2006 Annual Report

Ohio Vehicle Emissions Testing Program

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ATTACHMENTS

1 Executive Summary

This document is the 2006 Annual Report for the United States Environmental Protection Agency (US EPA) on the Ohio Enhanced Inspection and Maintenance Program (I/M Program) known as E-Check. This report covers January 1 to December 31, 2006.

This Annual Report is required by US EPA under 40 CFR 51.366. US EPA requires this report to cover four categories of information:

- Emissions test data
- Quality assurance information
- Quality control information
- Compliance and enforcement actions

1.1 Major Findings

Emissions Tests Conducted

In 2006, there were approximately 2.26 million vehicles registered in northeastern Ohio. A biennial vehicle emission test is required for the majority of the fleet; exemptions exist for vehicles four years old and newer and pre-1982 model year vehicles. In 2006, 862,830 vehicle emission tests were performed, including initial tests, retests, and off-cycle tests due to change of ownership/registration. Only 2,977 of the emission tests performed were opacity tests on diesel-fueled vehicles.

Compliance and Enforcement

If a vehicle fails a retest and has had repair work performed on the emission control system, the vehicle may be eligible for a waiver. Of the 71,408 vehicles that initially failed the E-Check test in 2006, 9,909 vehicles, or 13.9 percent subsequently received a waiver. Some of the vehicles that initially failed E-Check did not obtain a passing test or waiver. While it is difficult to track what happened to these vehicles, some are taken out of service entirely and some are sold to new owners residing in non-E-Check counties where ground-level ozone has been less of a problem. Some owners may attempt to illegally register a failing vehicle in a non-E-Check county, but Ohio EPA and Ohio Bureau of Motor Vehicles (BMV) work together to stop these illegal registrations. In 2006, all 73 investigations by Ohio BMV Special Investigations Unit for E-Check related vehicle registration violations determined motorists were attempting to bypass the vehicle emission testing requirement in the county of residence.

Emissions Reductions from Transient Tested Vehicles

US EPA requires states to calculate emission reductions from vehicles that are repaired after failing a "transient" emissions test. More than 30,400 transient tested vehicles that failed the first test and passed at a later date following repairs have an average emission improvement of 66 percent for hydrocarbon, 87 percent for carbon monoxide, and 52 percent for oxides of nitrogen.

Quality Assurance

In 2006, OEPA performed 2,663 site audits to determine if stations are correctly performing all emissions tests and if the station's physical conditions meet all state requirements. All 23 stations operating throughout the year received a minimum of 33 on site audits. As a result of these audits, there were no performance issues identified that warranted a shut down of a station. Ohio EPA, however, found 28 instances that could be considered a violation of the technical aspects of the contract. As a result of these items being identified, Envirotest Systems took actions with its employees that ranged from retraining to disciplinary reporting actions.

2 The Ohio I/M Program

2.1 Purpose and Statistics of the Ohio E-Check Program?

Northeast Ohio is designated "moderate" nonattainment for the federal standards for ground-level ozone. To comply with the federal Clean Air Act Amendments of 1990 and EPA regulations, northeast Ohio must maintain an I/M Program[1]. The U.S. Environmental Protection Agency (US EPA) sets minimum standards for I/M Programs[2].

Ohio EPA administers the vehicle emissions testing program, or E-Check as authorized by Ohio Revised Code (ORC) 3704.14. The goals of the E-Check program are to identify gross-polluting vehicles for repair, and to provide a fair and accurate test with minimum inconvenience to Ohio's motorists. In 1996, Ohio contracted with Envirotest Systems to operate the Ohio I/M Program in the Dayton-Springfield, Cincinnati, and Akron-Cleveland areas. In 2005 the contract was extended for an additional two years with Envirotest Systems.

2.1.1 Ohio I/M Program Summary

> 40 CFR 51.366 (d) (1) (i) An estimate of the number of vehicles subject to the inspection program, including the results of analysis of the registration data base;

In 2006, there were approximately 2.26 million vehicles registered in northeast Ohio. The vast majority of these vehicles are tested biennially. In 2006, 780,699 vehicles were expected to undergo emission testing. In 2006, vehicles were exempted from the emissions testing process if they were:

- model year 1981 or older;

[1] These programs are established in a legally binding and federally enforceable "State Implementation Plans" or "SIPs".
[2] 40 CFR Part 51 Subpart S (§51.350 et seq.)

- model year 2003 or newer;
- greater than 10,000 pounds gross vehicle weight rating;
- motorcycles, recreational vehicles and motor homes; or
- vehicles operating on alternatively fuels, such as propane or natural gas

Vehicles are required to have a valid vehicle emission certificate prior to titling or prior to registration.

Inspection Stations

40 CFR 51.366 (b)(1)(i): The number of inspection stations and lanes operating throughout the year:

All Ohio vehicles receive their inspections at one of the facilities operated by Envirotest Systems. In 2006, 23 stations and 79 lanes conducted emissions test throughout the year.

