

**DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF AIR QUALITY**

Statutory Authority: 7 Delaware Code, Section 6010(a) and (c) (7 Del.C. §6010(a) & (c))
7 DE Admin. Code 1126

PROPOSED

REGISTER NOTICE

SAN #2018-04

DOCKET # 2022-R-A-0001

1126 Motor Vehicle Emissions Inspection Program

1. TITLE OF THE REGULATIONS:

PROPOSED 7 DE ADMIN. Code 1126 Motor Vehicle Emissions Inspection Program - Sussex County

2. BRIEF SYNOPSIS OF THE SUBJECT, SUBSTANCE AND ISSUES:

The purpose of this action is to amend Regulation 1126 to establish a statewide I/M program implemented in Kent, New Castle and Sussex Counties. The proposed amendments will establish identical emissions testing requirements statewide as well as exempt the first seven model years of a vehicle pursuant to House Bill 246.

3. POSSIBLE TERMS OF THE AGENCY ACTION:

NONE

4. STATUTORY BASIS OR LEGAL AUTHORITY TO ACT:

7 Del.C. Ch. 60 § 6010 (a) and (c).

5. OTHER REGULATIONS THAT MAY BE AFFECTED BY THE PROPOSAL:

PROPOSED 7 DE ADMIN. Code 1131 Motor Vehicle Emissions Inspection Program - Kent and New Castle Counties

6. NOTICE OF PUBLIC COMMENT:

A virtual public hearing (Docket # 2022-R-A-0001) will be held on Thursday, September 29, 2022, beginning at 6 p.m. The web link to the virtual hearing can be accessed through the DNREC Public Hearings site at <https://de.gov/dnrechearings>. If prompted for a password, please use: MVEIP. To access the audio-only portion of the virtual hearing, dial 1-408-418-9388 and enter the event code 2339 665 6055. Closed-captioning is available by request if made at least 7 days before the event.

Those wishing to offer verbal comments during DNREC public hearings must pre-register no later than noon of the date of the virtual hearing at <https://de.gov/dnrecomments> or by telephone at 302-739-9295.

The proposed amendments may be inspected online starting September 1, 2022 at https://regulations.delaware.gov/services/current_issue.shtml, or in-person, by appointment only, by contacting Marvina Cephas by phone at 302-739-9402 or by email at Marvina.Cephas@delaware.gov.

The Department will accept public comment through the close of business on Friday, October 14, 2022. Comments will be accepted in written form via email to DNRECHearingComments@delaware.gov, or by using the online form at <https://de.gov/dnrecomments>, or by U.S. mail to the following address:

Theresa Newman, Hearing Officer
DNREC - Office of the Secretary
89 Kings Highway, Dover, DE 19901

7. PREPARED BY: Marvina Cephas marvina.cephas@delaware.gov 302.739.9402

1126 Motor Vehicle Emissions Inspection Program- Sussex County

02/12/2001

1.0 **Applicability and ~~General Provisions~~ general provisions**

1.1 Applicability

- 1.1.1 Except as provided in ~~4.0 of this regulation~~ subsection 1.2, the standards, requirements and procedures set forth in this regulation are applicable to all motor vehicles, model years 1968 and newer with the exception of the ~~five~~ seven newest model years, titled and registered within Sussex County and as specified by the Department, including any motor vehicles owned or operated by the federal, state and local governments and their agencies.
- 1.1.2 Except as exempted in subsection 1.2, the requirements shall apply to all 1968 and later model year, light duty passenger cars and 1970 and later model year trucks up to 14,000 pounds gross vehicle weight rating registered in Sussex County, beginning on xx/xx/2023
- 1.1.3 The requirements of Section 8.0 shall apply to all certified emission repair technicians in the State of Delaware.
- 1.1.4 In accordance with 21 Del.C. §2143, no motor vehicle that is subject to this regulation may be granted registration in the State of Delaware unless the motor vehicle is in compliance with the applicable emissions standards, regardless of its pass/fail status of other tests normally performed at the official inspection station.

1.2 Exemptions. The following motor vehicles are exempt from the requirements of this regulation:

- 1.2.1 The seven most recent model years of light duty passenger cars and trucks.
- 1.2.2 Vehicles manufactured and registered as Kit Cars.
- 1.2.3 Tactical military vehicles used exclusively for military field operations.
- 1.2.4 All motor vehicles with a manufacturer's gross vehicle weight over 14,000 pounds.
- 1.2.5 All motorcycles and mopeds.
- 1.2.6 All vehicles powered solely by electricity generated from solar cells or stored in batteries.
- 1.2.7 Non-road sources or vehicles not operated on public roads.
- 1.2.8 Model year vehicles 1996 and older powered solely by diesel fuel.
- 1.2.9 Any motor vehicle that is more than 25 years old with a title brand of "reconstructed" that does not qualify to be registered as an antique motor vehicle. The vehicle must continue to meet and be inspected for safety pursuant to 21 Del.C. §2147.
- 1.2.10 A motor vehicle registered as an antique motor vehicle, or a street rod shall be exempt from annual inspection pursuant to 21 Del.C. §2198. A motor vehicle must pass an initial inspection prior to the motor vehicle being registered as an antique motor vehicle which shall be consistent with the established model year testing procedures as described in Section 4.0, "Vehicle inspection requirements.
- 1.2.11 Any Farm vehicle with license plates ("FV" tags) are exempt from inspection pursuant to 21 Del.C. §2113. Any vehicle or trailer upon which a "FV" tag is affixed must be used exclusively in the operative of a farm.

1.3 General provisions

- 1.3.1 Vehicles shall be pre-inspected by DMV prior to the emission inspection and shall be prohibited from testing should any unsafe conditions be found. These unsafe conditions include but are not limited to significant exhaust leaks and significant fluid leaks. The Division and the Department shall not be responsible for major vehicle component failures during the test, of including parts which were deficient or excessively worn prior to the start of the test.
- 1.3.2 Vehicles shall be rejected from testing, as covered in this regulation, if the exhaust system is missing or leaking, or if the vehicle is in an unsafe condition for testing.
- 1.3.3 Effective xx/xx/2023 for vehicles registered in Sussex County, in order to qualify for a waiver under Section 7.0 on any 1996 or later model year vehicle, emission repairs shall be performed by a certified emission repair technician as defined in Section 8.0.
- 1.3.4 Vehicles with engines of a model year older than the chassis model year shall be required to pass the standards commensurate with the chassis model year.
- 1.3.5 Mixing vehicle classes (e.g., light duty with heavy duty) and certification types (e.g., California with Federal) within a single vehicle configuration shall be considered tampering.
- 1.3.6 Subject vehicles which are registered in the program area but are primarily operated in another area shall be tested, either in the area of primary operation, or in the area of registration. Alternate schedules may be established to permit convenient testing of these vehicles (e.g., vehicles belonging to students away at college should be rescheduled for testing during a visit home).
- 1.3.7 Vehicles which are operated on Federal installations located within the State of Delaware shall be tested. This requirement applies to all employee owned or leased vehicles (including vehicles owned, leased, or operated by civilian and military personnel on Federal installations) as well as federal or state owned or operated vehicles, except tactical military vehicles, operated on the installation.

