-board diagnostic (OBD) system test
  - Changed vehicle model year coverage to increase the age in which vehicles were first required to be tested from two to four years
  
- 2001
  - Delayed the implementation of "pass/fail" OBD testing from January 1, 2001, to January 1, 2002
  - Retained "start-up" hydrocarbon and carbon monoxide (CO) emission standards for model year 1981 through model year 1986 light duty vehicles (LDVs) and light duty trucks (LDTs) (less than 8,501 pounds gross vehicle weight rating (GVWR)) receiving the IM240 test
  
- 2002
  - Replaced the fuel economy check with the dilution carbon dioxide (CO<sub>2</sub>) threshold for vehicles receiving the IM240 test
  - Clarified the drive trace for vehicles receiving the IM240 test to accommodate

underpowered vehicles

- Modified the OBD test procedures based on amendments made by the USEPA as part of its April 5, 2001 rulemaking (“Amendments to Vehicle Inspection Maintenance Program Requirements Incorporating the Onboard Diagnostic Check; Final Rule,” 66 *FR* 18156).

These amendments included:

- Flexibility to allow vehicles with unset readiness codes to complete the full OBD inspection without being rejected;
- Simplification of the list of diagnostic trouble codes (DTC) that constitute the OBD failure criteria;
- Addition of the malfunction indicator light (MIL) visual check; and
- Extension of the date at which failure of the OBD test constitutes a failure of the I/M inspection from January 1, 2002 to January 1, 2003.

Through January 31, 2007, the program was authorized by the Illinois Vehicle Emissions Inspection Law of 1995 (VEIL OF 1995) (625 ILCS 5/13B). The Illinois EPA awarded a contract to Envirotest Illinois, Inc. to design, build and operate the enhanced inspection station network through April 30, 2008.

**Current I/M Program** – The program was reauthorized by the VEIL of 2005 (Attachment 1), is operated under the emissions standards adopted by the Illinois Pollution Control Board (35 Ill. Adm. Code 240) (Attachment 2), and pursuant to Illinois EPA procedures (35 Ill. Adm. Code 276) (Attachment 3).

Changes include:

- February 1, 2007:
  - Model year 1995 and earlier models that were in compliance with the VEIL of 2005 were exempted from further vehicle emissions testing. All vehicles in this category had been required to pass an idle exhaust and gas cap pressure test.
  - The IM240 test procedure was eliminated for all vehicles.
  - The idle exhaust and evaporative system integrity (gas cap pressure) testing were eliminated for 1996 and newer model year LDVs and LDTs that received a successful OBD inspection. The idle exhaust and gas cap pressure tests were still required for model year 1996 and newer heavy-duty vehicles (HDVs) and 1996 and newer LDVs and LDTs that could not receive an OBD test.
  - The “Key on Engine off” test or bulb check was eliminated from the OBD test procedure.
- January 1, 2008:
  - The enforcement mechanism was changed from the computer-matching system to a vehicle registration denial based system. In preparation for this change, in October 2006, the

Illinois Vehicle Emissions Test Program began assigning vehicles that successfully completed the emissions test requirement based on the registration expiration date – not the previous assign date. Motorists received test notification based on the registration expiration date beginning with the October 2007 mailing list.

- May 1, 2008:

- The contract to operate the inspection station network (Contract) was awarded to Applus+ Technologies, Inc. (contractor) in June 2007. The test station network implemented by the contractor was a “hybrid” network consisting of centralized test-only and decentralized test and repair inspection stations.

- February 1, 2012:

- The steady-state idle exhaust and gas cap pressure tests were eliminated for all vehicles.
- Pre-2007 model year HDVs with a GVWR between 8,501 and 14,000 pounds were exempted from further vehicle emissions testing.
- All HDVs with a GVWR greater than 14,000 pounds became exempt from further vehicle emissions testing.
- A visual inspection test was added for vehicles that are equipped with OBD technology, but for which OBD testing is not possible due to the vehicle’s design.

### **Current Enhanced I/M Program Description**

**Test Areas and Network** - In Illinois, vehicle emissions testing is limited to vehicles registered within the urbanized portions of the Chicago and Metro-East St. Louis ozone NAAs. In the Chicago NAA, this includes Cook, DuPage and Lake Counties; and portions of McHenry, Kane, Will and Kendall Counties. In the Metro-East St. Louis NAA, this includes portions of Madison, St. Clair and Monroe Counties. Testing areas are defined by ZIP Code and include at a minimum the Urbanized Areas required by the CAA to be covered by an I/M program.

The current network consists of the following:

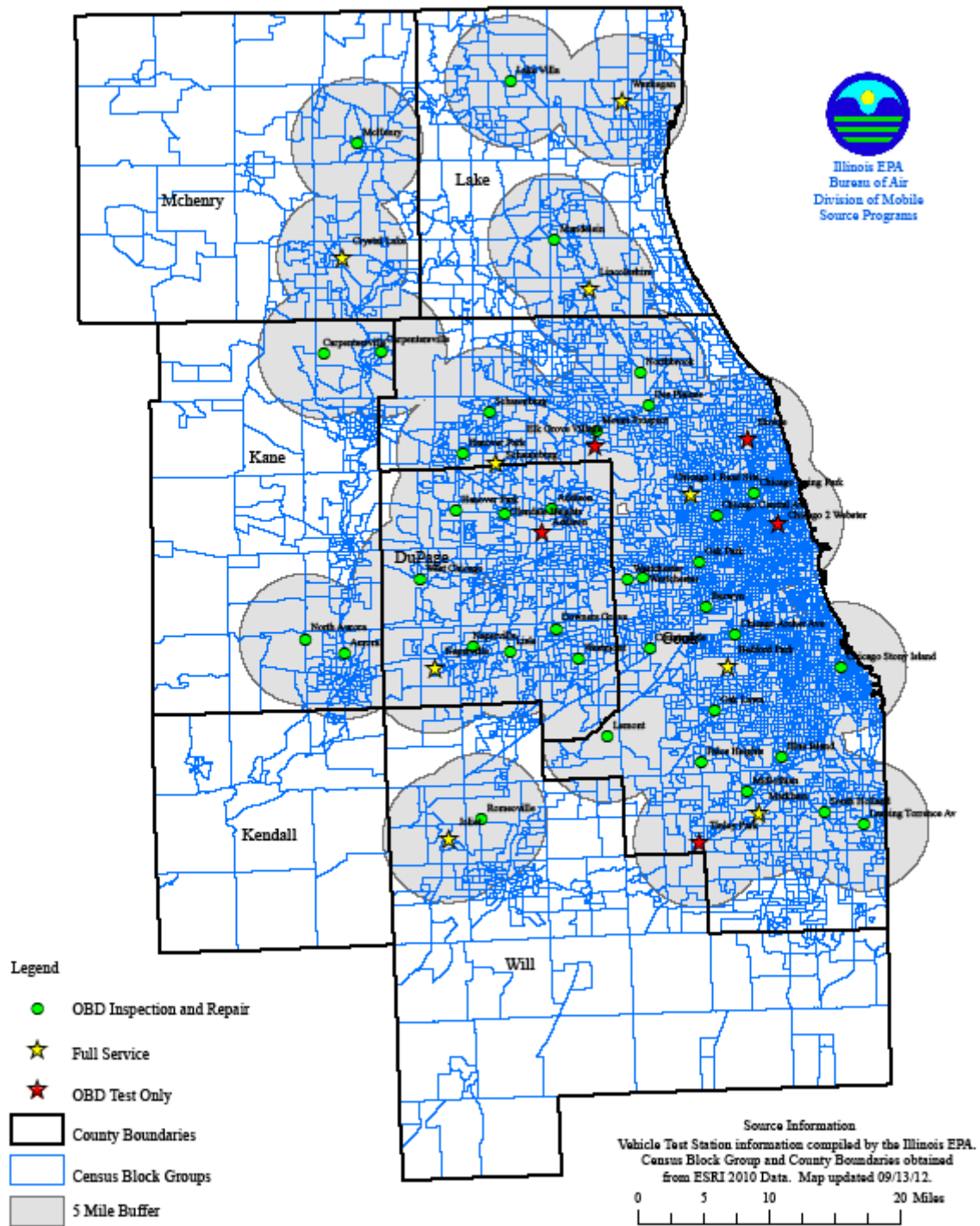
- Twelve centralized full-service test-only stations (nine in the Chicago NAA, three in the Metro-East St. Louis NAA) maintained and operated by the contractor. Five centralized test-only stations maintained and operated by the contractor in the Chicago NAA.

- Forty-one decentralized test and repair test lanes (37 in the Chicago NAA, four in the Metro-East St. Louis NAA) located in and operated by either Meineke Care Centers, Inc., Car-X Auto Service Centers, Midas, Inc., or Firestone Complete Auto Care. Three self-serve test kiosks (two in the Chicago NAA, one in the Metro-East St. Louis NAA). These pilot test kiosks allow motorists to perform the OBD test procedure on their vehicle without the need of an inspector.

The current network, depicted on the following maps, consists of 17 centralized test-only stations (14 in the Chicago NAA – three in the Metro-East St. Louis NAA) and 41 decentralized test and repair stations (37 in the Chicago NAA – four in the Metro East St. Louis NAA).