2.1.3 Inspectors

40 CFR 51.366 (b) (5) The number of inspectors licensed or certified to conduct testing;

Table 1: Number of Inspectors in 2006

	# of Inspectors
Trained and Licensed to conduct testing in 2006	340
Monthly average	230

Emissions Tests Administered

The Ohio I/M Program uses five different emissions tests. Gasoline-fueled vehicles receive gas cap tests and one of the following tests: On-Board Diagnostic (OBD II), transient (tailpipe), or two-speed idle (tailpipe). Diesel-fueled vehicles receive an OBD II or opacity test. Each type of test is described below. All vehicles also are visually inspected to confirm that a gas cap and catalytic converter are present. If a vehicle fails the visual inspection, it fails the overall test, even if it passed the emissions portion of the test. Fails for vehicles not having a catalytic converter do not receive an emissions test but do receive the gas cap test.

1. Gas cap tests check the vehicle's gas cap pressure to ensure the cap seals tightly and does not allow fuel vapors to evaporate into the air. If the vehicle fails the gas cap test, it fails the overall emissions test, even if the vehicle passed the exhaust portion of the test.

2. On-Board Diagnostics: On-board diagnostics (OBD II) is a complex computer pack installed on 1996 and newer cars and light trucks and 1997 and newer diesel vehicles. The computer continuously tracks and stores information about a vehicle's performance. The on-board computer turns on the "check engine" light if it finds a problem with a vehicle's emission control system. On January 5, 2004, Ohio began testing vehicles equipped with the OBD II system. During the initial test in a vehicle's test cycle that are 2000 model year or older with 3 or more readiness monitors not set to ready, or vehicles that are 2001 or newer with 2 or more readiness monitors not set, may be tested with the transient test. In 2006, 62.5 percent of vehicles receiving emissions tests were tested using the OBD II system.

3. Transient tailpipe tests are used for most gasoline-powered vehicles that are not equipped with the OBD II equipment. For this test, Acceleration Simulation Mode (ASM 2525) standards are used. Vehicles are placed on a dynamometer, a treadmill-like device that puts resistance against the tires to simulate on-road driving. The vehicles are driven at 25 miles per hour (mph) for a minimum of 25 seconds and a maximum of 240 seconds. Tailpipe emissions are then measured and recorded. Readings for hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) are compared to each pollutant's pass/fail points. The pass/fail points vary by vehicle type (car vs truck), model year, and, for trucks, weight category. In 2006, 34.1 percent of vehicles receiving emissions tests were tested using the transient tailpipe test.

4. Two-speed idle (TSI) tests are used for gasoline-fueled vehicles that cannot receive an OBD II or transient test. This test measures emissions while the engine is operating at an elevated idle of 2,500 revolutions per minute (rpm) with no load on the engine which is followed with checking the vehicle emissions at idle upon failure of the loaded portion. The test measures HC and CO concentrations. This test does not measure NOx emissions. In 2006, 3.1 percent of vehicles receiving emissions tests were tested using the TSI test.

5. Opacity tests use opacity meters to determine the "density" of the exhaust emitted from the vehicle's tailpipe. In 2006, 0.3 percent of vehicles receiving emissions tests were tested using the opacity test.

2.2 Do the right vehicles get tested?

2.2.1 Overall motorist compliance with testing requirements

> 40 CFR 51.366 (d) (1) (ii): The percentage of motorist compliance based upon a comparison of the number of valid final tests with the number of subject vehicles;

In Ohio, the inspection lane computers determine which test a vehicle will receive based on model year and make information. Table 2 summarizes the 2006 overall compliance rate of the total number of vehicles receiving an I/M test and the number of unique registered vehicles in 2006 subjected to the test. In 2006, the compliance rate was 97.6 percent

Table 2: Motorist Compliance with Testing Requirements

	Vehicle Count	Compliance %
Overall Testing Compliance		
Vehicles Subject to 2006 Test	780,699	
Vehicles Tested in 2006	761,630	**97.6%**

In 2006, 12,387 of the 71,408 vehicles that failed their initial test did not receive a passing test, exemption, extension, or waiver before July 16, 2007.

2.2 Motorist Time Extensions

> 40 CFR 51.366 (d) (1) (v) The number of time extensions and other exemptions granted to motorists;

The E-Check program offers waivers to individuals who make an effort to repair their vehicles but cannot get them to pass E-Check. In most cases, a waiver will allow the vehicle to be registered with the State and allow the motorist two years to make emissions repairs. If an individual spends at least $200 on emissions-related repairs for a 1982 or newer vehicle, shows a 30 percent improvement in emissions readings between at least two failed tests, and passes a visual anti-tampering inspection he or she may qualify for a conditional pass waiver. There is also a repair cap waiver that allows the motorist to register the vehicle if he or she spends at least $300 on emissions-related repairs, regardless of emissions improvements and passes a visual tampering inspection. When a waiver is issued, the vehicle does not need to test for two years, or the next scheduled E-Check test, whichever comes first.

Ohio EPA offers a variety of extensions and exemptions to individuals who need more time to repair a vehicle or cannot have the vehicle tested at the current time.

- Non-permanent exemptions only apply to those individuals who can have their vehicle tested out-of-state, are in the military, are currently a student outside of Ohio, or have a vehicle that will not return to Ohio within one year. The exemption allows a motorist to register the vehicle without receiving an E-Check test.

- Extensions are only available to individuals who need more time to have repairs performed, have difficulty affording repairs for the vehicle or are temporarily located out-of-state in an area that does not have emissions testing and will return within one year. Extensions only extend the period of time that a vehicle has to comply with the program. A motorist has up to four to six months, depending on the type of extension, to comply with the current testing cycle.