1.3.7.1 This requirement shall not apply to visiting agency, employee, or military personnel vehicles as long as such visits do not exceed 60 calendar days per year.

1.3.7.2 In areas without test fees collected in the lane, arrangements shall be made by the installation with the program for reimbursement of the costs of tests provided for agency vehicles, at the discretion of the Director. The installation manager shall provide documentation of proof of compliance to the Director. The documentation shall include a list of subject vehicles and shall be updated periodically, as determined by the Director, but no less frequently than each inspection cycle. The installation shall use one of the following methods to establish proof of compliance:

1.3.7.2.1 Presentation of a valid certificate of compliance from the program, from any other program at least as stringent as the program described herein, or from any program deemed acceptable by the Director.

1.3.7.2.2 Presentation of proof of vehicle registration within the geographic area covered by the program, except for any Inspection and Maintenance program whose enforcement is not through registration denial.

1.3.7.2.3 Another method approved by the Director.

1.3.8 Vehicles that have been switched from an engine of one fuel type to another fuel type that is subject to the program (i.e., from diesel engine to a gasoline engine) shall be subject to the test procedures and standards for the current fuel type.

1.3.9 Vehicles that are switched to a fuel type for which there is no certified configuration shall be tested according to the most stringent emission standards established for that vehicle type and model year. Emission control device requirements may be waived if the Division determines that the alternatively fueled vehicle configuration would meet the new vehicle standards for that model year without such devices.

1.3.10 Vehicles converted to run on alternate fuels, frequently called a dual-fuel vehicle, shall be tested and required to pass the most stringent standard for each fuel type.

1.3.11 Alternative fuel vehicles powered solely by a "clean fuel" such as compressed natural gas, propane, alcohol and similar non-gasoline fuels shall report for inspection to the same emission levels as gasoline powered cars until standards for clean fuel vehicles become available and are adopted by the State.

1.3.12 Dual-fuel vehicles able to be powered by more than one fuel, such as a clean fuel (compressed natural gas) and/or gasoline, shall report for inspection to the same emission levels as gasoline powered cars until standards for clean fuel vehicles become available and are adopted by the State.

1.3.13 Hybrid electric vehicles shall report for inspection to the same emission levels as gasoline powered cars until standards for hybrid electric vehicles become available and are adopted by the State.

1.4 Inspection Facility Requirements

1.4.1 Motor Vehicle associates employed by the Division shall meet the requirements specified in Section 1.0.

1.4.2 Test equipment used by the Division shall be a type approved by the Department and testing procedures shall be conducted.

1.4.3 No person employed by the Division to test motor vehicle emissions shall engage in or have an interest in the operation of repair facilities located in this State; perform emission related repairs for compensation; or recommend repair facilities to owners or operators of vehicles being tested.

1.5 Certification of Motor Vehicle Associates

1.5.1 In accordance with 40 CFR 51.367(c), a person may not perform the duties of a motor vehicle associate for testing motor vehicle emissions or operating emission testing equipment to determine the compliance or noncompliance of a motor vehicle as required by this regulation at an official inspection station unless that person has applied for and has received certification in accordance with the provision as established by the Division.

1.5.2 To become certified, a person shall successfully complete a training course for this purpose approved by the Division.

1.6 Calibration and Test Procedures and Approved Equipment

1.6.1 All emissions testing for the purpose of determining compliance with emissions standards shall be performed using equipment approved by the Department.

1.6.2 Calibration: The calibration of equipment shall be in accordance with provisions established by the Division in accordance with 40 CFR 51.359.

1.6.3 Test Procedures: The vehicle emissions test shall be performed in accordance with provisions established by the Division in order to meet the requirements in 40 CFR 51.357.

2.0 Definitions

The following words and terms, when used in this regulation, have the following meaning:

"Alternative fuel vehicle" means any vehicle capable of operating on one or more fuels, none of which are gasoline or diesel, and which is subject to emission testing to the same stringency as a similar gasoline or diesel fueled vehicle.

"ASE L1" means "Advanced Engine Performance Specialist Test" certificate as provided by the National Institute for Automotive Service Excellence. The ASE "Advanced Engine Performance Specialist (L1) Test" contains questions that test technicians' knowledge in the diagnosis and repair of computer-controlled engine systems.

"Certified emission repair technician" or "CERT" means an automotive repair technician certified by the National Institute for Automotive Service Excellence and has received an ASE L1 "Advanced Engine Performance Specialist Test" certificate or an equivalent certificate from a program approved by the Department and has been issued a permit by the Department.

"Carbon dioxide" or "CO₂" means colorless, odorless, incombustible gas resulting from oxidation of carbon. It is the primary greenhouse gas emitted through human activities.

"Carbon monoxide" or "CO" means a colorless, odorless gas that can be harmful when inhaled in large quantity. Their greatest sources are cars, trucks, or machinery that burn fossil fuels.

"Curb-Idle Test" means an exhaust emissions test sampling and analysis performed while the vehicle engine is operating at or approximately at the vehicle manufacturer's recommended normal curb idle speed.

"Department" means the Department of Natural Resources and Environmental Control of the State of Delaware.

"Director" means the Director of the Division of Motor Vehicles in the Department of Transportation.

"Division" means the Division of Motor Vehicles in the Department of Public Safety of the State of Delaware.

"Dual-fuel vehicle" means a vehicle with two fuel storage tanks capable of operating on more than one fuel type, one of which is gasoline and cannot be operated on a mixture of the fuels.

"Emissions" means products of combustion discharged into the atmosphere from the tailpipe of a motor vehicle engine.

"Emission inspection area" means the emissions inspection area will constitute the entire State effective April 1, 1990.

"Emission standard or standards" mean the maximum concentration of either hydrocarbon (HC) or carbon monoxide (CO), or both, allowed in the emissions from the tailpipe of a motor vehicle as established by the Secretary of the Department of Natural Resources and Environmental Control or his designee in Technical Memorandum #2 entitled "Motor Vehicle Inspection and Maintenance Program - Emission Limit Determination" dated 12/29/87. means the maximum concentration of hydrocarbons (HC), and carbon monoxide (CO), or any combination thereof, allowed in the emissions from a motor vehicle as established by the Secretary, as described in this regulation.

"Exhaust emission test" means the curb idle test.

"Evaporative system integrity test" means a comprehensive range of testing methods to determine the evaporative emissions levels of your vehicles, engines and fuel system components.

"Failed motor vehicle" means any motor vehicle which does not comply with applicable emission standards, evaporative system function check or on-board diagnostic requirements and emission control device inspection requirements during the initial test or any retest.

"Farm vehicles" or "FV" means every motor vehicle designed and used primarily as a farm implement for drawing plows, mowing machines and other implements of agriculture.

"Flexible fuel vehicle" means any vehicle with one fuel storage tank capable of operating on more than one fuel type, one of which includes gasoline, which must be tested to program standards for gasoline. This is in contrast to alternative fuel vehicles.

"Gross vehicle weight" or "GVW" means the vehicle gross weight as designated by the manufacturer as the total weight of the vehicle and its maximum allowable load.

"High emitting vehicle" or "HEV" means a vehicle with emissions three times the applicable standard established by Table 4-1 for the exhaust emission test. For applicable 1996 and newer vehicles, an HEV means a vehicle with emissions three times the standard for group 5 in Table 4-1.