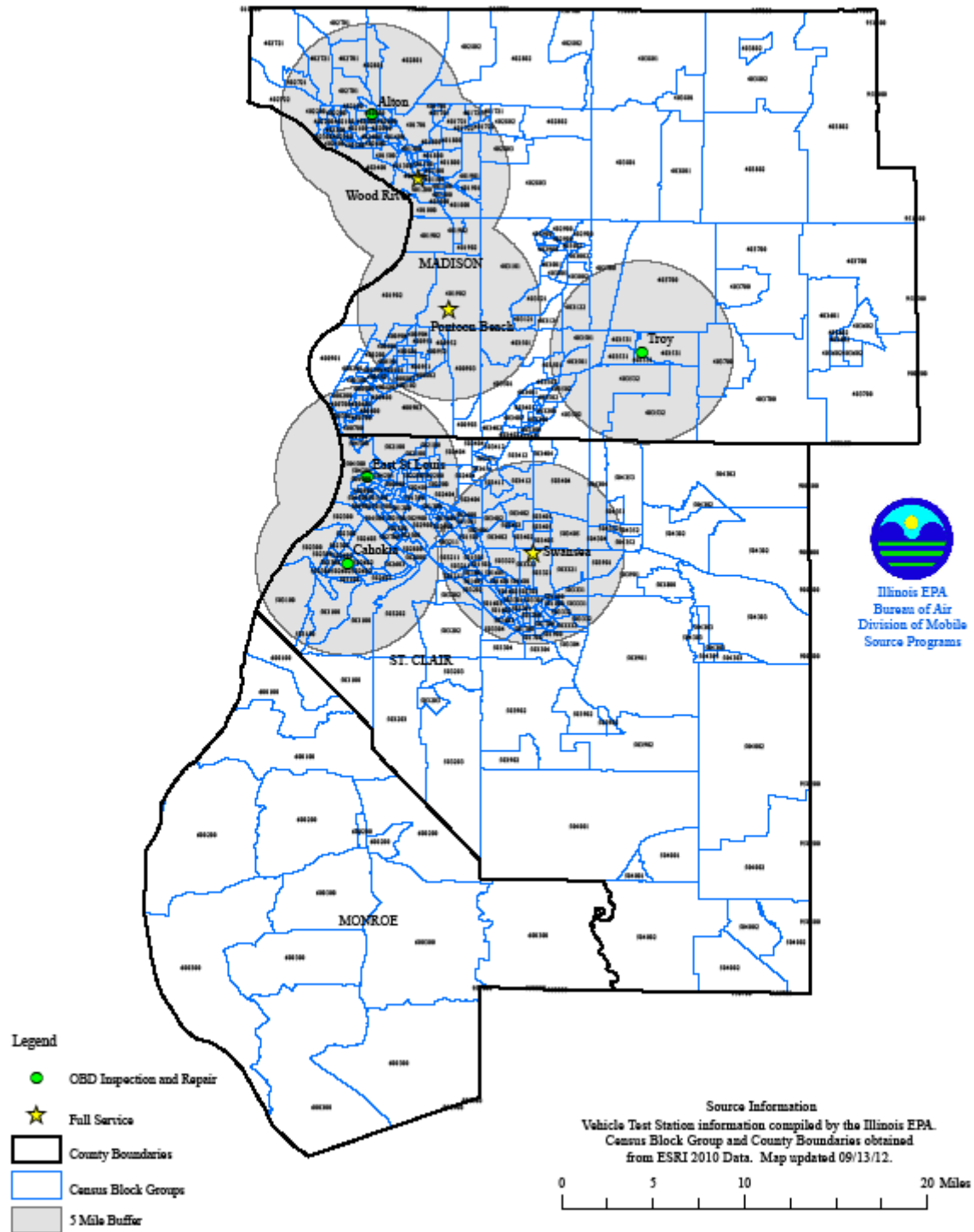
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# Chicago NAA with Test Stations and 2010 Census Block Group Boundaries



Updated: 09/10/2012

Metro East St. Louis NAA with Test Stations and 2010 Census Block Group Boundaries



Updated: 09/10/2012



**Test Requirements and Procedures** - The I/M program identifies subject vehicles that do not meet current USEPA emissions standards. Once these vehicles are identified, vehicle owners must either make the necessary repairs to their vehicle that will reduce the amount of exhaust and/or evaporative emissions to within acceptable levels, or otherwise comply with the VEIL of 2005.

Beginning with the 1996 model year, most passenger vehicles have been required by USEPA to be equipped with second-generation OBD systems. These systems are designed to continuously monitor major engine and emissions control systems during vehicle operation, and alert the driver, through illumination of the MIL, of malfunctions causing or contributing to exhaust or evaporative emissions exceeding federal standards. The systems also capture and store information useful to repair technicians in diagnosing and repairing the problem identified. The OBD I/M test consists of determining if the vehicle's OBD system is properly functioning, and retrieving data stored in the OBD system's computer memory. If it is determined that the vehicle's MIL is illuminated and diagnostic trouble codes are present, or if the OBD system is missing, damaged, or inoperative, the vehicle will fail the test. OBD I/M testing is a required component of all I/M programs and is designed to replace the traditional exhaust tests on 1996 and newer vehicles. Most states have fully integrated OBD testing into their I/M programs. All LDVs and LDTs and trucks and HDVs that are OBDII equipped are subject to the OBD inspection.

**Test Frequency and Vehicles Subject to Testing** – Illinois operates a biennial vehicle emissions test program, meaning a vehicle is required to be inspected every two years, on a schedule that begins in the fourth calendar year after the vehicle model year. The VEIL of 2005 lists those vehicles exempt from testing, including all diesel-powered vehicles, electric vehicles, show cars, ceremonial vehicles, vehicles registered as antiques, and other unique or specialty vehicles.

**On-Board Diagnostic Testing** - The test consists of connecting an OBD system scan tool to the standardized connector port under the dash. With the engine running, the scan tool accesses the on-board computer and retrieves specific information from the vehicle. This includes an indication of whether or not the MIL is commanded to be illuminated, the number of DTCs stored in the system, the DTC types, and the operational status of up to eleven systems monitored by the OBD system.

With the repeal of the steady-state idle and evaporative system integrity emissions tests effective February 1, 2012, a visual inspection test was added to handle certain vehicles that are equipped with OBD technology, but for which OBD testing is not possible due to the vehicle's design. Specifically, this test procedure is only used on vehicles for which OBD testing is not possible due to the vehicle's originally certified design or its design as modified in accordance with federal law and regulations, and on any vehicle with known OBD communications or software problems, as determined by the Agency.

The Agency makes the determination as to which vehicles are eligible for the visual inspection test and has developed a list of such vehicles. Any vehicle that does not appear on this list will not be eligible for the visual inspection test and will need to comply with the full OBD inspection.

The visual inspection test includes the following checks:

- Key-on/engine off  
The key-on/engine off check starts with the ignition in the key-off/engine-off position. The ignition shall then be turned to the key-on/engine off position. The inspector shall observe whether the MIL is illuminated.
- Key-on/engine running  
The key-on/engine running check starts with the ignition in the key-on/engine off position. The ignition shall then be turned to the key-on/engine running position. The inspector shall observe whether the MIL is continuously illuminated.

In order to pass the visual inspection, the MIL must illuminate during the key-on/engine off check and not illuminate during the key-on/engine running check.

#### **Compliance with the Alternate Low Enhanced I/M Performance Standard**

The Illinois EPA used the USEPA approved Motor Vehicle Emissions Simulator (MOVES) model, specifically MOVES2010a, to demonstrate for emission reduction effectiveness as required by 40 CFR § 51.351(d).

Attachment 6 (DVD) contains the input data, full output data files, and run specifications for MOVES2010a. This model was used to estimate the emissions reductions benefits of implementing a hybrid I/M program in the Illinois NAAs. Table 3 below compares USEPA's Alternate Low Enhanced I/M Performance Standard (low enhanced performance standard) to the 2012 Illinois I/M Program.

Using the Illinois I/M and low enhanced performance standard inputs described in Table 3, the resulting outputs, reflected in Tables 4 and 5 below, demonstrate the current I/M test program meets the low enhanced performance standard requirements for volatile organic compounds (VOC) and oxides of nitrogen (NOx).

Data in Tables 4 and 5 demonstrate the Illinois I/M test program meets the low enhanced performance standard requirements for volatile organic compounds (VOC) and oxides of nitrogen (NOx). USEPA's MOVES model was used to make this comparison and the input and output data are provided on a DVD as part of Attachment 6.

**TABLE 3**  
**COMPARISON OF ALTERNATE LOW ENHANCED I/M PERFORMANCE STANDARD**  
**TO THE 2012 ILLINOIS I/M PROGRAM**

<b>Parameter</b>	<b>Alternate Low Enhanced I/M Performance Standard</b>	<b>2012 Illinois I/M Program</b>
Network type	Centralized	Hybrid *
Start date	1983	1987 (areas with existing programs)
Test frequency	Annual	Biennial
Model year coverage	Model year 1968 and newer	Model year 1996 and newer (4-year new vehicle exemption)
Vehicle type coverage	Gasoline-powered LDVs and LDTs trucks up to 8,500 lbs GVWR	LDVs and LDTs up to 8,500 lbs GVWR of model year 1996 and newer (4-year new vehicle exemption) HDVs up to 14,000 lbs GVWR of model year 2007 and newer (4-year new vehicle exemption)
Exhaust emission test type	Single speed idle test	OBD for model year 1996 and newer LDVs and LDTs, and model year 2007 and newer OBD-compliant HDVs**
Emission standards	40 CFR Part 85, Subpart W	35 Ill. Adm. Code Part 240
Emission control device inspections	Visual inspection of the positive crankcase ventilation valve on all 1968 through 1971 model year vehicles, inclusive, and of the exhaust gas recirculation valve on all 1972 and newer model year vehicles	None
Evaporative system function checks	None	None
Waiver rate	3%	2.2% as a percentage of failed vehicles
Compliance rate	96%	96%

\* Historically, Illinois has performed 98 percent of tests in centralized test-only stations. The remaining two percent of tests conducted in test and repair stations is conducted with the same test equipment and fraud prevention techniques. Therefore, for modeling purposes, the Illinois EPA is using the centralized test-only network input.

\*\* Only OBD-compliant HDVs (2007 and newer model year and have a GVWR between 8,501 and 14,000 pounds) are tested.

Using the Illinois I/M and low enhanced performance standard inputs described in Table 3, the resulting outputs, reflected in Tables 4 and 5 below, demonstrate that the current I/M test program meets the low enhanced performance standard requirements for VOC and NOx.