- Permanent exemptions from testing are issued for vehicles with a gross vehicle weight rating (GVWR) over 10,000 pounds or operating on an alternative fuel source such as electric power, natural gas, butane, propane, and 100 percent alcohol.

Out-of-state exemptions, which require the motorist to have the vehicle tested in another state's testing program, account for the highest number of exemptions issued. The remaining exemptions allow the motorist to renew the vehicle's registration without ever receiving a test.

The extensions require that a vehicle receive a test, but more time is provided to have it completed. The category of "other" in Table 3 includes special circumstances such as survivor and trust non-permanent exemptions that would require a vehicle to be tested out of its normal test cycle.

Vehicles that run on electricity or alternative fuel, such as propane or natural gas, may receive a permanent exemption from the emission test requirement.
Prior to receiving any permanent exemption, the vehicle must be inspected by authorized Ohio EPA Mobile Source Section personnel. The inspection will include an anti-tampering inspection to ensure that all necessary emission control equipment is correctly installed on the vehicle. Any vehicle that does not pass the necessary inspection will be subject to the vehicle emission testing requirements. Vehicles that are more than 10,000 pounds gross vehicle weight rating (GVWR) and are plated with non-commercial plates also will be subject to inspection by authorized Ohio EPA Mobile Sources Section personnel prior to receiving a permanent exemption from the vehicle emission testing requirement.

Table 3: Number of Extensions of Exemptions Issued in 2006

Type of Time Extensions or Exemptions	Number Issued
Extension	795
Waivers	9,909
Permanent Exemption	159
Out of State Exemption	1,897
Student Exemption	203
Military Exemption	452
Hardship Extension	422
Other	29
Total Number of Extensions of Exemptions Issues	**13,866**

2.3 Registration File Audits and Compliance and with Deadlines

> 40 CFR 51.366 (d)(2)(i) A report of the program's efforts and actions to prevent motorists from falsely registering vehicles out of the program area or falsely changing fuel type or weight class on the vehicle registration, and the results of special studies to investigate the frequency of such activity; and
>
> (ii) The number of registration file audits, number of registrations reviewed, and compliance rates found in such audits

Ohio EPA works with Ohio Bureau of Motor Vehicles (BMV) Special Investigations Unit (SIU) to ensure that motorists are not falsely registering vehicles outside of a testing area to circumvent the testing requirements. When Ohio EPA receives a complaint regarding false registrations, Ohio EPA forwards the complaint along to Ohio BMV SIU for investigation. Ohio BMV Registrar Offices will also forward any concerns they have about suspicious registrations along to the SIU Division. Overall in 2006, Ohio BMV SIU investigated 170 complaints, of which 73 were for E-Check compliance. All 73 investigations resulted in vehicle registration violations for E-Check.

At this time, no registration file audits are performed to determine compliance with the vehicle emission testing program in northeast Ohio.

3 Is the testing equipment reliable?

40 CFR 51.366 (c) Quality Control Report: The program shall submit ... basic statistics on the quality control program for January through December of the previous year, including:
(1) The number of emission testing sites and lanes in use in the program;
(2) The number of equipment audits by station and lane;
(3) The number and percentage of stations that have failed equipment audits; and
(4) Number and percentage of stations and lanes shut down as a result of equipment audits.

Within the Ohio I/M Program, there are 23 emission testing stations operating a total of 79 lanes.

Ohio EPA's equipment audit procedure is designed to verify the lane equipment is operating within the tolerances specified by federal and State guidelines. Equipment audits are inspections of emissions testing equipment performed overtly at least two times per year per lane. Ohio EPA's equipment audits are performed by agency staff and a contractor representative. If a lane fails any one of the audit criteria, the audit result is a fail and the lane is shut down until the issue is resolved.

Envirotest Systems, Inc. equipment is required to undergo self-tests on either a per test, hourly, or weekly basis. The computer system will lock-down a lane if a self-test is not performed at the required time. The lane lock-down results in no additional vehicle testing occurring until the test is complete.

In 2006, each lane received a minimum of three equipment audits. A total of 301 equipment audits resulted in 283 audit passes and only 18 audit failures, or an overall failure rate of 6.4 percent. The 18 equipment audit failures occurred at 13 unique stations, or 56.5 percent of the stations, and across 18 unique lanes, or 22.8 percent of the lanes.

Table 4: Number of Equipment Audits at Each Testing Station

Facility	Number of Audits in 2006
WESTLAKE	16
BEREA	12
NORTH ROYALTON	12
PURITAS	20
EAST 55TH	16
VALLEY VIEW	17

ST. CLAIR	11
WARRENSVILLE	17
EUCLID	11
WILLOUGHBY	11
PAINESVILLE	13
CHARDON	4
AUBURN	10
ROOTSTOWN	9
KENT	
TWINSBURG	13
CUYAHOGA FALLS	14
BROWN STREET	30
COPLEY	18
MEDINA	12
SPENCER	8
AMHERST	12
ELYRIA	13

4 Quality Assurance

4.1 Overt and Covert Audits

Ohio EPA performs overt and covert performance audits to assess station and inspector performance. The results of the different types of audits are detailed below.

4.1.1 Overt Audits

> 40 CFR 51.366 (b) (1) (i) The number of inspection stations and lanes operating throughout the year;

For 2006, there are 23 stations operating 79 emission testing lanes.