"Hybrid electric vehicle" means any vehicle that has two power sources: an electric motor to propel its wheels, and a gasoline engine to recharge the vehicle's electrical storage system. In some configurations the gasoline engine also assists the electric motor with propulsion.

"Hydrocarbon" or "HC" means organic compound made of carbons and hydrogen atom. They are found in crude oil and natural gases.

"I/M Subject Vehicle" means a vehicle registered or required to be registered at a residence or business address within a county or district and which is subject to the State of Delaware registration fee pursuant to Delaware Code Title 21, Motor Vehicle § 2143 of the inspection of motor vehicle before registration; exception; vehicle outside State.

"Inspection period" means the two-year (biennial) period beginning the date which the vehicle passes inspection.

"Invalid test condition" means the system is unable to establish a clear result.

"Kit car" means a car, especially a sports car, assembled by the owner from a set of prefabricated parts supplied by the manufacturer. Kit cars should use a complete powertrain matching an existing configuration that has an EPA certificate of conformity. Kit cars must be clearly labeled as to the make, model year, engine family, subfamily, and tune-up specifications represented by the originally certified engine/powertrain donor vehicle.

"Light duty vehicle" means light duty vehicles and light duty trucks, rated up to 14,000 pounds gross vehicle weight rating.

"Malfunction indicator lamp" or "MIL" means the dashboard light on a vehicle that when illuminated indicates an emission control device is not working to the manufacturer's specifications. The MIL is also known as the check engine light.

"Model year" means the year of manufacture of a vehicle as designated by the manufacturer, or the model year designation assigned by the Division to a vehicle constructed by other than the original manufacturer.

"Motor vehicle" means every vehicle, as defined in 21 Del.C. §101, which is self-propelled, except farm tractors and off-highway vehicles.

"Motor vehicle associate" means a person who has completed an approved emissions inspection equipment training program, who is both authorized and performs vehicle inspection requirements and is employed or under contract with the State of Delaware.

"Motor vehicle officer" means a person who has completed an approved emissions inspection equipment training program and is employed by an official inspection station.

"New model year exemption" means an exemption of a designated range of model year vehicles and refers to new motor vehicles and the initial registration or renewal of vehicles no older than 7 model years. For example, a 2022 model year granted a new model year exemption of seven years would be exempt until the first vehicle inspection due date in calendar year 2028.

"New motor vehicle" means a motor vehicle of the current or preceding model year that has never been previously titled or registered in this or any other jurisdiction and whose ownership document remains as a manufacturer's certificate of origin.

"OBD diagnostic trouble code" or "DTC" means a code that provides information on an OBD equipped motor vehicle's emission control system malfunction status.

"Official inspection station" means the all official Motor Vehicle Safety Inspection Stations in Wilmington, New Castle, Dover and Georgetown, Delaware, facilities operated by the Division of Motor Vehicles in the State of Delaware.

"On-board diagnostics" or "OBD" means a system of vehicle component and condition monitors controlled by a central, on-board computer designed to signal the motorist when conditions exist which could lead to a vehicle's exceeding its certification standards by 1.5 times the standard.

"On-Board Diagnostics Test" means providing the driver with an early warning of potentially high emissions and stores important information about detected malfunctions so that a repair technician can accurately find and fix the problem.

"Reasonable cost" means the actual cost of parts and labor which is necessary to cause the failed motor vehicle to comply with applicable emissions standards or which contributes toward compliance. It shall not include the cost of those repairs determined by the Division to be necessary due to alteration or removal of any part of the emission control system of the motor vehicle, or due to any damage resulting from the use of improper fuel in the failed motor vehicle.

"Reconstructed vehicle" means any vehicle which has been assembled or constructed largely by means of essential parts, new or used, derived from other vehicles or makes of vehicles of various names, models and types, or which, if originally otherwise constructed, has been materially altered by the removal of essential parts or by the addition or substitution of essential parts, new or used, derived from other vehicles or makes of vehicles.

"Registered gross vehicle weight (G.V.W.)" means the vehicle gross weight designated by the Division on the vehicle registration card which is the total weight of the vehicle and its maximum allowable load.

"Registration denial" means the rejection of an application for initial registration of a vehicle or re-registration of a used vehicle (i.e., a vehicle being registered after the initial retail sale and associated registration) unless the vehicle has complied with the program requirement before granting the application.

"Repair Waiver" means an exemption issued to a motor vehicle that, after initial I/M inspection and subsequent vehicle repair and re-inspection, does not comply with the applicable emissions testing standards and requirements and has received emission system repairs to a cost amount up to the repair waiver expenditure limit, but which cannot be repaired for reasonable cost, per the requirements of Section 7.0.

"Repair Waiver Expenditure Limit" means the minimum cost of vehicle repairs required to be completed in order to qualify for a waiver.

"Sale" or "sell" means the transfer of equitable or legal title to a motor vehicle or motor vehicle engine to the ultimate purchaser.

"Secretary" means the Secretary of the Department of Natural Resources and Environmental Control.

"Standards" means a standard of performance.

"Subject fleet vehicle" means any vehicle owned, leased, or operated by an individual or entity granted a vehicle emissions testing.

"Subject vehicle" means the vehicle being tested.

"Tampering" means remove or make inoperable any system or device used to control emissions from a motor vehicle engine.

"Unsafe condition" means a vehicle which presents an immediate safety hazard.

"Vehicle" means every device in, upon or by which any person or property is or may be transported or drawn upon a public highway, excepting devices moved by human power or used exclusively upon stationary rails or tracks and excepting off-highway vehicles.

"Vehicle type" means the EPA classification of motor vehicles by weight class which includes the terms light duty and heavy-duty vehicle.

"Visual Catalyst Inspection" means inspections of subject emission control devices if such devices are found to be incorrect for the certified vehicle configuration under inspection. Aftermarket parts, as well as original equipment manufacturer parts, may be considered correct if they are proper for the certified vehicle configuration.

"Waiver" means an exemption issued to a motor vehicle that cannot comply with the applicable emissions standard and cannot be repaired for reasonable cost.

05/09/1985

3.0 Registration Requirement Reserved

~~Effective January 1, 1983, no motor vehicle that is subject to this regulation may be granted registration in the State of Delaware unless the motor vehicle is in compliance with the applicable emissions standards, regardless of its pass/fail status of other tests normally performed at the official inspection station.~~

02/12/2004

4.0 Exemptions

~~4.1 The following motor vehicles are exempt from the provisions of this regulation:~~

~~4.1.1 All farm vehicles not required by law to be registered.~~

~~4.1.2 All historic vehicles, kit cars or antique vehicles displaying antique vehicle registration plates.~~

~~4.1.3 All motor vehicles with a registered G.V.W. over 8,500 pounds.~~

~~4.1.4 All motorcycles.~~

~~4.1.5 All vehicles that are registered in Delaware, but are not operated in Delaware consistent with established procedures of the Division.~~

~~4.1.6 All vehicles powered solely by diesel or solely by electricity generated from solar cells or stored in batteries.~~

~~4.2 Any exemption issued to a vehicle under 4.0 of this regulation will not have an expiration date and will expire only upon a change in the vehicle status for which exemption was initially granted.~~

4.0 Vehicle inspection requirements

4.1 General provisions.

4.1.1 Each vehicle subject to this regulation not otherwise exempted under Section 1.0 shall be inspected at least once every two years at an official inspection station operated by the Division.