**TABLE 4**  
**ILLINOIS I/M PROGRAM PERFORMANCE MODELING RESULTS**  
**CHICAGO NONATTAINMENT AREA**  
 (Grams per mile)

<b>PROGRAM TYPE</b>	<b>VOC</b>	<b>NOx</b>
Alternate Low Enhanced I/M Performance Standard	0.37	1.29
Illinois 2012 I/M Program	0.37	1.24

**TABLE 5**  
**ILLINOIS I/M PROGRAM PERFORMANCE MODELING RESULTS**  
**METRO EAST ST. LOUIS NONATTAINMENT AREA**  
 (Grams per mile)

<b>PROGRAM TYPE</b>	<b>VOC</b>	<b>NOx</b>
Alternate Low Enhanced I/M Performance Standard	0.46	1.50
Illinois 2012 I/M Program	0.47*	1.45

\*Value is within the +/- 0.02 grams per mile margin for error allowed for by the USEPA.

Based on these results, the Illinois enhanced I/M program meets or exceeds the requirements of the 1990 amendments to the federal CAA for both the Chicago and Metro-East St. Louis NAAs. Program effectiveness is demonstrated by comparing the reduction in VOC and NOx emissions with the low enhanced performance standard using the MOVES model.

## **2. Network Type and Program Evaluation (40 CFR § 51.353)**

The Illinois I/M program is conducted under the legal authority of the VEIL of 2005. The Illinois I/M program consists of a hybrid network which includes 17 centralized test-only stations and 41 decentralized, appointment-only, test and repair stations. Provision and maintenance of all test equipment, operation of data management services, waiver analysis, and inspector training, is handled by the State's contractor, Applus+ Technologies, Inc. All tests, regardless of station type, are conducted

using the same test equipment and fraud prevention techniques, including inspector iris scanning, video surveillance and OBD fingerprint comparison. Vehicles in the Chicago and Metro-East St. Louis ozone NAAs that are required to comply with the I/M program are tested biennially by the contractor at either centralized test-only stations or decentralized appointment-only test and repair test stations. To date, approximately 98% of all tests are conducted at the centralized test-only stations.

A motorist whose vehicle fails an emissions test is provided with a Repair Shop Report Card (see Attachment 7 for example) which provides a list of repair shops that have performed at least five emissions repairs during the last six-month period and achieved a success rate of 75% or greater. The report card lists the repair shops by city and repair success rate, or grade (A=100-93%, B=92-84%, C=83-75%). Emissions inspection stations are required to provide the owners of failed vehicles a Vehicle Inspection Report (VIR), a repair data sheet and a copy of the most recent Repair Shop Report Card.

The Illinois EPA has developed a program evaluation methodology consisting of the following:

- Field Audits:

Overt audits primarily consist of Testing Procedure Monitoring (TPM) performed by State inspectors, and equipment audits performed by quality assurance auditors. The TPM is an evaluation of individual vehicle tests performed by the lane inspector. The audits help ensure that the proper testing procedures are consistently utilized at all testing stations. Currently, State inspectors perform 12 audits daily at the centralized test-only stations.

In addition, quality assurance audits are performed on OBD analyzers with verification testers. The audit was modeled after the guidance provided in the document "U.S. EPA Steady State and Transient Testing Equipment Audit Guidance." All inspection stations, including decentralized test and repair stations, are subject to at least one equipment audit per year.

Finally, the quality assurance auditors also review the contractor's quality control and maintenance books on a routine basis. These books contain the records of required calibrations and all equipment maintenance performed by the contractor.

Covert audits are performed by State inspectors to verify whether contractor personnel (lane inspectors) follow established test procedures when performing a test. Two vehicles with regular license plates are used for these audits, including one vehicle with dual exhaust. State inspectors document covert audits by preparing a covert test procedure monitor after the conclusion of each covert audit. Results are shared with Illinois EPA's Field Supervisor(s), Field Services Manager, and the contractor's Operations Manager.

- Remote Agency Oversight:

Data collection and analysis of the Illinois I/M program is handled through the test contractor's Vehicle Inspection Database (VID). All tests are conducted using equipment provided by the test contractor and all results are collected and stored electronically on one centralized VID. Illinois EPA personnel have access to all test data through the contractor's web-based VID portal called "Dashboard." Dashboard provides all necessary reports, test results, video clips of all tests, and live video surveillance of all test stations. Periodic reports available on Dashboard include:

- A monthly compliance status report which summarizes by assigned test month for the past 17 months (starting from user selected month), the number of vehicles selected for testing, the number of vehicles that have complied with the test requirement, the number of vehicles outstanding, and the overall compliance rate.
- A monthly and annual inspection station report which summarizes by test station and user-selected month or year, the number of initial tests (both passing and failing), first retests (both passing and failing), second and subsequent retests (both passing and failing), and the number of waivers.
- A monthly and annual test summary report which summarizes by test type, vehicle type, vehicle model year, and region (Chicago or Metro East St. Louis NAA) and user-selected month or year, the number of initial tests (both passing and failing), first retests (both passing and failing), second and subsequent retests (both passing and failing), and the number of waivers.
- An inspection station daily activity report which summarizes by user-selected test station and month/day/year, the total tests, total passing tests (and rate), total failing tests (and rate), total rejects (and rate), total passing waivers, total failing waivers, the average wait time, and the station utilization rate.
- An inspection station monthly activity report which summarizes by user-selected test station and month/year, the total tests, total passing tests (and rate), total failing tests (and rate), total rejects (and rate), total passing waivers, total failing waivers, the average wait time, and the station utilization rate.
- A network monthly activity report which summarizes by user-selected month/year for all test stations, the total tests, total passing tests (and rate), total failing tests (and rate), total rejects (and rate), total passing waivers, total failing waivers, and the average wait time.

- A monthly wait time report which summarizes by user-selected month/year for each centralized test-only station and the centralized network as a whole, the average wait time for each business day of the month in question as well as the average wait time for the entire month.

Ad-hoc reporting utilities available on Dashboard include:

- A repair data history report which summarizes by user-entered vehicle license plate or vehicle identification number (VIN), the repair history for the vehicle in question. This repair history includes the repair date, the repair shop ID, the repair cost, and who performed the repair for each repair performed on the vehicle.
- A data item description report which summarizes by user-selected vehicle type (all vehicle types, LDVs, LDTs, or HDVs), and test date range, the number of initial tests, initial failures by failure type, initial readiness rejects, first retests, first retest failures, and first retest readiness rejects. The report also provides the top 20 DTCs reported for the user-selected vehicle type and test date range.
- An OBD VIN mismatch report which lists all tests for the user-selected station (or entire network) and date range, the tests where the VIN printed on the vehicle record does not match the VIN returned from the vehicle's OBD system.

The contractor also provides direct access to the VID through a virtual office portal, which gives two Illinois EPA technical personnel the ability to run user-developed queries. These queries can provide access to all data on the VID and can be designed by the user to provide any summary necessary.

The results of the ongoing quality assurance program and the program evaluations are incorporated into an annual report to USEPA that meets the requirements of 40 CFR § 51.366. The Illinois EPA has committed to submit annual reports to USEPA by July 1 of each calendar year for each preceding calendar year (Attachment 8).

The Illinois I/M program is conducted under the legal authority of the VEIL of 2005. The annual report submitted to USEPA includes a program evaluation using field audits, remote Agency oversight and ad-hoc reporting. Program effectiveness is demonstrated above.

### **3. Adequate Tools and Resources (40 CFR § 51.354)**

In Illinois, no fee is charged to motor vehicle owners for obtaining inspections. The Vehicle Inspection Fund receives revenue from the Motor Fuel Tax Fund and other sources to pay for the program. The testing contractor receives \$6.95 for each reimbursable test.

The Illinois Office of the Secretary of State (SOS) supplies motor vehicle registration data to the Illinois EPA to select for inspection subject vehicles in the testing areas. Upon compliance with the test program requirements, motorists' vehicle records are updated to reflect their change in status.

The Illinois EPA will maintain I/M program staffing levels to adequately cover overt and covert auditing, data collection and analysis, report preparation, performance monitoring, technical assistance, consumer assistance, waiver oversight, administrative and clerical functions.

#### **4. Test Frequency and Convenience (40 CFR § 51.355)**

Vehicles registered in the Illinois emission test areas and subject to the I/M program are required to be inspected once every two years beginning in the fourth model year after they were manufactured. In June 2006, Public Act 94-848 amended the VEIL of 2005 to replace computer-matching with registration denial as the enforcement mechanism. Beginning January 1, 2008, based on amendments to Section 13C-55 of the VEIL of 2005, the SOS may not renew any vehicle registration for a vehicle that has not complied with the emissions test requirement. Vehicles are assigned for testing based on the license plate registration expiration month. Emissions test notices are mailed out to motorists approximately three months prior to registration expiration.

In the two I/M program test areas in Illinois, there are 17 centralized test-only emissions inspection stations (14 in the Chicago NAA and three in the Metro-East St. Louis NAA) and 41 decentralized test and repair stations (37 in the Chicago NAA and four in the Metro-East St. Louis NAA). In order to provide motorists convenient service as required by 40 CFR § 51.355, the Contract specifies that the inspection network shall be constructed and operated to provide sufficient test lane capacity to ensure that motorists are not subjected to excessive wait times. Specifically, the Contract requires that the average wait time for a vehicle presented for testing is not to exceed:

- Fifteen (15) minutes per vehicle for more than four (4) days in any calendar month at any one inspection station; and
- Fifteen (15) minutes per vehicle (monthly Actual Average Wait Time) in any calendar month network-wide.

If these standards are exceeded, liquidated damages may be imposed.