> 40 CFR 51.366 (b) (2) The number of inspection stations and lanes operating throughout the year:
> (i) Receiving overt performance audits in the year
> (ii) Not receiving overt performance audits in the year;

During overt performance audits, Ohio EPA staff verify that Envirotest Systems personnel are performing the emissions test in the proper manner, while providing adequate customer service to Ohio's motorists. The performance audit is broken into

three sections. The first section is *Test Procedures*, designed to evaluate how well the inspectors perform the emissions test procedures and interact with the motorists. The second section is *Safety Conditions*, designed to evaluate if Envirotest provides motorists with a safe testing environment. The third section is *Station Appearance*, designed to evaluate if the stations are being kept in a customer friendly condition. Ohio EPA staff record audit findings on a form and conduct exit interviews with the station manager, informing the station manager of the results.

All 23 stations and 79 testing lanes operating in 2006 received overt performance audits. The number of overt audits per lane ranged from 1 audit to 17 audits in 2006 Upon arriving at a station, Ohio EPA staff will audit only the lanes that are open for testing during a performance audit.

> 40 CFR 51.366 (b) (2) (v) Number of stations and lanes ... that have been shut down as a result of overt performance audits;

No station or lane was shut down as the result of an overt performance audit in 2006.

4.1.2 Covert audits

> 40 CFR 51.366 (b) (2) The number of inspection stations and lanes operating throughout the year:
> (iii) Receiving covert performance audits in the year;
> (iv) Not receiving covert performance audits in the year;

During covert audits, Ohio EPA staff will verify that Envirotest Systems personnel are performing the emissions test in the proper manner, while providing adequate customer service to Ohio's motorists. The *Test Procedures* section of the covert audit is identical to the *Test Procedures* of the overt audit and is scored as such.

Only 16 unique stations and 18 unique testing lanes received covert performance audits in 2006. The small number of covert audits performed is a result of staffing issues within the Mobile Sources Section of the Ohio EPA.

> 40 CFR 51.366 (b) (8) The total number of covert vehicles available for undercover audits over the year; and
> (9) The number of covert auditors available for undercover audits.

Ohio EPA maintains three vehicles for covert audits. The vehicles are tampered prior to testing to ensure that the vehicle fails the proper emission tests. Ohio EPA has two auditors to perform covert audits. In addition interns are hired to work during a three to six month period to supplement and assist in trying to achieve covert audit goals.

4.1.3 Covert audit results

> 40 CFR 51.366 (b) (3) The number of covert audits:
> (i) Conducted with the vehicle set to fail per test type;
> (ii) Conducted with the vehicle set to fail any combination of two or more tests;
> (iii) Resulting in a false pass per test type;
> (iv) Resulting in a false pass for any combination of two or more test types;

Most covert vehicles are set up to fail the tailpipe test, and, if applicable, not allow the OBD II test to be performed by clearing the readiness monitors. A "false pass" during a covert audit is an inspection pass when the vehicle was set to fail. The audit does not directly indicate whether the false pass was a result of the equipment or the inspector. If a false pass was the result of the improper test being performed on the vehicle, Ohio EPA initiates enforcement action again Envirotest Systems. Most times, Envirotest Systems provides proper test procedures and/or additional training as follow-up action against false passes.

Table 5: 2006 covert audit results

Conducted with the vehicle set to fail per test type	
ASM	14
OBD	0
Conducted with the vehicle set to fail any combination of two or more test types	
ASM & OBD	3
Resulting in a false pass per test type	
ASM	0
OBD	0
Resulting in a false pass for any combination of two or more test types	
ASM & OBD	2

As seen in table 5, two of the 18, or 11 percent, of the covert audits resulted in false passes.

4.2 Inspector Performance

As stated in Section 2.1.3, there were a total of 340 inspectors licensed or certified to conduct testing in 2006.

> 40 CFR 51.366 (b) (6) The number of hearings:
> (i) Held to consider adverse actions against inspectors and stations; and
> (ii) Resulting in adverse actions against inspectors and stations;

40 CFR 51.366 (b) (4) The number of inspectors and stations:
(i) That were suspended or fired or otherwise prohibited from testing as a result of covert audits
(ii) That were suspended, fired, or otherwise prohibited from testing for other causes, and
(iii) That received fines;

Ohio EPA and Envirotest Systems, Inc. keep record of all fraud and bribery issues occurring at the testing stations. All cases brought to either Ohio EPA or Envirotest Systems, Inc. are investigated thoroughly. If the situation warrants use of other agencies, such as the Ohio State Highway Patrol, the agencies work together to resolve these cases. Many of the fraud and bribery cases involve customers attempting to bribe an inspector for a passing test. Few cases involve fraud or bribery on the part of a station inspector. The table below summarizes the results of Ohio EPA's enforcement actions against stations and inspectors.

Table 6: Non-customer initiated fraud and bribery cases

The number of inspectors and stations	# inspectors	# stations
That were suspended, fired, or otherwise prohibited from testing as a result of covert audits	0	0
That were suspended, fired, or otherwise prohibited from testing for other causes	5	4

4.3 Fines collected

40 CFR 51.366 (b) (4) The number of inspectors and stations:... (iii) that received fines
40 CFR 51.366 (b) (7) The total amount collected in fines from inspectors and stations;

Ohio EPA has not collected fines from stations or inspectors.