4.1.2 All subject fleet vehicles shall be inspected at an official inspection station operated by the Division or at an alternate inspection station approved by the Director.

4.1.3 HC, CO, CO+CO₂ (or CO₂ alone) emission standards shall be applicable to all vehicles subject to these requirements (e.g. 1995 and older vehicles) and if a vehicle fails any applicable emissions standard, repairs shall be required for failure of all any emissions standards.

- 4.1.4 Initial tests (i.e., those occurring for the first time in a test cycle) shall be performed without repair or adjustment to the vehicle being tested at the inspection station, before or during the test.
- 4.1.5 An official test, once initiated, shall be performed in its entirety regardless of intermediate outcomes except in the case of invalid test condition, unsafe conditions, fast pass/fail algorithms, or, in the case of the on-board diagnostic (OBD) system check, unset readiness codes.
- 4.1.6 Tests involving measurements shall be performed with equipment that has been calibrated according to the quality control procedures established by the Department.
- 4.1.7 After an initial failure of any portion of any exhaust emission test in the LEIM program, all vehicles shall be retested automatically. Both initial and automatic retest shall constitute Test 1. After failure of Test 2, prior to Test 3, proof of appropriate repairs must be submitted indicating the type of repairs and parts installed (if any). This shall be done by completing the "Vehicle Emissions Repair Report Form" as developed and provided by the Division.
- 4.1.8 Any vehicle entering the inspection lane while smoking excessively or with coolant, oil, or fuel leaks, or any other such defect that is unsafe, shall be rejected from the testing area.
- 4.2 Exhaust emission testing procedures and standards. Exhaust emissions which include 1968 to 1995 model year vehicles subject to exhaust emission testing under this regulation shall be equal to or less than the rates specified in Table 4-1; determined in response to the following idle test requirements:
 - 4.2.1 The motor vehicle associate shall insert a probe at least 10 inches into the exhaust pipe.
 - 4.2.2 Genuine dual exhaust vehicles shall be tested with a dual exhaust probe.
 - 4.2.3 The analysis of exhaust gas concentrations shall begin 10 seconds after the applicable test mode begins.
 - 4.2.4 Exhaust gas concentrations shall be analyzed at a minimum rate of two times per second. The measured value for pass/fail determinations shall be a simple running average of the measurements taken over five seconds. The vehicle shall be tested in as received condition with the transmission in neutral or park and all accessories turned off. The engine shall be at normal operating temperature and idle speed.
 - 4.2.5 The test shall immediately end upon reaching the overall maximum test time of 145 seconds.

<u>TABLE 4-1 EXHAUST EMISSION STANDARDS ACCORDING TO MODEL YEAR (1968-1995)</u>				
<u>Group</u>	<u>Auto/Station Wagons (passenger vehicles)</u>	<u>Pickup/Van under 8501 pounds</u>	<u>Hydrocarbon (HC) Limit (ppm)</u>	<u>Carbon Monoxide (CO) Limit (%)</u>
<u>1</u>	<u>1968-70</u>	<u>1970-72</u>	<u>900</u>	<u>9.00</u>
<u>2</u>	<u>1971-74</u>	<u>1973-78</u>	<u>600</u>	<u>6.00</u>
<u>3</u>	<u>1975-79</u>	<u>1979-83</u>	<u>400</u>	<u>4.00</u>
<u>4</u>	<u>1980</u>	<u>(none)</u>	<u>220</u>	<u>2.00</u>
<u>5</u>	<u>1981-95</u>	<u>1984-95</u>	<u>220</u>	<u>1.20</u>

- 4.3 Evaporative emission procedures and standards. 1975 through 1995 model year vehicles shall pass the gas cap test pursuant to the following requirements:
 - 4.3.1 The motor vehicle associate shall perform a visual check of the gas cap for proper fit and installation. The gas cap shall be checked to ensure that it is properly, but not excessively tighten, and shall be tighten if necessary. If the gas cap is missing or damaged, the gas cap shall fail the visual inspection.
 - 4.3.2 The motor vehicle associate shall locate the correct gas cap adapter model for the gas cap. The gas cap will be tested (pressurized) using the adapter to determine the effectiveness of the gas cap and identify significant leaks. If significant leaks are identified, the gas cap shall fail the gas cap testing procedures.
 - 4.3.3 This completes the gas cap testing procedures.
- 4.4 On-board diagnostic procedures and standards
 - 4.4.1 The following vehicles shall be subject to OBD II tests pursuant to the following procedures:
 - 4.4.1.1 Model year 1996 and later model year gasoline fueled vehicles weighing up to 8,500 GVW;
 - 4.4.1.2 Model year 1997 and later model year diesel fueled vehicles weighing up to 8,500 GVW; and

4.4.1.3 Model year 2008 and later model year gasoline and diesel fueled vehicles weighing 8,501 -14,000 GVW.

4.4.2 Test procedure

4.4.2.1 The motor vehicle associate shall locate the Diagnostic Link Connector in the vehicle and insert the on-board diagnostic connecting cable. The vehicle's emission control device information from the vehicle's computer shall be transmitted to the DMV on-board diagnostic equipment for the test to be completed successfully.

4.4.2.2 The motor vehicle associate shall observe the MIL (malfunction indicator lamp) when the ignition key is in the on position and then when the engine is turned on and running.

4.4.3 Vehicles shall fail the OBD test if any of the following conditions exist:

4.4.3.1 Malfunction Indicator Light (MIL) is not lit during key on, engine off check of bulb;

4.4.3.2 MIL lit (or commanded on) for any Diagnostic Trouble Codes (DTC) during engine on mode;

4.4.3.3 Data Link Connector (DLC) is damaged, missing, tampered or obstructed by an after-market device;

4.4.3.4 More than two unset readiness codes for model years 1996-2000; or

4.4.3.5 More than one unset readiness code for model years 2001 and newer.

4.4.4 1995 and newer light-duty vehicles and light-duty trucks not equipped by the manufacturer with certified on-board diagnostics systems with the exception of tampered or removed systems shall be required to undergo the curb idle test.

4.5 Visual equipment inspection standards.

4.5.1 1975 through 1995 model year vehicles shall pass a visual inspection of the catalytic converter.

4.5.2 Visual inspection of emission control devices shall be performed through direct observation or through indirect observation using a mirror. These inspections shall include a determination as to whether each subject device is present.

4.5.3 Vehicles shall fail visual inspection of subject emission control devices if such devices are part of the original certified configuration and are found to be missing, modified, disconnected, or improperly connected.

07/06/1982

5.0 Enforcement

Enforcement shall be in accordance with the provisions of 7 ~~Del.C.~~ Ch. 67.

5.0 Motor Vehicle Anti-Tampering Requirements

5.1 No person shall sell, offer for sale, possess for sale, advertise, manufacture, install, or use any part or component intended for use with or as part of any motor vehicle when the primary effect is to bypass, defeat, or render inoperative, in whole or part, the emission control system.

5.2 No person shall tamper with any emission control system installed on or in a motor vehicle after sale, lease, or rental and delivery of the vehicle to the ultimate purchaser, lessee, or renter.