Additionally, the number and distribution of inspection stations shall be such that the following criteria are met in each test area:

- 80% of the vehicle population network-wide must be located within five (5) miles of an inspection station (either centralized test-only or decentralized test and repair); and
- 95% of the vehicle population network-wide must be located within twelve (12) miles of a centralized, test-only inspection station.



The network used in the 2012 Illinois I/M program meets all of these motorist convenience requirements.

#### **5. Vehicle Coverage (40 CFR § 51.356)**

The Illinois EPA uses the vehicle registration database compiled by the SOS as the basis to determine which motor vehicles are required to undergo emissions testing to comply with EPA guidelines. The Illinois EPA compares the VID against the SOS database to assist in program compliance. All 1996 and newer model year LDVs, LDTs and OBD-compliant HDVs registered in the Chicago or Metro-East St. Louis ozone NAAs are subject to the OBD inspection. Approximately 2.26 million vehicles were subject to inspection in calendar year 2011.

The following vehicles are not subject to inspection:

- Vehicles not subject to registration under Article IV of Chapter 3 of the Illinois Vehicle Code, other than vehicles owned by the federal government
- Motorcycles, motor-driven cycles, and motorized pedalcycles
- Farm vehicles and implements of husbandry
- Implements of warfare owned by the State or federal government
- Antique vehicles, custom vehicles, street rods, and vehicles of model year 1967 or earlier
- Vehicles operated exclusively for parade or ceremonial purposes by any veterans, fraternal, or civic organization, organized on a not-for-profit basis
- Vehicles for which the Secretary of State, under Section 3-117 of the Illinois Vehicle Code, has issued a Junking Certificate
- Diesel-powered vehicles and vehicles that are powered exclusively by electricity
- Vehicles operated exclusively in organized amateur or professional sporting activities
- Vehicles registered in, subject to, and in compliance with the emission inspection requirements of another state
- Vehicles participating in an OBD continuous monitoring program operated in accordance with procedures adopted by the Illinois EPA
- Vehicles of model year 1995 or earlier
- Vehicles of model year 2006 or earlier with a manufacturer GVWR between 8,501 and 14,000 pounds
- Vehicles with a manufacturer GVWR greater than 14,000 pounds

The legal authority to enforce the vehicle coverage requirement in Illinois is provided by the VEIL of 2005. The rules implemented to enforce vehicle coverage are contained in the emissions standards adopted by the Illinois Pollution Control Board (35 Ill. Adm. Code 240), and the procedural rules adopted by the Illinois EPA (35 Ill. Adm. Code 276).

## **6. Test Procedures and Standards (40 CFR § 51.357)**

All 1996 and newer model year LDVs and LDTs as well as OBD-compliant HDVs (model year 2007 and newer and GVWR between 8,501 and 14,000 pounds) are subject to the test procedures contained in 35 Ill. Adm. Code 276 and the applicable emissions standards contained in 35 Ill. Adm. Code 240.

## **7. Test Equipment (40 CFR § 51.358)**

This section describes the test equipment that the contractor uses in all test stations in the 2012 Illinois I/M program. All test stations, whether they are centralized test-only stations, or decentralized test and repair stations, are required to use the same test equipment and data management systems as provided by the contractor (excluding the license plate recognition (LPR) system not needed at the low-volume decentralized test and repair stations). The Illinois I/M program uses USEPA guidance and recommendations for equipment. Requirements for the entire test system and vehicle inspection report are contained in the Contract.

All stations are equipped with the following test equipment (LPR system at centralized test-only stations only):

- Centralized Test-only Stations:
  - OBD test equipment that:
    - Is equipped with a standard connector (as described in Society of Automotive Engineers (SAE) J1978, SAE J1979, or SAE HS-3000/99) and communications link to allow a revolutions per minute (RPM) signal, readiness monitors, fault codes, MIL command status, and other required information to be accessed and downloaded from the vehicle
    - Meets the federal OBD test equipment requirements contained in 40 CFR § 85.2231 and 35 Ill. Adm. Code 276.508
    - Reads all OBD II communication protocols
    - Is capable of capturing the VIN (if available)
    - Is capable of capturing the parameter identification (PID) count and Powertrain control module (PCM) identification (if available)
  - Workstation with iris scan for inspector verification
  - Lane surveillance cameras
  - Lane printers
  - LPR wait-time system
  - Communications systems with mini-station VID
- Decentralized Test and Repair Stations:
  - OBD test equipment that:
    - Is equipped with a standard connector (as described in SAE J1978, SAE J 1979, or SAE HS-3000/99) and communications link to allow an RPM signal, readiness

- monitors, fault codes, MIL command status, and other required information to be accessed and downloaded from the vehicle
- Meets the federal OBD test equipment requirements contained in 40 CFR § 85.2231 and 35 Ill. Adm. Code 276.508
- Reads all OBD II communications protocols
- Is capable of capturing the VIN (if available)
- Is capable of capturing the PID count and PCM identification number (if available)
- o Workstation with iris scan for inspector verification
- o Lane surveillance camera
- o Lane printers
- o Communications systems

All test equipment is specified in the Contract and meets USEPA requirements.

### **8. Quality Control (40 CFR § 51.359)**

The Illinois EPA has ensured the Illinois I/M program provides the most cost-effective, convenient, accurate vehicle emissions testing services possible to meet its requirements under the CAA, the VEIL of 2005, and all other applicable laws, rules, and guidance. Section 3.3.3.22 of the Contract, as well as 35 Ill. Adm. Code 276, Subpart F, directs the Illinois EPA and the contractor to ensure quality and reliability through:

- Acceptance testing of all equipment, stations, training documents, and software
- Inspection network surveillance
- Preventative maintenance and calibration requirements
- Digital surveillance of test results and inspector performance
- Inspector iris scanning for all inspections
- Regular equipment and station audits
- Both covert and overt inspector audits
- Monthly and annual reports
- Inspector training and certification

The results of the ongoing quality assurance program and the program evaluations are incorporated into the annual report submitted to USEPA. The annual report meets the requirements of 40 CFR § 51.366. The Illinois EPA has committed to submit annual reports for the preceding calendar year to USEPA by July 1.

All required recordkeeping pertaining to Illinois I/M program equipment and inspector audits is stored on the test contractor's VID and meets the requirements specified in 35 Ill. Adm. Code 276.604. Illinois EPA personnel have access to all audit reports through the Dashboard. Dashboard also provides test results (including video clips of all tests), current and historical wait time reports, suspicious test transaction reports, compliance reports, and live video surveillance of all test stations. A complete

description of the VID is contained in Section 3.3.3.13 of the Contract.

The Illinois EPA and its contractor ensure quality and reliability through a quality control program and report the results to USEPA annually.

#### **9. Waivers and Compliance via Diagnostic Inspection (40 CFR § 51.360)**

The Illinois EPA has continually met the USEPA-mandated low enhanced performance standard maximum waiver rate of 3% as expressed as a percentage of initially-failed vehicles. Historically, the waiver rate in Illinois has been approximately 2% and has never exceeded 2.5%. The Illinois EPA does not expect the waiver rate to exceed the 3% low enhanced performance standard.

The waiver requirements for Illinois are specified in 35 Ill Adm. Code 276, Subpart D. Additional requirements also apply to ensure the vehicle emissions components have not been deliberately removed or tampered with, and that repairs have been performed by professional repair technicians.

In addition to waivers, the I/M program allows motorists to comply with the VEIL of 2005 in other ways. Specifically, motorists can comply if they meet the requirements for an economic hardship extension, if their vehicle is located outside of the test area, or if the vehicle has complied with another jurisdiction's testing requirement (reciprocity).

The economic hardship extension allows the Illinois EPA to issue a one-year emissions compliance certificate upon receipt of a petition by the vehicle owner that needed repairs cannot be made due to economic hardship. The requirements that must be met before this extension can be issued are contained in 35 Ill. Adm. Code 276.404.

An "Outside of Affected Counties" exemption provides that the owner of a vehicle which is located and being primarily operated outside of the affected counties and in other jurisdictions where vehicle emission inspections are not required, may be issued a one-year emissions compliance certificate allowing the motorist to renew the registration without having an emissions inspection. The requirements for obtaining this exemption are contained in 35 Ill. Adm. Code 276.405.

Finally, the Illinois EPA provides reciprocity for vehicles subject to inspection in Illinois that are located and primarily used in an area subject to the vehicle inspection requirements of another state. An emissions compliance certificate will be issued only upon receipt by the Illinois EPA of evidence that the vehicle has been inspected and is in compliance with the emission inspection requirement and standards applicable in the state or local jurisdiction where the vehicle is being used. The requirements that must be met before the certificate can be issued to a motorist are contained in 35 Ill. Adm. Code 276, Subpart J.

Legal authority for the issuance of waivers in the Illinois I/M program is contained in the VEIL of 2005. Specifically, Sections 625 ILCS 5/13C-15 and 5/13C-30 provide the criteria that must be met before a

vehicle that has failed a vehicle emissions retest can qualify for a waiver, economic hardship extension, outside of affected counties annual exemption, or reciprocity emission compliance certificate. In addition, 35 Ill. Adm. Code 276, Subpart D provides the procedures to be followed in the issuance of a waiver, economic hardship extension, or outside of affected counties annual exemption. Finally, 35 Ill. Adm. Code 276, Subpart J provides the requirements for the issuance of an emissions compliance certificate under reciprocity with other states or jurisdictions.

#### **10. Motorist Compliance Enforcement (40 CFR § 51.361)**

The Illinois I/M program currently uses registration-denial enforcement. Prior to January 1, 2008, the compliance enforcement mechanism was computer-matching. As specified in Sections 625 ILCS 5/13C-15 and 5/13C-55 of the VEIL of 2005, the owner of a vehicle subject to inspection shall have proof of compliance from the Illinois EPA in order to obtain or renew a vehicle registration for a subject vehicle. In most cases, valid proof of compliance is handled electronically by the contractor's VID and the SOS's vehicle registration database. However, in the event communication is lost between the VID and the registration database, the VIR can be used as well.