4.4 Station Compliance Documents

40 CFR 51.366 (d) (1) (iii) The total number of compliance documents issued to inspections stations;
(iv) The number of missing compliance documents;
(vi) The number of compliance surveys conducted, number of vehicles surveyed in each, and the compliance rates found.

Ohio EPA works with Envirotest Systems and Ohio BMV to ensure that no false compliance documents may be passed to Ohio BMV, resulting in vehicle registrations being approved. Each compliance document is printed with a specific type of printer, making the print difficult to copy. Furthermore, each compliance document issued contains a code that the BMV will verify prior to registration issuance. If the compliance code on the compliance certificate cannot be verified, Ohio BMV will reject the vehicle registration attempt.

5 Emission Tests Results

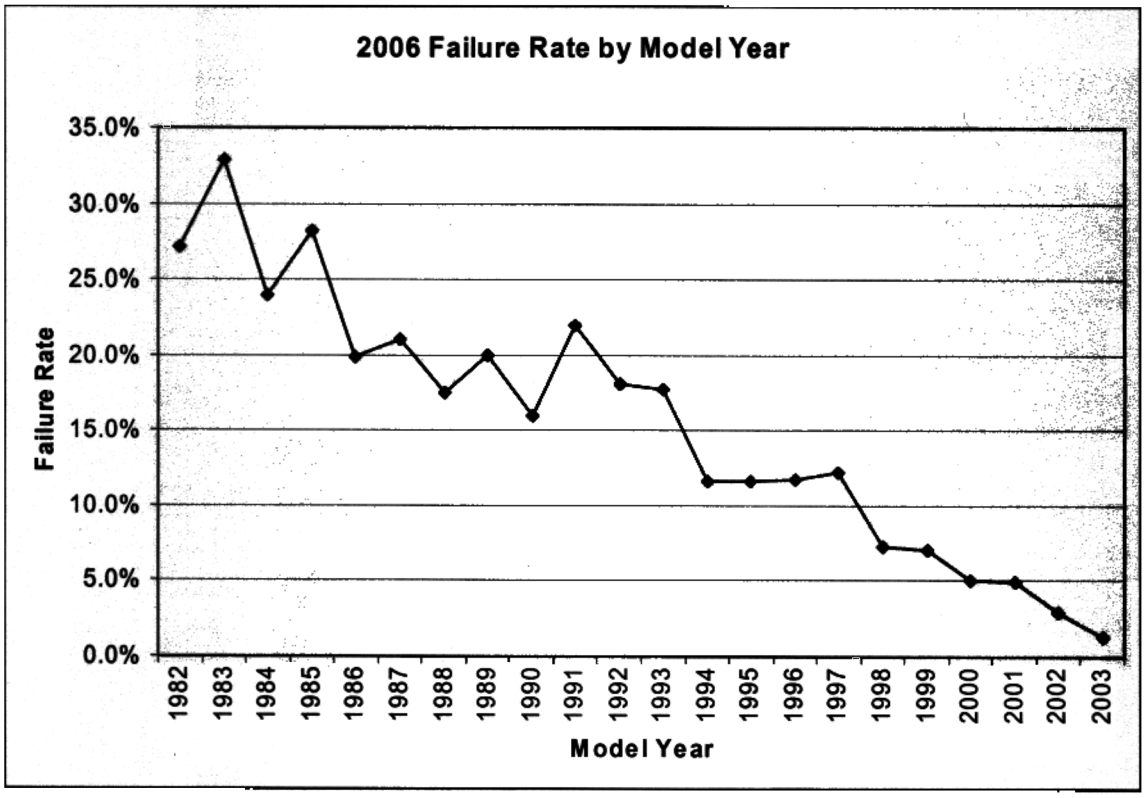
Of the 781,698 unique vehicles that received an emissions test in 2006, 71,408 vehicles, or 9.1 percent, failed their initial test. The Ohio E-Check program requires that vehicles repair the vehicle and receive a passing test, waiver, or extension prior to the vehicle registration date.

Please note:

- Waivers were issued to vehicles that had repairs performed and were still unable to pass a re-test. In 2006, waivers were granted to 9,909 vehicles, or 13.9 percent, that initially failed the vehicle test received a waiver.
- Of the vehicles that failed the initial test during 2006, 12,387 vehicles, or 17.3 percent, had neither passed a re-test, obtained a waiver, or obtained an extension as of July 16, 2007.

Details of all 2006 emission test results are available on the Ohio EPA web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html.

The following figure shows 2006 emission failure rates by model year. As can been seen, the age of a vehicle has a significant impact on failure rate.



5.1 Emission Reductions from Repaired Transient-tested Vehicles in 2006

40 CFR 51.366 (a) (5) The average increase or decrease in tailpipe emission levels for HC, CO, and NOx after repairs by model year and vehicle type for vehicles receiving a mass emissions test.

U.S. EPA requires states to calculate emissions reductions from vehicles that are repaired after failing a transient test. Approximately 30,500 transient-tested vehicles that failed their initial test were successfully repaired and passed a transient re-test. Vehicles showed an average reduction of 66 percent for hydrocarbons (HC), 87 percent for carbon monoxide (CO), and 52 percent for oxides of nitrogen (NOx).

Please see Attachment B for the average emission reduction measured by the transient test after repairs, by vehicle model year and type.