5.3 No person shall operate a motor vehicle that has been tampered with if the motor vehicle or motor vehicle engine has been certified by the United States environmental protection agency as meeting federal emission control standards.

5.4 No person may remove or make inoperable any system or device used to control emissions from a motor vehicle or motor vehicle engine or any part thereof, except where the purpose of removal of the system or device, or part thereof, is to install another system or device, or part thereof, which is equally effective in reducing emissions from the vehicle.

02/12/2004

6.0 Compliance, Waivers and Extensions of Time

~~6.1 Compliance with applicable emissions standards shall be determined at an official inspection station. The idle test procedure prescribed by the Department in Technical Memorandum #1 entitled "Motor Vehicle Inspection and Maintenance Program — Vehicle Test Procedure and Machine Calibration", dated 6/9/82, shall be the official test procedure. A pass/fail printout from the emission testing equipment given to the driver will serve as the driver's record of the test results. Vehicles shall be pre-inspected prior to the emission inspection, and shall be prohibited from testing should any unsafe conditions be found. These unsafe conditions include, but are not limited to significant exhaust leaks, and significant fluid leaks. The Division and the Department shall not be~~

responsible for major vehicle component failures during the test, of parts which were deficient or excessively worn prior to the start of the test.

- 6.1.1 Any motor vehicle shall be deemed to be in compliance with 3.1 of this regulation if the test results are equal to or less than the emissions standards applicable to the motor vehicle.
 - 6.1.2 Except as provided in 6.1.3 of this regulation, any motor vehicle shall be deemed to be in noncompliance with 3.0 of this regulation if the test results are greater than the emissions standards applicable to the motor vehicle.
 - 6.1.3 Any motor vehicle which fails its initial emissions test shall be deemed to be in compliance with 3.0 of this regulation if not later than the registration expiration date, the motor vehicle either (1) is repaired at reasonable cost and is in compliance with applicable emissions standards as determined by an emissions retest at an Official Inspection Station, or (2) is granted a waiver pursuant to 6.2 of this regulation, or (3) is granted an extension of time not to exceed one month.
 - 6.1.4 Whenever the owner of a failed motor vehicle determines to the satisfaction of the Division that it cannot be repaired at reasonable cost, the owner may be granted a waiver provided the owner makes application to the Division prior to the registration expiration date or by such other time as may be specified by the Division.
 - 6.1.5 Vehicles powered solely by a "clean fuel" such as compressed natural gas, propane, alcohol and similar non-gasoline fuels shall be required to report for inspection to the same emission levels as gasoline powered cars until standards for clean fuel vehicles become available and are adopted by the State.
 - 6.1.6 Vehicles able to be powered by more than one fuel, such as compressed natural gas or gasoline, must be tested and pass emissions standards for all fuels when such standards have become adopted by the Department.
- 6.2 Waiver issuance criteria
- 6.2.1 Waivers shall be issued only after a vehicle has failed a retest performed after all qualifying repairs have been completed.
 - 6.2.2 Any available warranty coverage shall be used to obtain needed repairs before expenditures can be counted towards the cost limits in 6.2.4 of this regulation. The operator of a vehicle within the statutory age and mileage coverage under Section 207(b) of the Clean Air Act shall present a written denial of warranty coverage from the manufacturer or authorized dealer for this provision to be waived for approved tests applicable to the vehicle.
 - 6.2.3 Waivers shall not be issued to vehicles for tampering-related repairs. The cost of tampering-related repairs shall not be applicable to the minimum expenditure in 6.2.4 of this regulation. An exemption for tampering-related repairs may be issued if it can be verified that the part in question or one similar to it is no longer available for sale.
Repairs shall be appropriate to the cause of the test failure, and a visual check shall be made to determine if repairs were actually made if, given the nature of the repair, it can be visually confirmed. Receipts shall be submitted for review to further verify that qualifying repairs were performed.
 - 6.2.4 A minimum of \$75 for pre-81 vehicles and \$200 for 1981 and later vehicles shall be spent on related repairs in order to qualify for a waiver. This minimum cost should not be construed as an amount which must be spent as a condition of compliance after an initial failure. This cost relates only to the minimum cost which must be incurred when determining the eligibility of granting a waiver. In addition, this regulation does not prevent the vehicle owner from performing self repairs.
- 6.3 The Division shall be responsible for specifying any forms or procedures to be followed in making applications pursuant to 6.2 of this regulation.
- 6.4 Waivers issued pursuant to this regulation are valid until the date of current registration expiration.
- 6.5 Quality control of waiver issuance.
- 6.5.1 The program shall include methods of informing vehicle owners or lessors of potential warranty coverage, and ways to obtain warranty repairs.
 - 6.5.2 The program shall insure that repair receipts are authentic and cannot be revised or reused.
 - 6.5.3 The program shall insure that waivers are only valid for one test cycle.

6.0 On-road inspection standards and test procedures

- 6.1 Periodic random Delaware registered vehicle pullovers or on-road testing on Delaware highways may occur without prior notice to the public for on-road vehicle exhaust emission testing.
 - 6.1.1 Vehicles identified by the on-road testing program as high-emitting vehicles may be notified of the requirement for an out-of-cycle emission retest, and shall have 30 days from the date of the notice to appear for inspection.

- 6.1.2 Vehicles not appearing for a retest shall be out of compliance, and be liable for penalties under Title 21 of Delaware Criminal and Traffic Law Manual and the Division shall take action to suspend the vehicle registration.

07/06/1982

7.0 Inspection Facility Requirements

- ~~7.1 Motor Vehicle Officers employed by the Division shall meet the requirements specified in this regulation.~~
~~7.2 Test equipment used by the Division shall be a type approved by the Department and testing procedures shall be conducted in accordance with the provisions of this regulation.~~
~~7.3 No person employed by the Division to test motor vehicle emissions shall engage in or have an interest in the operation of repair facilities located in this State; perform emission related repairs for compensation; or recommend repair facilities to owners or operators of vehicles being tested.~~

7.0 Vehicle emission inspection waivers

7.1 Waiver issuance criteria

7.1.1 Motorists shall expend a reasonable cost, as defined in Section 2.0 in order to qualify for a waiver.

7.1.1.1 For vehicles failing the exhaust emissions test under subsection 4.1, in order to qualify for waiver, repairs (cost of parts and labor) on any 1981 or later model year vehicle shall be performed by a certified emission repair technician, as defined in Section 3.0, and must have been appropriate to correct the emission failure.

7.1.1.2 In order to qualify for a waiver, repairs of primary emission control components (cost of parts only) on any 1981 through 1995 vehicle (OBD-equipped vehicles not included) may be performed by non-permitted technicians (e.g., vehicle owners) and must have been appropriate to correct the emission failure.

7.1.1.3 The waiver would apply to the cost of parts for the repair or replacement of the following list of emission control component systems:

7.1.1.3.1 Air induction system (air filter, oxygen sensor);

7.1.1.3.2 Catalytic converter system (converter, preheat catalyst);

7.1.1.3.3 Thermal reactor;

7.1.1.3.4 EGR system (valve, passage/hose, sensor);

7.1.1.3.5 PCV System, air injection system (air pump, check valve);

7.1.1.3.6 Ignition system (distributor, ignition wires, coil, spark plugs).

7.1.1.3.7 The cost of any hoses, gaskets, belts, clamps, brackets or other emission accessories directly associated with these components may also be applied to the waiver limit.