The SOS provides to the Illinois EPA on a weekly basis, an updated electronic list of all vehicles registered in the State of Illinois. The Illinois EPA, through the test contractor, then performs the selection of vehicles that are subject to inspection and sends the list to the SOS on a monthly basis. The SOS in turn flags the selected vehicle records on their registration database. Any owner of a vehicle flagged on the registration database will not be able to obtain or renew the registration without proof of compliance with the inspection requirement. When the motorist complies with the inspection requirement, the Illinois EPA, through the test contractor's VID, sends an electronic compliance record to the vehicle registration database, which removes the flag. Once the flag is removed, the motorist is free to obtain or renew the registration. In the event communication is lost between the VID and the registration database, the VIR can be used to demonstrate compliance. A complete description of the enforcement process is contained in the "State of Illinois Interagency Agreement By and Between the Illinois EPA and the Illinois Secretary of State" (MOU) (Attachment 10).

Emissions inspection frequency is biennial, where approximately one-half of the vehicle fleet is required to comply with the VEIL of 2005 each year. All even-numbered model year subject vehicles must comply in even-numbered registration years, and odd-numbered model year subject vehicles must comply in odd-numbered registration years.

There is no direct penalty to vehicle owners or drivers for not complying with the emissions test requirement. However, law enforcement officers ticket drivers for expired registrations. Also, there are late registration fees assessed when vehicles are registered after their registration has expired.

As stated above, the Illinois EPA is responsible for selecting all subject vehicles for testing. The selection process automatically ignores exempt vehicles (as defined in the VEIL of 2005, Section 625 ILCS 5/13C-15(b)(8)). In the event an exempt vehicle is incorrectly selected for testing, the Illinois EPA has

implemented a process where the motorist can request the Illinois EPA to review the selection. Illinois EPA personnel will then instruct the motorist to submit the following information to the Illinois EPA's Compliance Assurance Section:

- Name
- Address
- License plate and/or VIN
- Daytime phone number
- Statement describing the type of vehicle

After reviewing the motorist-supplied information, the Illinois EPA may issue an exemption through the Dashboard system. This exemption will remove the flag on the SOS vehicle registration database and mark the record on the VID, preventing selection in future years.

Any owner or lessee of a fleet of 15 or more motor vehicles that are subject to inspection in Illinois may apply to the Illinois EPA for a permit to establish and operate a private inspection station in accordance with the Illinois EPA rules specified in 35 Ill. Adm. Code 276, Subpart G. Specifically, all fleet inspections shall be conducted utilizing equipment approved by the Illinois EPA. This equipment shall meet the same functional requirements, performance criteria, maintenance standards, and calibration requirements as specified in Subparts E and F of 35 Ill. Adm. Code 276. In addition, all fleet inspectors are required to complete and pass the same training course as required in test-only inspection stations. Finally, Section 3.3.2.4.1.3 of the Contract requires all fleets to utilize equipment supplied by the contractor and participate in contractor-provided training and certification. To date, no fleet operator has applied to participate in the fleet self-testing program.

The Illinois EPA and the SOS maintain the level of motorist enforcement necessary to ensure a compliance rate of no less than 96% of subject vehicles. This compliance rate is the standard that the State has used in its previous I/M programs and was used as an input for the MOVES modeling. The strategies described above will ensure that the enforcement levels will meet this compliance target. If it is determined as part of the required program evaluation that the I/M program is not meeting the compliance rate committed to, measures will be taken to improve compliance.

#### **11. Motorist Compliance Enforcement Program Oversight (40 CFR § 51.362)**

The owner of a vehicle subject to inspection must have proof of compliance from the Illinois EPA in order to obtain or renew a vehicle registration for a subject vehicle. In the vast majority of cases, valid proof of compliance is handled electronically by the test contractor's VID and the SOS's vehicle registration database. Whenever a vehicle complies with the emissions test requirement, the contractor's VID sends a "compliance transaction" to SOS's vehicle registration database. This compliance transaction clears the flag on the vehicle record at SOS and releases the vehicle registration for renewal.

However, in the event communication is lost between the VID and the registration database, the VIR can be used as well. In order to prevent fraud, a barcode is printed on the VIR which must be scanned to allow the issuance or renewal of a subject vehicle's registration. The barcode contains a unique identifier (the vehicle tracking number used by the VID) that is not printed on the VIR or the test notice and is therefore not available to the motorist. By scanning the barcode on the VIR, the SOS's vehicle registration database interface will allow SOS personnel to issue the registration without the presence of a compliance record.

The Illinois EPA's agreement with SOS stipulates that at the time of application for vehicle registration renewal, the SOS will determine if the vehicle is subject to emissions testing, based on information provided by the Illinois EPA. If it is subject to testing, the SOS will query the emissions database to determine if the vehicle is in compliance with emissions testing requirement. If the vehicle is in compliance, the renewal will be allowed. If the vehicle is not in compliance, renewal will be denied, and the vehicle owner will be instructed on the steps required to comply with the emission testing requirement. This registration denial system is enforced in all renewal procedures, including but not limited to, internet renewal, touchtone renewal, fleet renewal, the SOS station transactions, mail-in transactions, bank renewals and currency exchange renewals. The SOS may register or refuse to register a vehicle despite what is otherwise called for in the emissions database, only in cases where the vehicle's registration has been changed since the last update to the emissions database, and the registration change would alter the compliance status.

## **12. Quality Assurance (40 CFR § 51.363)**

The contractor must assure the quality of the program per Contract requirements. This assurance is accomplished by auditing requirements for test equipment, inspection personnel, test stations, and all required records. The Contract requires the Dashboard to contain several reports on test equipment calibrations and downtimes, inspector performance audits, compliance rates, vehicle throughput and wait times on a monthly and annual basis. Illinois EPA staff oversee and approve the reports described above.

As mentioned in Section 2, the Illinois EPA has developed an evaluation methodology as required by USEPA regulations. The quality assurance procedures used by the contractor and Illinois EPA personnel are contained in the Illinois EPA's and contractor's training manuals (Attachments 11, 12, and 13) and Section 3.3.3.28 of the Contract.

The procedures include the following steps:

- Overt Audits:
  - Overt audits primarily consist of TPM performed by State inspectors, and equipment audits performed by the quality assurance auditors.

- The TPM is an evaluation of individual vehicle tests performed by the lane inspector. The audits help ensure that proper testing procedures are consistently utilized at all the testing stations. Currently, State inspectors perform 12 audits daily at the centralized test-only stations.
  - Quality assurance audits are performed on OBD analyzers with verification testers. The audit was modeled after the guidance provided in the document “U.S. EPA Steady State and Transient Testing Equipment Audit Guidance.” All inspection stations, including decentralized test and repair stations, are subject to at least one equipment audit per year.
  - Finally, the quality assurance auditors also review the contractor’s quality control/maintenance books on a routine basis. These books contain the records of required calibrations and all equipment maintenance performed by the contractor.
- Covert Audits:
    - Covert audits are performed by State inspectors to verify whether contractor personnel (lane inspectors) follow established test procedures when performing a test. Two vehicles with regular license plates are used for these audits, including one vehicle with dual exhaust.
    - State inspectors document covert audits by preparing a covert test procedure monitor after the conclusion of each covert audit. Results are shared with Illinois EPA’s Field Supervisor(s), Field Services Manager, and the contractor’s Operations Manager.

### **13. Enforcement Against Contractors, Stations and Inspectors (40 CFR § 51.364)**

The 2012 Illinois I/M program is a hybrid program in which all tests, regardless of station type, are conducted using a single contractor’s equipment and VID. Therefore, all enforcement against stations and/or inspectors is handled through the Contract. Specifically, Section 3.8.1 specifies the remedies that will be imposed on the contractor for breach of critical contractual performance requirements.

Liquidated damages can be imposed for any of the following reasons:

- Improper calibration or certification of instruments
- Improper inspection and customer service procedures
- Excessive manual mode testing
- Unmatched or mismatched test transactions
- Failure to report compliance records to the SOS
- Improper denial of registration issuance and wrongful suspensions
- Incomplete, incorrect, or illegible reports



- Loss or corruption of vehicle test and related data
- Failure to meet production schedules
- Failure to deliver reports or documentation
- Failure to comply with orders of the Illinois EPA
- Failure to process vehicle data updates
- Excessive motorist wait times
- Failure to provide Illinois EPA or SOS access to the system
- Failure to cooperate with the Illinois EPA in performing inspection station audits
- Failure to provide a functional system for motorist inquiries
- Failure to provide the appropriate level of customer service

If the contractor fails to construct and operate the inspection network in the manner required by the Contract, the Illinois EPA may withhold payment from the fees due to the contractor in an amount equal to the damages stated in Section 3.8.1 of the Contract. This does not relieve the contractor of its agreed to obligation to remedy any breach of performance standards to which they relate.

#### **14. Data Collection, Analysis and Reporting (40 CFR § 51.365 and § 51.366)**

Section 3.3.3.4 of the Contract provides the complete summary of the data collection requirements. The VID provides all data and information required to make an initial determination of test eligibility and the test procedure required. This includes, but is not limited to, the following:

- License plate number (access key)
- VIN (access key)
- VIR/certificate number (access key)
- Make
- Model
- Model year
- GVWR
- Vehicle type (LDV, LDT1, LDT2, HDV)
- Vehicle status (eligible, assigned, exempt, deleted, etc.)
- Vehicle test eligibility date
- Test number (initial, first retest, second retest, etc.)
- Test procedure(s) utilized in previous test or test cycle
- Previous test results

In addition, the Illinois EPA gathers, maintains, summarizes, and reports the results of all inspections, quality control checks performed on testing equipment and I/M documents to the USEPA on an annual basis.