40 CFR Part 51 - Subpart S Inspection/Maintenance Program Requirements
51.366 - Data Analysis and Reporting Requirements

Reporting Requirement	Reviewer Comments / Location in State Report	Has the State Met the Requirement?
(a) Test Data Report The program shall submit to EPA by July of each year a report providing basic statistics on the testing program for January through December of the previous year, including:	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(1) The number of vehicles tested by model year and vehicle type;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(2) By model year and vehicle type, the number and percentage of vehicles:	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(i) Failing initially, per test type;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(ii) Failing the first retest per test type;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(iii) Passing the first retest per test type;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(iv) Initially failed vehicles passing the second or subsequent retest per test type;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(v) Initially failed vehicles receiving a waiver; and	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(vi) Vehicles with no known final outcome (regardless of reason). *(vii)-(x) [Reserved]*	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xi) Passing the on-board diagnostic check;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xii) Failing the on-board diagnostic check;	http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	

Reporting Requirement	Reviewer Comments / Location in State Report	Has the State Met the Requirement?
(xiii) Failing the on-board diagnostic check and passing the tailpipe test (if applicable);	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xiv) Failing the on-board diagnostic check and failing the tailpipe test (if applicable);	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xv) Passing the on-board diagnostic check and failing the I/M gas cap evaporative system test (if applicable);	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xvi) Failing the on-board diagnostic check and passing the I/M gas cap evaporative system test (if applicable);	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xvii) Passing both the on-board diagnostic check and I/M gas cap evaporative system test (if applicable);	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xviii) Failing both the on-board diagnostic check and I/M gas cap evaporative system test (if applicable);	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xix) MIL is commanded on and no codes are stored;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xx) MIL is not commanded on and codes are stored;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xxi) MIL is commanded on and codes are stored;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xxii) MIL is not commanded on and codes are not stored;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(xxiii) Readiness status indicates that the evaluation is not complete for any module supported by on-board diagnostic systems;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(3) The initial test volume by model year and test station;	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(4) The initial test failure rate by model year and test station;	http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	

Reporting Requirement	Reviewer Comments / Location in State Report	Has the State Met the Requirement?
and		
(5) The average increase or decrease in tailpipe emission levels for HC, CO, and NOX (if applicable) after repairs by model year and vehicle type for vehicles receiving a mass emissions test.	Visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/ar2006sd.html	
(b) Quality assurance report. The program shall submit to EPA by July of each year a report providing basic statistics on the quality assurance program for January through December of the previous year, including:		
(1) The number of inspection stations and lanes:	Section 2.1.2 Page 5	
(i) Operating throughout the year; and	Section 4.1.1 Page 11	
(2) The number of inspection stations and lanes operating throughout the year:		
(i) Receiving overt performance audits in the year;	Section 4.1.1 Page 11	
(ii) Not receiving overt performance audits in the year;	Section 4.1.1 Page 11	
(iii) Receiving covert performance audits in the year;	Section 4.1.1 Page 12	
(iv) Not receiving covert performance audits in the year; and	Section 4.1.1 Page 12	
(v) That have been shut down as a result of overt performance audits;	Section 4.1.1 Page 12	
(3) The number of covert audits:		
(i) Conducted with the vehicle set to fail per test type;	Section 4.1.3 Page 13	

Reporting Requirement	Reviewer Comments / Location in State Report	Has the State Met the Requirement?
(ii) Conducted with the vehicle set to fail any combination of two or more test types;	Section 4.1.3 Page 13	
(iii) Resulting in a false pass per test type;	Section 4.1.3 Page 13	
(iv) Resulting in a false pass for any combination of two or more test types;	Section 4.1.3 Page 13	
(4) The number of inspectors and stations:		
(i) That were suspended, fired, or otherwise prohibited from testing as a result of covert audits;	Section 4.2 Page 14	
(ii) That were suspended, fired, or otherwise prohibited from testing for other causes; and	Section 4.2 Page 14	
(iii) That received fines;	Section 4.2 Page 13	
(5) The number of inspectors licensed or certified to conduct testing;	Section 2.1.3 Page 5	
(6) The number of hearings:		
(i) Held to consider adverse actions against inspectors and stations; and	Section 4.2 Page 13	
(ii) Resulting in adverse actions against inspectors and stations;	Section 4.2 Page 13	
(7) The total amount collected in fines from inspectors and stations by type of violation;	Section 4.3 Page 14	
(8) The total number of covert vehicles available for undercover audits over the year; and	Section 4.1.2 Page 12	
(9) The number of covert auditors available for undercover	Section 4.1.2 Page 12	

Reporting Requirement	Reviewer Comments / Location in State Report	Has the State Met the Requirement?
audits.		
(c) Quality control report The program shall submit to EPA by July of each year a report providing basic statistics on the quality control program for January through December of the previous year, including:		
(1) The number of emission testing sites and lanes in use in the program;	Section 3 Page 10	
(2) The number of equipment audits by station and lane;	Section 3 Page 10	
(3) The number and percentage of stations that have failed equipment audits; and	Section 3 Page 10	
(4) Number and percentage of stations and lanes shut down as a result of equipment audits.	Section 3 Page 10	
(d) Enforcement report. (1) All varieties of enforcement programs shall, at a minimum, submit to EPA by July of each year a report providing basic statistics on the enforcement program for January through December of the previous year, including:		
(i) An estimate of the number of vehicles subject to the inspection program, including the results of an analysis of the registration data base;	Section 2.1.1 Page 4	
(ii) The percentage of motorist compliance based upon a comparison of the number of valid final tests with the number of subject vehicles;	Section 2.2.1 Page 7	