7.1.1.4 For vehicles failing the exhaust emissions (tailpipe) test under subsection 4.2, in order to qualify for waiver, repairs (cost of parts and labor) on any 1981 through 1995 year vehicle shall be performed by a technician as defined in Section 8.0, and must have been appropriate to correct the emission failure.

7.1.1.5 For vehicles failing the on-board diagnostics test under subsection 4.4.3 in order to qualify for waiver, repairs on any 1996 or later model year vehicle shall be performed by a certified emission repair technician (CERT) as defined in Section 8.0, and must have been appropriate to correct the specific OBD code which resulted in the initial failure.

7.1.2 Any available warranty coverage shall be used to obtain needed repairs before expenditures can be counted towards the cost limits in subsection 7.1.4. The owner or operator of a vehicle within the statutory age and mileage coverage under the engine warranty requirements found in section 207(b) of the Clean Air Act shall present a written denial of warranty coverage from the manufacturer or authorized dealer for this provision to be waived for approved tests applicable to the vehicle.

7.1.3 Original receipts shall be submitted for review to further verify that qualifying repairs were performed to the vehicle failing the initial test. Original receipts cannot be used more than once for verification.

7.1.4 A minimum expenditure for repairs required to qualify for a waiver for pre-1981 model year vehicles shall be \$75.

7.1.5 For 1981 and newer model year vehicles:

7.1.5.1 The minimum expenditure for repairs shall be \$200 in 2023-2024.

7.1.5.2 The minimum expenditure shall be \$450 in 2025-2026.

- 7.1.5.3 Starting January 1, 2027 and for each subsequent year, the \$450 minimum expenditure shall be adjusted in January of that year by the percentage, if any, by which the Consumer Price Index for the preceding calendar year differs from the Consumer Price Index for 1989.
- 7.1.6 In 2027 and each year thereafter, the expenditure for repairs will be equivalent to the current minimum expenditure for repairs in New Castle and Kent Counties.
- 7.1.7 The issuance of a waiver applies only to those vehicles failing an exhaust emission or non-evaporative on-board diagnostics tests. No waivers are granted to vehicles failing the evaporative emission integrity test.
- 7.1.8 Waivers shall be issued by the Director or his/her designee after a vehicle has failed a retest for the exhaust emissions or on-board diagnostic portions of the inspection, performed after all qualifying repairs have been completed or non-evaporative emissions codes have been cleared.
- 7.1.9 Qualifying repairs include repairs of primary emission control components as defined in subsection 7.1.1.2 performed within 90 days of the initial test date.
- 7.1.10 Waivers issued in response to this regulation are valid through the current vehicle inspection cycle.
- 7.1.11 Waivers shall not be issued to vehicles for tampering-related repairs. The cost of tampering related repairs shall not be applicable to the minimum expenditure in subsections 7.1.4, 7.1.5, and 7.1.6. The Director shall issue exemptions for tampering-related repairs if it can be verified that the part in question or one similar to it is no longer available for sale.
- 7.2 Compliance via diagnostics inspection. Vehicles subject to an emission test at the exhaust emission standards shown in Table 4-1 may be issued a certificate of compliance without meeting the prescribed emission exhaust emission standards, if after failing a retest on emissions, a complete, documented physical and functional diagnosis and inspection performed by a certified emission repair technician shows that no additional emission related repairs are needed.

07/06/1982

8.0 ~~Certification of Motor Vehicle Officers~~

- ~~8.1 A person may not perform the duties of a motor vehicle officer for testing motor vehicle emissions or operating emission testing equipment to determine the compliance or noncompliance of a motor vehicle as required by this regulation at an official inspection station unless that person has applied for and has received certification in accordance with the provisions of 8.0 of this regulation.~~
- ~~8.2 To become certified, a person shall successfully complete a training course for this purpose approved by the Division.~~

8.0 Certified emission repair technicians

- 8.1 Emission repair technician certification
 - 8.1.1 An emission repair technician may be certified as trained to do emission repairs on all makes of vehicles or vehicles of a specific manufacturer. Auto repair technicians seeking to become certified under 7 **DE Admin. Code** 1126 shall meet one of the following requirements:
 - 8.1.1.1 Applicants that are currently ASE-L1 certified as of 06/11/2012 shall be permitted by the Department for the period the ASE-L1 certification is current.
 - 8.1.1.2 New applicants shall be ASE-L1 certified or present certification from an equivalent program which is approved by the Department and the Division.
 - 8.1.2 A certified emission repair technician permit or any renewal of that shall be valid for a period not to exceed five years from the date of issuance, unless sooner revoked by order of the Department, and may be renewed on application to and approval by the Department.
 - 8.1.3 At the time of application to receive certification, a certified emission repair technician shall also make application in accordance with section 8.3 to receive a permit to conduct drive-cycle testing of vehicles that are not in compliance with 21 **Del.C.** §2115.
- 8.2 Vehicle drive-cycle testing permit
 - 8.2.1 Applicability. Vehicle drive-cycle testing permits shall be issued to all certified emission repair technicians to conduct drive-cycle testing of vehicles that are not in compliance with 21 **Del.C.** §2115.
 - 8.2.2 General provisions
 - 8.2.2.1 This regulation establishes the procedures that satisfy the requirement of 7 **Del.C.** §6706 to provide a permit to certified emission repair technicians to conduct drive-cycle testing of vehicles that are not in compliance with 21 **Del.C.** §2115.

- 8.2.2.2 Any permit issued by the Department in response to this regulation shall not relieve the certified emission repair technician of the responsibility of following applicable local, State, and Federal laws and regulations.
- 8.2.3 Cancellation of permits. The Department may cancel the vehicle drive-cycle testing permit if the certified emission repair technician fails to maintain their certification as required by subsection 7.1.
- 8.2.4 Action on applications
 - 8.2.4.1 If an application is disapproved, the Department shall set forth its objections in the notice of disapproval.
 - 8.2.4.2 On issuing the permit for vehicle drive-cycle testing, the Department shall give notice of such approval to any person who has submitted a written request for such notice.
- 8.2.5 Transfer of permit prohibited. A vehicle drive-cycle testing permit is non-transferrable and cannot be transferred from or used by anyone other than the certified emissions repair technician to whom it is issued. No person shall transfer a vehicle drive-cycle testing permit to another person.
- 8.2.6 Availability of permit. Any permit issued by the Department in response to Section 8.0 shall be in the possession of the certified emission repair technician when operating any vehicle that is not in compliance with 21 Del.C. §2115 in order to conduct drive-cycle testing.
- 8.2.7 Permit expiration. A vehicle on-board diagnostics testing permit or any renewal thereof shall be valid for a period not to exceed five years from the date of issuance, unless sooner revoked by order of the Department, and may be renewed upon application to and approval by the Department.
- 8.3 Permit and certified emission repair technician application
 - 8.3.1 Any person identified in subsections 8.1 and 8.2.2 shall submit to the Department a complete application for a vehicle drive-cycle testing permit on forms furnished by the Department. Permit application forms are available online or from the Department on request.
 - 8.3.2 The application shall include the following:
 - 8.3.2.1 Name and location of auto repair facility where applicant is employed.
 - 8.3.2.2 Applicant's emission repair certification information.
 - 8.3.2.3 Name of certifying organization.
 - 8.3.2.4 Date certified.
 - 8.3.2.5 Date certification expires.
 - 8.3.2.6 Insurance Information (e.g. Shopkeeper's or Garage Keeper's Policy) including policy number, policy expiration date and name of issuing agent.
 - 8.3.2.7 The application shall contain the following language from the applicant: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."
 - 8.3.3 The applicant shall submit any additional information requested by the Department deemed necessary to process the application.
- 8.4 Permit and certified repair technician certification fees.
 - 8.4.1 Pursuant to with 7 Del.C. §6706, the Department may establish permit fees to recover costs reasonably related to the issuance of such permits.
 - 8.4.2 The permit fee shall be \$125 for the five-year period (which shall be a pro-rated permit fee of \$25 per year for each year or partial year of the permit) covering the permit and certification of the certified emission repair technician.
 - 8.4.3 Permits issued for any period less than five years shall be pro-rated the permit fee \$25 per year for each year of the permit.

