



Biennial Report: 2005 – 2006

Ohio Vehicle Emissions Testing Program

BIENNIAL REPORT
OHIO VEHICLE EMISSIONS TESTING PROGRAM
INSPECTION AND MAINTENANCE PROGRAM
2005 – 2006

1. Introduction

This report has been prepared for the U.S. Environmental Protection Agency (US EPA), in compliance with the requirements of 40 CFR 51.366. The information in this report covers the reporting period of 2005 – 2006.

The Ohio Vehicle Emissions Testing Program, known as E-Check, which started in 1996, is an important tool for improving air quality in moderate nonattainment areas for ozone in Ohio. E-Check was established under Ohio Revised Code (ORC) 3704.14. Implementing regulations were adopted initially in December, 1995 by Ohio Environmental Protection Agency (OEPA). In 1998, the State Controlling Board approved a contract change to allow for vehicles to be tested under the ASM 2525 Phase-In standards. In September 2003, oxides of nitrogen (NOx) emission standards were included for pass/fail determinations.

OEPA runs the program through a contract executed in 1996 and a contract extension executed in July 2005 with Envirotest Systems.

From the start of the program in 1996 through January 2004, vehicles 25 years old and newer (a rolling window) were tested on a dynamometer. Actual emissions from vehicles on the dynamometer are compared to hydrocarbon, NOx, and carbon monoxide standards to determine whether a vehicle passes or fails. In January 2004, Ohio started using On-Board Diagnostics (OBD II) testing for most 1996 and newer model year vehicles. OBD II computer systems determine whether a vehicle's emission control systems are working properly and serve as an advanced warning to alert vehicle owners of potentially high emissions.

In 2006, OBD II tests were used for 62.5 percent of the vehicle emissions tests performed. Another 34.1 percent of the vehicle emission tests performed were ASM 2525 tests.¹

Vehicles that fail the initial emissions test must have their emission control system repaired, and must pass a re-test (or obtain a waiver of emissions requirements from OEPA²).

¹ If a gasoline-fueled vehicle could not be given an ASM 2525 test (e.g., vehicles with all-wheel drive) it was given a two-speed idle test, which measures emissions while the engine is operating at 2500 revolutions per minute (rpm) with the transmission in neutral, and while the vehicle is in idle. If a 1996 or older model year diesel-fueled vehicle was presented, an opacity test was performed, which measures the density of the exhaust emitted from the tailpipe.

To help motorists who need emissions repairs, the program has established a network of certified repair technicians who are specially trained to diagnose emissions problems, repair problems effectively, and prepare the vehicle for re-testing. In 2006, there were 150 licensed repair facilities that had a minimum of one certified repair technician employed for repairs.

2. Program Changes Implemented since 1996

Program Design: Ohio has not changed the program's initial design to test emissions from vehicles 25 years old and newer and to ensure that the vehicles failing the emissions test are effectively repaired.

Funding: From 1996 through 2005, motorists were charged \$19.50 for the emission test. A vehicle could receive 2 failing tests prior to being charged for a test. In 2006, funding for all mandatory vehicle emission tests was provided through the Auto Emissions Test Fund and motorists were no longer charged a fee. Envirotest Systems is paid \$3,392,365.88 per quarter for its testing services from the test fund. OEPA uses the remaining funds to oversee the program.

Personnel Levels: Personnel levels have generally decreased since the program began. In FY 2006, OEPA had 9.8 full time equivalents working with the program.

Procedures: Since the program began in 1996, several procedures have been modified or adopted to ensure the program meets its goals. Specific changes were:

- *Use of ASM 2525 Phase-In test.* The initial IM240 test ran a vehicle on the dynamometer at varying speeds simulating normal driving conditions. In May, 1998, the State Controlling Board approved a contract change to modify the emissions testing program to a new enhanced vehicle emissions test that runs vehicles at a lower, steady speed and, on average, is less time consuming than the original test.
- *OBD II Implementation.* On-Board Diagnostics (OBD II) testing was implemented in January 2004. OBD II complaint vehicles (most 1996 and newer vehicles) presented for testing with insufficient readiness monitors may be given the option for an ASM 2525 test on their initial visit. OBD II-compliant vehicles presented with the MIL commanded "on" fail the inspection test and must have the vehicle repaired and retested using the OBD II test. In 2006, 62.5 percent of the vehicles presented for testing were tested with OBD II technology.

Program Authority (Legislation and Regulations): For 2006, the Ohio Legislature increased the new vehicle exemption age from two to four years, while ensuring

² Waivers are only provided if some repairs are made and certain other conditions are met. In 2006, waivers were provided to 9,909 vehicles, or 13.9 percent of the vehicles that failed the initial test.

that vehicles with title changes during the new vehicle exemption were not required to test prior to re-titling.

3. Program Issues Identified and Corrected

Ohio EPA and Envirotech Systems work together on an on-going basis to address and resolve any issues that arise during the operation of the vehicle inspection and maintenance program. The continuing communication between the parties results in no long term issues needing enforcement actions to be brought against Envirotech Systems.