Reporting Requirement	Reviewer Comments / Location in State Report	Has the State Met the Requirement?
(iii) The total number of compliance documents issued to inspection stations;	Section 4.4 Page15	
(iv) The number of missing compliance documents;	Section 4.4 Page15	
(v) The number of time extensions and other exemptions granted to motorists; and	Section 2.2 Page 7	
(vi) The number of compliance surveys conducted, number of vehicles surveyed in each, and the compliance rates found.	Section 4.4 Page15	
(2) Registration denial based enforcement programs shall provide the following additional information:		
(i) A report of the program's efforts and actions to prevent motorists from falsely registering vehicles out of the program area or falsely changing fuel type or weight class on the vehicle registration, and the results of special studies to investigate the frequency of such activity; and	Section 2.3 Page 9	
(ii) The number of registration file audits, number of registrations reviewed, and compliance rates found in such audits.	Section 2.3 Page 9	
(3) Computer-matching based enforcement programs shall provide the following additional information:		
(i) The number and percentage of subject vehicles that were tested by the initial deadline, and by other milestones in the cycle;	Not Applicable	
(ii) A report on the program's efforts to detect and enforce against motorists falsely changing vehicle classifications to circumvent program requirements, and the frequency of this type of activity; and	Not Applicable	

Reporting Requirement	Reviewer Comments / Location in State Report	Has the State Met the Requirement?
(iii) The number of enforcement system audits, and the error rate found during those audits.	Not Applicable	
(4) Sticker-based enforcement systems shall provide the following additional information:		
(i) A report on the program's efforts to prevent, detect, and enforce against sticker theft and counterfeiting, and the frequency of this type of activity;	Not Applicable	
(ii) A report on the program's efforts to detect and enforce against motorists falsely changing vehicle classifications to circumvent program requirements, and the frequency of this type of activity; and	Not Applicable	
(iii) The number of parking lot sticker audits conducted, the number of vehicles surveyed in each, and the noncompliance rate found during those audits.	Not Applicable	
(e) Additional reporting requirements. In addition to the annual reports in paragraphs (a) through (d) of this section, programs shall submit to EPA by July of every other year, biennial reports addressing:		
(1) Any changes made in program design, funding, personnel levels, procedures, regulations, and legal authority, with detailed discussion and evaluation of the impact on the program of all such changes; and	Please visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/annual_reports.html	
(2) Any weaknesses or problems identified in the program within the two-year reporting period, what steps have already been taken to correct those problems, the results of those steps, and any future efforts planned.	Please visit Ohio EPA's web site at http://www.epa.state.oh.us/dapc/echeck/whyecheck/annual_reports.html	

Appendix B: 40 CFR 51.366 (a)(5) Post-Repair Emission Reductions for Year 2006

Vehicle Year	Vehicle Type	Initial Fails (count)	Initial HC ppm (Avg)	Initial CO ppm (Avg)	Initial NOX ppm (Avg)	Retest Pass (count)	Retest HC ppm (Avg)	Retest CO ppm (Avg)	Retest NOX ppm (Avg)	HC Improv	CO Improv	NOX Improv
1982	HDGV	9	293.80	2.96	N/A	5	60.40	0.34	N/A	79.4%	88.7%	N/A
1982	LDGT1	33	243.90	3.86	810.62	20	108.29	1.10	930.42	55.6%	71.5%	-15%
1982	LDGT2											
1982	LDGV											
1983	HDGV	5	149.84	4.97	N/A	2	7.10	0.48	N/A	95.3%	90.3%	N/A
1983	LDGT1	22	284.88	4.82	700.18	20	92.87	1.04	928.19	67.4%	78.4%	-32.6%
1983	LDGT2											
1983	LDGV											
1984	HDGV	26	304.89	2.62	N/A	9	59.00	0.32	N/A	80.6%	87.8%	N/A
1984	LDGT1	96	320.06	4.57	697.77	51	94.15	0.79	857.88	70.6%	82.8%	-22.9%
1984	LDGT2											
1984	LDGV											
1985	HDGV	9	119.91	2.91	N/A	1	9.60	0.83	N/A	92.0%	71.5%	N/A
1985	LDGT1	87	281.41	3.92	768.78	50	89.97	1.01	880.08	68.0%	74.3%	-14.5%
1985	LDGT2											
1985	LDGV											
1986	HDGV	51	458.37	2.02	N/A	29	28.10	0.43	N/A	93.9%	78.7%	N/A
1986	LDGT1	159	251.74	3.41	941.22	96	96.03	0.68	913.97	61.9%	80.0%	2.9%
1986	LDGT2	96	305.09	2.95	617.41	54	79.51	0.50	759.97	73.9%	83.2%	-23.1%
1986	LDGV											
1987	HDGV	15	347.01	2.22	N/A	10	72.06	0.43	N/A	79.2%	80.8%	N/A
1987	LDGT1	64	233.63	4.20	779.69	53	93.72	0.85	1023.28	59.9%	79.7%	-31.2%
1987	LDGT2											
1987	LDGV											
1988	HDGV	35	499.45	1.97	N/A	20	47.55	0.31	N/A	90.5%	84.3%	N/A
1988	LDGT1	553	183.97	1.55	1449.14	341	75.51	0.38	733.60	59.0%	75.5%	49.4%
1988	LDGT2											
1988	LDGV											
1989	HDGV	33	433.70	2.42	N/A	16	30.78	0.40	N/A	92.9%	83.5%	N/A
1989	LDGT1	286	201.04	2.60	1280.89	190	83.91	0.50	638.92	58.3%	81.0%	50.1%
1989	LDGT2											
1989	LDGV											
1990	HDGV	40	608.40	3.70	N/A	27	34.88	0.33	N/A	94.3%	91.1%	N/A
1990	LDGT1	696	171.07	2.31	1301.68	400	67.23	0.32	705.91	60.7%	86.1%	45.8%