02/12/2004

9.0 ~~Calibration and Test Procedures and Approved Equipment~~

- 9.1 ~~All emissions testing for the purpose of determining compliance with emissions standards shall be performed using equipment approved by the Department and calibration and test procedures as provided in this regulation.~~
- 9.2 ~~Calibration : Reserved.~~
- 9.3 ~~Test Procedures: See Technical Memorandum #1~~

9.0 Enforcement and Registration Denial

- 9.1 Vehicle registration enforcement is the express responsibility of the Division with the assistance of police agencies for on road inspection and verification.
- 9.2 The Division shall provide an external, readily visible means of determining vehicle compliance with the registration requirement to facilitate enforcement of the program.
- 9.3 Owners of subject vehicles must provide valid proof of having received a passing emissions test or a waiver issued by the Director or the Director's designee in order to receive a valid vehicle registration from the Division.

4 DE Reg. 1261 (02/01/01)

12 DE Reg. 347 (09/01/08)

TECHNICAL MEMORANDUM #1
DELAWARE DIVISION OF MOTOR VEHICLES VEHICLE EXHAUST EMISSIONS TEST

1.0 Purpose:

To describe the details of the ~~DMV exhaust emissions test for HC and CO using DE '95 Inspection system composed of exhaust emissions and pressure test analyzers manufactured by Environmental Systems Products, Inc., E. Granby, CT (ESP)~~

2.0 Applicability:

Applicable to all gasoline (or alternate fueled) vehicles presented for inspection (regular renewal) in Delaware.

3.0 Associated Materials:

- 3.1 ~~ESP Lane Operator's Manual, Version #2 (1997)~~
- 3.2 ~~DMV 9701 Gas Calibration~~
- 3.3 ~~ESP DW6 HT202561 (Rev. L 06/27/95)~~
- 3.4 ~~Delaware exhaust emissions specification limits~~
- 3.5 ~~ESP BAR 90 Certification for analyzer bench~~
- 3.6 ~~ESP exhaust emissions measurement system P/N ESP 10364-2~~

4.0 Procedure: (The referenced equipment is located at Step #1 of the DMV Inspection process)

- 4.1 ~~The lane analyzer has successfully passed the calibration procedure or procedures noted in Sections 2.1-2.2 of the ESP Lane Operator's Manual and DMV9701.~~
- 4.2 ~~The Certified DMV Technician has verified that the vehicle presented is a viable candidate for an exhaust emissions analysis using DE '95 equipment.~~
- 4.3 ~~The DMV Technician verifies that the following criteria are satisfied prior to emissions analysis.~~
 - 4.3.1 ~~Analyzer is "clean"; a HC hang-up condition exists when HC reading is greater than 40 PPM and the analyzer "locks-out" until the purge indicates "clean".~~
 - 4.3.2 ~~After the Technician inserts the exhaust pipe probe insertion (see note (a)), to a minimum of 10 inches, the resultant sample dilution (CO+CO₂) must exceed 6.0%. The analyzer indicates the presence of a failure condition (CO+CO₂<6.0%) and indicates "test voided". If the (CO+CO₂) condition is not satisfied, the subject vehicle FAILS the Delaware Emissions Test.~~
 - (a) ~~Normally, the vehicle driver has been requested to "fast idle" the vehicle for 30 seconds prior to entering the inspection lane, however, the Technician does not verify this condition.~~
- 4.4 ~~When those conditions indicated in 4.3 of this memorandum are satisfied, the analyzer begins a timed emissions test. The following sequence prevails:~~
 - 4.4.1 ~~The test sequence is:~~
 - 4.4.1.1 ~~The internal timer starts; the analyzer "collects" samples for 15 seconds at a rate of two samples per second;~~
 - 4.4.1.2 ~~At the 15 second interval, the analyzer compares the accumulated data to the applicable DE emissions specification for Hydrocarbons HC and Carbon Monoxide CO;~~
 - 4.4.1.3 ~~Should the analyzer determine that the accumulated data does not exceed specifications for both components, it stops testing and indicates that the vehicle has passed emissions testing;~~
 - 4.4.1.4 ~~If the above analysis indicates that the applicable specifications limits are exceeded, sampling continues at the prescribed rate for an additional 15 seconds;~~
 - 4.4.1.5 ~~During this additional 15 second interval the analyzer continually compares the resultant data to the applicable DE specification. If, during this time, the HC & CO data are within specification,~~

sampling ceases and a PASS indication is indicated; If, at the end of a 30 second sampling, either or both the HC and CO data exceed specification, testing is terminated and a FAILURE is noted. An immediate exhaust emissions retest is provided to all vehicles failing their initial emissions test. Subsequent "retests" shall only be performed after a properly completed "DMV VEHICLE EMISSIONS REPAIR FORM" is presented.

Revised 12/29/1987

TECHNICAL MEMORANDUM #2

MOTOR VEHICLE INSPECTION AND MAINTENANCE PROGRAM EMISSION LIMIT DETERMINATION

The five vehicle age groups have different allowable emission rates in the idle mode due to the sophistication of the emission control equipment installed by the manufacturer. The only exception being the pre-1968 age group which had no pollution control apparatus, saved for a few vehicles with positive crankcase ventilation (PCV) valves. Installation of PCV valves was virtually a voluntary measure by auto manufacturers.

During the time period March 1 through June 30, 1982, data was being gathered by a mandatory emission inspection with voluntary repair, at the two vehicle safety inspection lanes in New Castle County. The Sun Model CEA-3023 Computer Emission Analyzer (hereafter called the analyzer) has the ability to store, on conventional data cassettes, all of the input required and the results of a test on every vehicle tested. This is to include date, time, vehicle age group, vehicle registration number, hydrocarbon (HC) and carbon monoxide (CO) emission limits for the particular vehicle age group and the actual HC and CO emissions from the tested vehicle. A paper printout of this information is given to the driver upon being tested. Test procedures were consistent with those described in Appendix B to Technical Memorandum #1.

During the voluntary emission program, the HC and CO emission limits programmed into the analyzer were, with one exception, the same as those used by the State of New Jersey in its I & M program. Using these limits or "cut points" for each vehicle type gave a very good frame of reference to analyze the limits applicable to Delaware.