## **15. Inspector Training and Licensing or Certification (40 CFR § 51.367)**

In the Illinois I/M program, all inspectors in the centralized test-only stations are employees of the contractor. Inspectors at decentralized test and repair stations are employees of the subcontracting owner/franchisee of the station. Regardless of station type, all inspectors must receive the same training as specified in Section 3.3.2.5 of the Contract.

The contractor conducts inspector training and certification examinations. The Illinois EPA approves both the inspector training courses and the certification. Inspectors must complete refresher courses every two years, or as required by the Illinois EPA, to maintain their certification. A score of 80% is required to pass the written portion of the certification test. Inability to conduct any emissions test or other procedures required during the "hands-on" test shall constitute a failure of the certification test.

The training includes:

- Program Introduction –
  - Employment documentation
  - Contractor and OBD program orientation
  - Code of ethics/conduct
  - Hazardous materials
- Module I –
  - I/M program regulations
  - Program management
  - Contractor's program policies and procedures
- Module II –
  - Computer-based and video training, including test procedure demonstrations
  - Harassment training
  - Diversity training
  - Safety training
  - Customer service training
- Module III –
  - Vehicle identification
  - Data entry
  - Quality control
  - Record retrieval
  - Complaint processing
- Module IV –
  - Hands-on/in-lane training

## **16. Public Information and Consumer Protection (40 CFR § 51.368)**

The Illinois EPA has four primary methods for informing the public about the I/M program. These four

methods include the:

- Vehicle emissions test notice
- Illinois EPA website
- Repair Shop Report Card brochure, and
- Illinois EPA hotline

The Vehicle Emissions Test Notice (see Attachment 14 for example) is sent to owners of vehicles subject to inspection approximately three months prior to the expiration of the vehicle's registration. This notice includes:

- Centralized test-only station information including addresses, wait time phone numbers, hotline phone numbers, and operating hours
- Station holiday closures
- Decentralized test and repair station contact information, including the appointment call center phone number
- I/M program enforcement requirements
- Illinois EPA contact information, including the hotline phone number, website address, e-mail address, and fax number
- Tips for a successful test
- Information for motorists who fail the emissions test

The Illinois EPA website ([www.IllinoisAirTeam.com](http://www.IllinoisAirTeam.com)) provides a wide variety of useful information for both the general public and the repair community. The website includes:

- A test station and repair facility locator application using zip codes
- Centralized test-only station information including addresses, live queue camera viewers, current wait times, and operating hours
- Station holiday closures
- Decentralized test and repair station contact information, including the appointment call center phone number
- Illinois EPA contact information, including the hotline phone number, e-mail address, and mailing address
- Frequently asked questions
- Electronic versions of Illinois EPA forms
- Electronic versions of the Repair Shop Report Card
- I/M program news
- Information for motorists who fail the emissions test
- Tips for a successful test
- Repair shop information on how to access the Dashboard

As stated in Section 2, a motorist whose vehicle fails an emissions test is provided with a Repair Shop Report Card which provides a list of repair shops that have performed at least five emissions repairs during the last six-month period and achieved a success rate of 75% or greater. The report card includes:

- A description of the report card
- Suggestions on how to choose a repair shop
- The repair process
- A list of the repair shops by city and repair success rate, or grade (A=93-100%, B=84-92%, C=75-83%)
- Brief descriptions of the various repair shop certifications available
- An explanation of how the OBD system works
- Frequently asked questions
- Centralized test-only station information including addresses and station type
- The decentralized test and repair station call center phone number
- The Illinois EPA website address

Finally, as stated above, the Illinois EPA maintains a hotline (800-635-2380), where members of the public can receive information concerning:

- When inspections are required
- What to do if the vehicle failed an emissions inspection
- How to handle changes of address, sold vehicles and/or plate transfers, "out-of-area" vehicles, or inoperative or junked vehicles
- How to file damage claims, economic hardship extensions, or grievance petitions
- Testing reciprocity with other states
- The location of the nearest test station
- How to handle race/show car vehicles, stored vehicles, rejected vehicles, or fleet vehicles

The Illinois I/M program has a grievance procedure which provides the mechanism for motorists to contest the failure of an emissions test or the denial of a waiver. Section 625 ILCS § 5/13C-40(a) of the VEIL of 2005 sets forth the legal authority and requirements necessary to address motorist grievances. Specific grievance procedures are contained in 35 Ill. Adm. Code 276, Subpart H.

Grievances must be:

- Filed with the Illinois EPA within 30 days after the decision (fail or denial of a waiver)
- Made in writing on petition forms provided by the Illinois EPA (available at all centralized test-only stations and by mail)
- Submitted with original repair orders, receipts, and other pertinent documentation
- Mailed to the Illinois EPA at the address specified on the grievance petition

Upon receipt of a grievance, the Illinois EPA:

- Shall conclude the investigation and submit to the petitioner and affected inspector or station, a written determination within 45 days after receipt
- Shall provide written determination that includes:
  - The correctness or incorrectness of the decision
  - A statement of the facts relied upon and the legal and technical issues used for the determination
- May also require that an inspector:
  - Issue an emissions compliance certificate
  - Reinspect the vehicle
  - Apply the standards that the Illinois EPA has determined to be applicable
  - Take any other action that the Illinois EPA deems to be appropriate
- Shall grant a waiver if the investigation determines that a part(s) necessary to complete the appropriate repair(s) is unavailable from at least three independent sources (including the original equipment manufacturer).

In addition, the Illinois I/M program has a damage claim procedure which provides the mechanism for a motorist who believes that his or her vehicle was damaged during an emissions inspection to file a claim. Section 625 ILCS 5/13C-40(b) of the VEIL of 2005 provides the legal authority, requirements and procedures necessary for the contractor (with Illinois EPA oversight) to address damage claims.

Damage claims must meet the following requirements:

- Within 30 days of the date of the vehicle emissions inspection that allegedly caused the vehicle damage, the vehicle owner shall submit a vehicle damage claim to the contractor at the inspection station at which the vehicle damage allegedly occurred, using forms provided at all stations.
- Within 30 days of filing the claim, the owner shall submit to the contractor any relevant information relating to the owner's claim for vehicle damage.
- The contractor shall promptly notify the Illinois EPA of each vehicle damage claim received by the contractor and shall forward to the Illinois EPA any additional information provided by the owner.
- Within 60 days after the filing of a vehicle damage claim, the contractor shall notify the vehicle owner of its proposed resolution of the damage claim.
- Within 30 days after receiving the contractor's proposed resolution of the damage claim, the owner may petition the Illinois EPA for a review of the adequacy and completeness of the contractor's proposed resolution.
- Upon receiving a petition for review, the Illinois EPA shall:
  - Request a copy of the contractor's proposed resolution of the damage claim, together with all relevant materials;
  - Review the materials and determine whether the contractor's proposed resolution of

the damage claim is adequate and complete. If not adequate and complete:

- The Illinois EPA may request the contractor to further investigate and evaluate the damage claim and resubmit its proposed resolution of the claim; and
- The contractor shall then have 30 days to respond in writing to the Illinois EPA with the results of its further evaluation of the damage claim and its proposed resolution.
- o Notify the vehicle owner in writing of the result of its review of the adequacy and completeness of the contractor's proposed resolution of the damage claim; and
- If, after the Illinois EPA's review, the vehicle owner still does not agree with all or a portion of the proposed resolution of the damage claim by the contractor, the vehicle owner may further pursue the damage claim through the binding arbitration process established by the contractor and accepted by the Illinois EPA, or in circuit court.

### **17. Improving Repair Effectiveness (40 CFR § 51.369)**

In the State of Illinois, there are no certification or registration requirements for repair shops regarding the appropriate repair of vehicles. Vehicles failing an emissions inspection may be repaired by anyone. However, in order to obtain a waiver from the inspection requirement, all repairs applied to the minimum expenditure must be conducted by a "Recognized Repair Technician."

The Illinois EPA defines a "Recognized Repair Technician" as:

"...a person professionally engaged in vehicle repair, employed by a going concern whose purpose is vehicle repair, or possessing nationally recognized certification for emission related diagnosis and repair."

The Illinois EPA also has a repair shop outreach program which provides:

- Free repair technician training seminars conducted at community colleges in the I/M program areas
- A newsletter with tips and seminar schedules
- Access to the contractor's Dashboard web portal which provides:
  - o A vehicle test history lookup utility
  - o Technical resources such as original equipment manufacturer website links and tips for handling problem vehicles
  - o An internet message board where repair technicians can discuss problem vehicles
  - o A repair collection utility where repair shops can enter repair data on-line for vehicles they have repaired
  - o A utility where repair shops can check the success rate of vehicles they have repaired
  - o Contact information for the Illinois EPA and contractor
  - o A test station locator utility
  - o A link to the test station current wait time and queue viewer camera
  - o A seminar registration utility

### **18. Compliance with Recall Notices (40 CFR § 51.370)**

The Illinois EPA no longer maintains lists of recalled vehicles or unresolved recalls. With the prevalence of on-line sources such as AllData, manufacturer websites, and the USEPA, the Illinois EPA found no benefit to maintaining such lists.

The owners of vehicles that fail an emissions test are provided the Repair Shop Report Card brochure which encourages them to have their vehicles examined by a Recognized Repair Technician. By meeting the requirements to be included and listed in the Repair Shop Report Card, the repair shops listed in the brochure have proven they are competent at performing emissions related repairs and have access to all recall information.

### **19. On-road Testing (40 CFR § 51.371)**

The legal authority to conduct on-road testing in Illinois is contained in Section 625 ILCS 5/13C-15(b) (11) of the VEIL of 2005. This section states that "...the Agency may establish a program of on-road testing of in-use vehicles through the use of remote sensing devices."

The applicable emission standards for on-road testing in Illinois are contained in 35 Ill. Adm. Code 240, Subpart G. The procedures to be followed for on-road testing in Illinois are contained in 35 Ill. Adm. Code 276.208.