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1990	LDGT2	175	257.28	2.35	938.61	106	83.44	0.34	787.49	67.6%	85.7%	16.1%
1990	LDGV		144.53	1.77	1373.93							
1991	HDGV	24	264.69	3.72	N/A	10	51.36	0.24	N/A	80.6%	93.7%	N/A
1991	LDGT1	399	221.71	2.38	1126.39	262	55.85	0.23	574.42	74.8%	90.2%	49.0%
1991	LDGT2											
1991	LDGV											
1992	HDGV	48	285.10	3.88	N/A	36	29.86	0.36	N/A	89.5%	90.6%	N/A
1992	LDGT1	1308	154.35	1.97	1159.51	790	55.28	0.24	586.55	64.2%	88.0%	49.4%
1992	LDGT2											
1992	LDGV											
1993	HDGV	27	375.70	3.29	N/A	12	35.52	0.54	N/A	90.5%	83.7%	N/A
1993	LDGT1	543	143.38	1.80	1165.78	408	52.97	0.27	619.96	63.1%	84.9%	46.8%
1993	LDGT2											
1993	LDGV											
1994	HDGV	68	465.98	3.19	N/A	44	39.02	0.37	N/A	91.6%	88.5%	N/A
1994	LDGT1	1460	125.54	1.41	1211.01	906	39.34	0.18	563.84	68.7%	86.9%	53.4%
1994	LDGT2											
1994	LDGV											
1995	HDGV	43	303.52	3.83	N/A	25	44.43	0.36	N/A	85.4%	90.7%	N/A
1995	LDGT1	427	119.26	1.12	1336.24	322	42.90	0.24	601.06	64.0%	78.6%	55.0%
1995	LDGT2											
1995	LDGV											
1996	HDGV	55	231.43	2.81	N/A	39	33.16	0.28	N/A	85.7%	90.2%	N/A
1996	LDGT1	245	97.35	0.74	1169.51	116	22.31	0.12	459.82	77.1%	84.2%	60.7%
1996	LDGT2											
1996	LDGV											
1997	HDGV	9	639.56	1.21	N/A	10	40.92	0.28	N/A	93.6%	76.7%	N/A
1997	LDGT1	45	127.66	1.31	906.33	39	14.03	0.09	295.54	89.0%	93.2%	67.4%
1997	LDGT2	8										
1997	LDGV	139										
1998	HDGV	14	477.40	2.07	N/A	10	9.70	0.14	N/A	98.0%	93.1%	N/A
1998	LDGT1	120	96.51	1.07	1141.76	66	15.78	0.10	273.64	83.6%	90.5%	76.0%
1998	LDGT2											
1998	LDGV											

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1999	HDGV	5	417.40	1.27	N/A	5	29.32	0.21	N/A	93.0%	83.1%	N/A
1999	LDGT1	23	157.02	0.70	1133.71	17	17.08	0.07	302.92	89.1%	90.2%	73.3%
1999	LDGT2	2	41.90	0.38	923.25	2						
1999	LDGV	69	63.93	0.94	1148.90	45						
2000	HDGV	17	606.82	1.51	N/A	8	21.28	0.19	N/A	96.5%	87.4%	N/A
2000	LDGT1	42	74.08	1.64	1047.46	27	9.82	0.04	290.13	86.7%	97.4%	72.3%
2000	LDGT2	7										
2000	LDGV	150										
2001	HDGV	2	435.50	1.29	N/A	2	35.10	0.04	N/A	91.9%	97.3%	N/A
2001	LDGT1	3	203.70	1.07	572.23	2	8.15	0.07	112.20	96.0%	93.5%	80.4%
2001	LDGT2	1	0.00	0.00	0.00	1						
2001	LDGV	28	84.59	0.82	1116.96	18						
2002	HDGV	3	300.93	0.90	N/A	2	25.70	0.34	N/A	91.5%	62.9%	N/A
2002	LDGT1	15	75.86	2.03	780.96	9	5.57	0.01	89.67	92.7%	99.4%	88.5%
2002	LDGT2	4	121.10	0.66	1003.08	2						
2002	LDGV	40	66.73	1.20	1126.40	33						
2003	HDGV	0	0.00	0.00	N/A	0	0.00	0.00	N/A	0.0%	0.0%	N/A
2003	LDGT1	1	19.50	0.00	2155.60	0	0	0	0	100.0%	0.0%	100.0%
2003	LDGT2	0	0	0	0	0	0					
2003	LDGV	0	0	0	0	0	0					
Total		30447	144.42	1.66	1186.89	18271						