In general, about 25% of the vehicles tested during that voluntary program failed to pass the New Jersey standards.

Emission limits for each age group and the failure rate as a percent are shown in Table 1 of this memorandum.

Table 1

Age Group	HC ⁽¹⁾
pre 1968	1400 — 18%
1968-1970	700 — 22
1971-1974	— 500 — 20%
1975-1979	— 300 — 29%
1980 +	— 100 — 15%

Notes:⁽¹⁾ Hydrocarbon (HC) emissions expressed as parts per million (ppm) of non-methane HC.

⁽²⁾ The New Jersey standards for 1980 and later models are 300 ppm of HC.

The rate of emission reduction required by the I & M program adoption must be at least 35% reduction of total HC emissions from tailpipe at the end of 1987. The 35% is defined as the difference in emissions of HC between the vehicle fleet not having I & M and that having I & M, in the urbanized portion of the ozone non-attainment area. Since the mechanics of testing only those vehicles registered to an address within the "urbanized"⁽¹⁾ area would be difficult at best, the entire county was included in the calculations for reductions.⁽²⁾ The types of vehicles to be tested for emissions were broadened to include the two classes of light duty trucks, those under 6,000 pounds G. V. W. and those in the 6,000 to 8,500 pound G.V.W. class. These two measures reduced the estimated failure rate from the 20% of the urbanized auto and station wagon fleet, which is the target rate to accomplish the 35% reduction in the emissions, down to 15%.

Attached as Appendix A to this Technical Memorandum is an April 16, 1982, letter from the I & M staff at EPA's Ann Arbor office. This letter details their evaluation of a 10% stringency factor on the three LD classes of vehicles in NCC to provide at least 35% reduction in tailpipe emissions. Following up the EPA analysis is a similar analysis for the Delaware specific data. With a 15% stringency factor the results show that a 39.7% reduction in HC will be realized when the same 1,083 factor for "entire county inspection" is applied. This is obviously a reduction in tailpipe HC emissions adequate to meet the EPA requirements.

The selection of cut points for each vehicle class was accomplished by computer storage and retrieval of the data. For each vehicle age group, the frequency of each emission reading was determined and the appropriate percentile selected as the cut point for that particular age group. For simplicity and reduced computer storage requirements each individual reading was grouped in sets of 5 ppm, in the case of HC, and in sets of 0.05%, in the case of CO.

Light duty trucks (pickups and vans) have different levels of emission controls than those of autos. Age groups of the two light duty gasoline truck classes LDGT1⁽³⁾ and LDGT2⁽⁴⁾ had to be fit into one of the auto age group levels of emission control. This determination was made by utilizing Table 7 of the January, 1981, EPA document entitled "Recommendations Regarding the Selection of Idle Emission Inspection Cutpoints for Inspection and Maintenance Programs". The final result of this exercise is shown in Table 2 of this memorandum, and this table represents the cutpoints adopted in the 1982 S.I.P. revision. Since the County of New Castle is non-attainment for ozone which is affected by HC, the rates shown for CO will be recorded, but failure of CO limits will not affect registration of the vehicle.

- (1). The urbanized area as defined by the U.S. Bureau of the Census.
- (2). This expanded the potential vehicle fleet by a factor of 1.083 which is the ratio of total NCC population to the urbanized area population.
- (3). Truck with GVW less than 6,000 pounds
- (4). Truck with GVW greater than 6,000 but less than 8,500 pounds

Table 2

LDGV	LDGT1	LDGT2	HC
pre 1968	pre 1968	pre 1970	1600 ppm
1968-1971	1968-1970	1970-1972	1100 ppm
1972-1974	1971-1974	1973-1978	800 ppm
1975-1979	1975 & later	1979 & later	600 ppm
1980 & later			235 ppm

*The emission limit of 235 ppm for 1980+ vehicles is the "warranty" emission limit of 220 ppm plus the accuracy of the testing equipment (+/- 15 ppm)

REVISION NUMBER 1 - 5/9/85

The following changes are made effective July 1, 1985, and consist of revisions to existing Table 2 of the approved 1982 Ozone SIP Revision

Table 2 (As Revised)

LDGV	LDGT	HC
1968-1970	1970-1972	1100 ppm
1971-1974	1973-1978	800 ppm
1975-1979	1979-1983	550 ppm
1980		275 ppm
1981 & later	1984 & later	220 ppm

Whenever the Department determines that the cutpoints used during 1985 or any subsequent year do not provide the minimal required hydrocarbon reduction, the following cutpoints will become effective on the first day of a new calendar year.

Table 2

LDGV	LDGT	HC
1968-1970	1970-1972	1000 ppm
1971-1974	1973-1978	700 ppm
1975-1979	1979-1983	450 ppm
1980		275 ppm
1981 & later	1984 & later	220 ppm

This determination shall be based on vehicle test data from the first 10 months of the past year. Public notice prominently placed in the Wilmington newspapers will announce details of the changes and the circumstances which caused the adjustments to be made.

REVISION NUMBER 2 - 12/29/87

The following changes are made effective January 1, 1988, and consist of revisions to existing Table 2 of the approved 1982 Ozone SIP Revision.

Table 2 (As Revised)

LDGV	LDGT	HC
1968-1970	1970-1972	900 ppm
1971-1974	1973-1978	600 ppm
1975-1979	1979-1983	400 ppm
1980		220 ppm
1981 & later	1984 & later	220 ppm

Whenever the Department determines that the cutpoints used during 1988 or any subsequent year do not provide the minimal required hydrocarbon reduction, the following cutpoints will become effective on the first day of a new calendar year.

Table 2 (As Revised)

LDGV	LDGT	HC
1968-1970	1970-1972	800 ppm
1971-1974	1973-1978	500 ppm
1975-1979	1979-1983	350 ppm
1980		220 ppm
1981 & later	1984 & later	220 ppm

This determination shall be based on vehicle test data from the first 10 months of the past year. Public notice prominently placed in the Wilmington newspapers will announce details of the changes and the circumstances which caused the adjustments to be made.

- A. The following changes are made effective January 31, 1990, and will be retained indefinitely unless circumstances occur which will be described in Part B.

TABLE 2

GROUP	AUTO/ STA. WAG.	PICKUP/VAN- UNDER 8504#	HYDROCARBON- LIMIT	CARBON- DIOXIDE LIMIT
1)	68-70	70-72	900 ppm	9.00
2)	71-74	73-78	600 ppm	6.00
3)	75-79	79-83	400 ppm	4.00
4)	80	(NONE)	220 ppm	2.00
5)	81+	84+	220 ppm	1.20

- B. Whenever the Department determines that the cutpoints proposed in Part A do not provide the minimal required hydrocarbon reduction, the following cutpoints will become effective on the first day of calendar quarter (i.e. January, April, July or October).

TABLE 2

GROUP	AUTO/ STA. WAG.	PICKUP/VAN- UNDER 8504#	HYDROCARBON- LIMIT	CARBON- MONOXIDE- LIMIT(%)
1)	68-70	70-72	800 ppm	8.00
2)	71-74	73-78	500 ppm	5.00
3)	75-79	79-83	350 ppm	3.50
4)	80	(NONE)	220 ppm	2.00
5)	81+	84+	220 ppm	1.20