Currently, the State of Illinois does not conduct on-road testing. An on-road testing program was part of the Illinois I/M program from 1999 to 2005. During this period, the contractor, on an annual basis, set up roadside test equipment in various locations in the Illinois I/M program area and recorded the vehicle license plate using video capture, vehicle speed using a laser, and vehicle hydrocarbon and CO emissions using an infrared source detector module. During most of these years, the contractor conducted approximately 50,000 on-road tests, in which roughly half had valid results (i.e., emissions readings, speed, and opacity were valid and the plate was readable and not "out-of-state").

During the 1999 reporting period, only three vehicles were found to exceed the on-road emissions standards twice, which would require out-of-cycle emissions tests at one of the centralized test-only stations. Given the low failure rate, the Illinois EPA decided that the on-road testing program would only be used for program evaluation going forward. Therefore, the State of Illinois does not claim additional emissions reduction credits for on-road testing.

### **20. State Implementation Plan Submissions (40 CFR § 51.372)**

The following is the schedule implementing the 2012 Illinois I/M program:

- Legal authority was obtained through the VEIL of 2005, as amended, (Public Act 94-526 was

enacted on August 10, 2005 with an effective date of January 1, 2006. There were two subsequent amendments: (1) Public Act 94-848, enacted on June 9, 2006, effective date June 9, 2006; and, (2) Public Act 97-106, enacted on July 14, 2011, effective date February 1, 2012).

- The Illinois Pollution Control Board has adopted the necessary amendments to the “Emission Standards and Limitations for Mobile Sources” (35 Ill. Adm. Code 240) for the 2012 Illinois I/M program. The two rulemakings were: (1) R11-19 published in the Illinois Register on April 1, 2011 (35 Ill. Reg. 5552) with an effective date of March 18, 2011; and, (2) R12-12 published in the Illinois Register on January 27, 2012 (36 Ill. Reg. 1066) with an effective date of February 1, 2012.
- The Illinois EPA has adopted the necessary amendments to the “Procedures to be Followed in the Performance of Inspections of Motor Vehicle Emissions” (35 Ill. Adm. Code 276) for the 2012 Illinois I/M program. The two rulemakings were: (1) published in the Illinois Register on July 15, 2011 (35 Ill. Reg. 11268) with an effective date of June 28, 2011; and, (2) published in the Illinois Register on February 10, 2012 (36 Ill. Reg. 2257) with an effective date of January 30, 2012.
- The Request for Proposals for the current Illinois I/M program was issued on February 25, 2006. The Bidder’s Conference was held on March 22, 2006. The due date for bid offers was April 25, 2006. An agreement (Contract) with Applus+ Technologies, Inc. was executed on June 13, 2007.
- The enforcement mechanism switched from computer-matching to registration denial on January 1, 2008.
- The initial certification of stations and inspectors was completed on April 30, 2008
- Applus+ Technologies, Inc., began testing on May 1, 2008.
- The Contract was amended on January 31, 2012, to reflect the elimination of the steady-state idle exhaust and evaporative system integrity tests, and the exemption of non-OBD-compliant HDVs.



## **PART 2: COMPLIANCE WITH CLEAN AIR ACT SECTION 110(I) REQUIREMENTS**

Section 110(I) of the CAA provides that the USEPA cannot approve a revision to a SIP if the revision would interfere with any requirement concerning attainment and Reasonable Further Progress (RFP), or any other applicable requirement of the Act. Therefore, states seeking approval of a SIP revision must demonstrate that removal or modification of the subject emissions control measure will not interfere with attainment of a National Ambient Air Quality Standard (NAAQS), ROP, RFP or any other requirement of the CAA.

The following sections describe how the changes to the Illinois I/M program did not interfere with either the Chicago or Metro-East St. Louis NAAs' ability to attain the 1997 8-hour ozone NAAQS and will not interfere with either NAAs ability to attain the 2008 8-hour ozone NAAQS. Additionally, the changes to the Illinois I/M program do not interfere with either area's ability to comply with CAA requirements for ROP or RFP.

### **1. Non-Interference with Attainment of a NAAQS**

#### **a. Ozone**

##### **i. 1997 8-hour Ozone NAAQS**

The primary intent of Section 110(I) is to prevent interference with attaining the applicable ozone NAAQS or complying with ROP, RFP, or any other requirement of the CAA. The emissions benefit impact of the above changes to the Illinois I/M program began in 2007. The changes to the program did not result in any interference with attaining the ozone NAAQS, as the 2007, 2008, and 2009 three-year period is the time frame that both the Chicago and Metro-East St. Louis NAAs attained the 1997 8-hour ozone NAAQS. In September 2011, the Illinois EPA developed maintenance plans and separate requests for redesignation for each area and submitted them to the USEPA. The USEPA approved the maintenance plans and redesignation requests for both the Metro-East St. Louis NAA (77 FR 34819) and the Chicago NAA (77 FR 48062). Monitored air quality in both areas for the years 2010, 2011, and 2012 continues to demonstrate attainment of the 1997 8-hour ozone NAAQS. Based on three years of consecutive ambient air quality monitoring data demonstrating attainment of the 1997 8-hour ozone NAAQS, and the USEPA's approval of the maintenance plans for the respective areas, and continued monitored attainment of the standard, the changes to the Illinois I/M program did not interfere with attainment of the 1997 8-hour ozone NAAQS.

##### **ii. 2008 8-hour Ozone NAAQS**

In 2008, the USEPA adopted a more stringent 8-hour ozone NAAQS reducing the standard from 0.08 ppm to 0.075 ppm. For the years 2009, 2010, and 2011, Chicago area air quality monitoring data showed a violation of the 2008 8-hour ozone NAAQS at one monitor located in Lake County, IL in 2011.

Ambient air quality monitoring concentrations collected during the years 2008, 2009, and 2010 in the St. Louis, MO-IL NAA also exceeded the 2008 8-hour ozone NAAQS.

Based on this air quality data, in the spring of 2012, the USEPA classified both the Chicago and Metro-East St. Louis NAAs as “Marginal.”

**A. Chicago NAA**

Tables 6 and 7 below show Chicago NAA VOC and NOx emissions resulting from the changes to the Illinois I/M program calculated using the MOVES model.

**TABLE 6**  
**COMPARISON OF CHICAGO OZONE NAA MOTOR VEHICLE VOC EMISSIONS**  
**FROM THE PRE-2007 AND CURRENT ILLINOIS I/M PROGRAMS**  
(Tons per day)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2025
<b>Illinois' 1998 Approved SIP I/M Program</b>	138.44	121.46	108.57	95.37	85.41	75.42	68.80	61.93	56.56	39.64
<b>Illinois Actual I/M Program</b>	146.08	127.62	113.76	99.65	89.01	80.27	72.79	65.64	59.99	40.06
<b>Emissions Increase</b>	7.65	6.15	5.19	4.28	3.60	4.85	4.00	3.71	3.43	0.42

**TABLE 7**  
**COMPARISON OF CHICAGO OZONE NAA MOTOR VEHICLE NOX EMISSIONS**  
**FROM THE PRE-2007 AND CURRENT ILLINOIS I/M PROGRAMS**  
(Tons per day)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2025
<b>Illinois' 1998 Approved SIP I/M Program</b>	462.33	406.55	374.35	326.53	295.72	255.38	229.65	205.28	186.63	113.83
<b>Illinois Actual I/M Program</b>	476.28	417.77	383.86	334.07	302.01	260.22	233.75	208.74	189.59	114.13
<b>Emissions increase</b>	13.95	11.22	9.51	7.54	6.29	4.84	4.10	3.46	2.96	0.31

The Illinois EPA has reviewed its records of permitted VOC and NOx emissions sources in the Chicago ozone NAA that have ceased operation since 2002. A listing of these sources by area and pollutant, including the permitted level of annual emissions, is included in Attachment 15. This review indicates that in the Chicago NAA since 2002, 1,168 companies with permitted VOC emissions and 687 companies with permitted NOx emissions sources have shut down. These facility closures have decreased the permitted level of VOC emissions by more than 18,000 tons per year (tpy) of VOC and 44,000 tpy of NOx. This equates to more than 50 tons per day (tpd) of VOC and 121 tpd of NOx emissions, which far exceeds the increase in emissions which resulted from the changes to the Illinois I/M program. Tables 8 and 9 below show that contemporaneous emissions offsets exceed the increase in emissions resulting from the I/M program change.

**TABLE 8**  
**CHICAGO NAA:**  
**COMPARISON OF I/M PROGRAM CHANGE EMISSIONS INCREASES**  
**TO CUMULATIVE FACILITY SHUTDOWN EMISSIONS REDUCTIONS**  
**(VOC)**  
(Tons per day)

<b>Year</b>	<b>I/M Program Change Emissions Increase</b>	<b>Cumulative Facility Shutdown Emissions Reductions (VOC)</b>
<b>2002</b>	---	8.07
<b>2003</b>	---	12.53
<b>2004</b>	---	18.69
<b>2005</b>	---	24.19
<b>2006</b>	---	30.14
<b>2007</b>	7.65	33.16
<b>2008</b>	6.15	39.96
<b>2009</b>	5.19	45.00
<b>2010</b>	4.28	48.11
<b>2011</b>	3.60	49.30
<b>2012</b>	4.85	50.32

**TABLE 9**  
**CHICAGO NAA:**  
**COMPARISON OF I/M PROGRAM CHANGE EMISSIONS INCREASES**  
**TO CUMULATIVE FACILITY SHUTDOWN EMISSIONS REDUCTIONS**  
**(NO<sub>x</sub>)**  
(Tons per day)

Year	I/M Program Change Emissions Increase	Cumulative Facility Shutdown Emissions Reductions (NO <sub>x</sub> )
2002	---	3.93
2003	---	8.76
2004	---	83.93
2005	---	98.37
2006	---	99.87
2007	13.95	100.71
2008	11.22	109.33
2009	9.51	117.95
2010	7.54	120.58
2011	6.29	121.24
2012	4.84	121.29

In summary, based on permanent, enforceable, contemporaneous, surplus emissions reductions achieved through the shutdown of permitted emissions sources, revisions to the Illinois I/M program did not interfere with the Chicago area's ability to demonstrate compliance with any NAAQS or other applicable requirements, including Section 193 requirements addressed by contemporaneous emissions reductions.

**B. Metro-East St. Louis NAA**

Table 10 reflects the differences in summer day VOC emissions in the Metro-East St. Louis from the 2007 and 2012 revisions to the Illinois I/M program.

**TABLE 10**  
**COMPARISON OF METRO-EAST ST. LOUIS OZONE NAA**  
**MOTOR VEHICLE VOC EMISSIONS**  
**FROM THE PRE-2007 AND CURRENT ILLINOIS I/M PROGRAM**  
(Tons per day)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2025
<b>Illinois' 1998 Approved SIP I/M Program</b>	15.94	14.30	12.76	11.92	11.07	9.86	9.09	8.29	7.62	4.91
<b>Illinois Actual I/M Program</b>	17.03	15.24	13.59	12.67	11.75	10.80	9.92	9.08	8.36	4.95
<b>Emissions Increase</b>	1.09	0.94	0.83	0.75	0.68	0.94	0.83	0.79	0.75	0.05

Table 11 below reflects the differences in motor vehicle NOx emissions in the Metro-East St. Louis area resulting from the 2007 and 2012 changes to the Illinois I/M program.

**TABLE 11**  
**COMPARISON OF METRO-EAST ST. LOUIS OZONE NAA**  
**MOTOR VEHICLE NOX EMISSIONS**  
**FROM THE PRE-2007 AND CURRENT ILLINOIS I/M PROGRAM**  
(Tons per day)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2025
<b>Illinois' 1998 Approved SIP I/M Program</b>	52.65	46.86	42.20	38.64	35.43	31.15	28.19	25.41	23.20	13.29
<b>Illinois Actual I/M Program</b>	54.74	48.66	43.69	40.05	36.71	32.25	29.17	26.28	23.98	13.31
<b>Emissions increase</b>	2.09	1.80	1.49	1.41	1.28	1.09	0.97	0.87	0.78	0.02

The Illinois EPA has reviewed its records of permitted VOC and NOx emissions sources in the Metro-East St. Louis ozone NAA that have ceased operation since 2002. A listing of these sources by area and pollutant, including the permitted level of annual emissions, is included in Attachment 15.

In the Metro-East St. Louis ozone NAA, 82 companies with permitted VOC emissions and 39 companies with permitted NOx emissions sources have shut down since 2002. These facility closures have decreased the permitted level of VOC emissions by more than 718 tpy of VOC and 635 tpy of NOx. This equates to approximately 1.97 tpd of VOC and 1.74 tpd of NOx emissions.

The following tables summarize the emissions increases for VOC and NOx resulting from the I/M program changes, and the contemporaneous offsets from facility shutdowns.

**TABLE 12**  
**METRO-EAST ST. LOUIS NAA:**  
**COMPARISON OF I/M PROGRAM CHANGE EMISSIONS INCREASES**  
**TO CUMULATIVE FACILITY SHUTDOWN EMISSIONS REDUCTIONS**  
**(VOC)**  
(Tons per day)

<b>Year</b>	<b>I/M Program Change Emissions Increase</b>	<b>Cumulative Facility Shutdown Emissions Reductions (VOC)</b>
<b>2002</b>	---	0.45
<b>2003</b>	---	0.57
<b>2004</b>	---	1.06
<b>2005</b>	---	1.08
<b>2006</b>	---	1.45
<b>2007</b>	1.09	1.64
<b>2008</b>	0.94	1.70
<b>2009</b>	0.83	1.83
<b>2010</b>	0.75	1.85
<b>2011</b>	0.68	1.94
<b>2012</b>	0.94	1.97

Table 12 above clearly shows that the VOC emissions increases beginning in 2007 due to the changes in the I/M program were more than offset by permanent, enforceable, contemporaneous, surplus emissions reductions achieved through the shutdown of permitted emissions sources.

**TABLE 13**  
**METRO-EAST ST. LOUIS NAA:**  
**COMPARISON OF I/M PROGRAM CHANGE EMISSIONS INCREASES**  
**TO CUMULATIVE FACILITY SHUTDOWN EMISSIONS REDUCTIONS**  
**(NOx)**  
(Tons per day)

Year	I/M Program Change Emissions Increase	Cumulative Facility Shutdown Emissions Reductions (NOx)
2002	---	0.02
2003	---	0.04
2004	---	0.48
2005	---	0.52
2006	---	0.88
2007	2.09	1.39
2008	1.80	1.49
2009	1.49	1.52
2010	1.41	1.56
2011	1.28	1.71
2012	1.09	1.74

Table 13 above shows that NOx emissions increases resulting from the change to the I/M program are offset by permanent, enforceable, contemporaneous, surplus emissions reductions achieved through the shutdown of permitted emissions sources from the year 2009 forward. However, in the years 2007 and 2008 reduced emissions benefits exceeded offsets by 0.70 and 0.31 tpd, respectively. USEPA guidance allows the substitution of required reductions of VOC and NOx emissions based on the VOC-to-NOx emissions ratio in the region as exemplified in its approval of the State of Ohio's discontinuation of its I/M program (73 FR 57246).

Table 14 below, from the "Maintenance Plan for the Metro-East St. Louis Ozone Nonattainment Area for the 1997 8-Hour Ozone National Ambient Air Quality Standard (Revised)," approved by the USEPA in its redesignation of the Metro-East St. Louis NAA on June 12, 2012 (77 FR 34819), and included as Attachment 16, contains a summary of VOC and NOx emissions for the attainment year 2008.

**TABLE 14**  
**2008 METRO-EAST ST. LOUIS OZONE NAA**  
**VOC AND NOX EMISSIONS**  
(Tons per day)

<b>Source Category</b>	<b>VOC</b>	<b>NOx</b>
<b>Point Sources</b>	11.92	39.86
<b>Area Sources</b>	23.21	1.50
<b>On-Road Mobile Sources</b>	17.27	52.57
<b>Off-Road Mobile Sources</b>	12.66	39.25
<b>Total</b>	65.06	133.18

Table 14 reflects that the ratio of VOC emissions to NOx emissions in the Metro-East St. Louis NAA is 1:2.04. Therefore 1.0 tpd of VOC emissions reductions is equivalent to 2.04 tpd NOx emissions reductions. As illustrated in Table 12, VOC emissions reductions from permanent, enforceable, contemporaneous, surplus emissions reductions achieved through the shutdown of permitted emissions sources in the years 2007 and 2008 exceeded the loss in emissions reduction benefits from the changes to the I/M program by 0.55 and 0.76 tpd, respectively. Applying the 1 to 2.04 ratio, as reflected in Table 15, these excess VOC emissions are equivalent to 1.12 and 1.55 tpd of NOx reductions. These totals exceed the level of NOx emissions benefits lacking in 2007 and 2008, 0.70 and 0.31 tpd, respectively due to the change in the I/M program.

**TABLE 15**  
**METRO-EAST ST. LOUIS NAA**  
**COMPARISON OF NOX EMISSIONS SHORTFALL TO EXCESS VOC REDUCTIONS**  
**APPLYING USEPA VOC-TO-NOX SUBSTITUTION POLICY**  
(Tons per day)

<b>Year</b>	<b>NOx Emissions Shortfall</b>	<b>Cumulative Facility Shutdown Excess VOC Emissions Reductions</b>	<b>Excess VOC Emissions Using the VOC to NOx Emissions Ratio (1:2.04)</b>
<b>2007</b>	0.70	0.55	1.12
<b>2008</b>	0.31	0.76	1.55



b. Non-Interference with Attainment of Other NAAQS in the Chicago and Metro-East St. Louis NAAs

The Illinois I/M program was implemented to address only the ozone NAAQS. The revisions to the Illinois I/M program do not affect attainment or maintenance of the CO, nitrogen dioxide, lead, PM or sulfur dioxide NAAQS.

The Chicago and Metro-East St. Louis areas are designated as nonattainment for the PM<sub>2.5</sub> NAAQS. NO<sub>x</sub> is a significant precursor to PM<sub>2.5</sub> formation. However, as demonstrated above, permanent, enforceable, contemporaneous, surplus emissions reductions achieved through the shutdown of permitted VOC and NO<sub>x</sub> emissions sources have offset the minor increase in NO<sub>x</sub> emissions resulting from the change to the I/M program. Therefore, the changes to the I/M program do not interfere with attainment of the PM<sub>2.5</sub> NAAQS.

## **2. Demonstrating Non-Interference with Other CAA Requirements**

In addition to addressing interference with attainment of NAAQS, Section 110(l) requires states to demonstrate that the SIP revision does not interfere with the state's ability to comply with ROP, RFP or any other applicable CAA requirement. There is no interference with ROP, RFP, or any other applicable CAA requirements because the emissions increases from the changes to the I/M program have been offset by permanent, enforceable, contemporaneous, surplus emissions reductions achieved through the shutdown of permitted VOC and NO<sub>x</sub> emissions sources.

## **3. Conclusion**

Although changes to the Illinois I/M program, required by the VEIL of 2005, result in a slight increase in VOC and NO<sub>x</sub> emissions in both the Chicago and Metro-East St. Louis ozone NAAs, these increased emissions did not interfere with either area attaining and maintaining the 1997 8-hour ozone NAAQS. Furthermore, the increases have been offset by permanent, enforceable, contemporaneous, surplus emissions reductions achieved through the shutdown of permitted emissions sources in the respective NAAs. Therefore, the changes to the Illinois I/M program do not interfere with either area's ability to attain the 2008 8-hour ozone NAAQS, or any other NAAQS, or demonstrate compliance with ROP, RFP, and other CAA requirements.