REGULATION NO. 31

LOW ENHANCED INSPECTION AND MAINTENANCE PROGRAM

02/12/01

Section 1 - Applicability.

(a) This program shall be known as the "Low enhanced Inspection and Maintenance Program" or "LEIM Program", and shall be identified as such in the balance of this regulation.

(b) This regulation shall apply to New Castle and Kent Counties.

(c) This regulation shall apply to all vehicles registered in the following postal ZIP codes:

19701 19702 19703 19706 19707 19708 19709 19710 19711 19712 19713 19714 19715 19716 19717 19718 19720 19730 19731 19732 19733 19734 19735 19936 19703 19938 19800 19801 19802 19803 19804 19805 19806 19807 19808 19809 19810 19850 19890 19894 19896 19897 19898 19899 19901 19902 19903 19904 19934 19936 19938 19942 19943 19946 19952 19953 19954 19955 19961 19962 19963*19964 19977 19979 19980

* Note: If vehicles registered in Sussex County and with this ZIP code, this regulation is not applicable.

(d) The legal authority for implementation of the LEIM Program is contained in 7 Del.C.Chapter 60, §6010(a). Appendix 1 (d) contains the letter from the State of Delaware,Secretary of the Department to EPA Regional Administrator, W. Michael McCabe committing to continue the I/M program through the enforcement of this regulation out to the attainment year and remain in effect until the applicable area is redesignated to
attainment status and a Maintenance Plan is approved by the EPA. 7 Del. C. Chapter 60,§6010(a) does not have a sunset date.

(e) Requirements after attainment.

This LEIM program shall remain in effect if the area is redesignated to attainment status, until approval of a Maintenance Plan, under Section 175A of the Clean Air Act, which

demonstrates that the area can maintain the relevant standard for the maintenance period (10 years) without benefit of the emission reductions attributable to the continuation of the LEIM program.

(f) Definitions

Alternative Fuel Vehicle: Any vehicle capable of operating on one or more fuels,none of which are gasoline, and which is subject to emission testing to the same stringency as a similar gasoline fueled vehicle.

Certified Repair Technician: Automotive repair technician certified jointly by the College (or other training agencies or training companies approved by the Department) and the Department of Natural Resources and Environmental Control and the Division of Motor Vehicles as having passed a recognized course in emission repair. (See Appendix 7 (a))

Certified Manufacturer Repair Technician: Automotive repair technician certified by the Department of Natural Resources and Environmental Control and the Division of Motor Vehicles, as trained in doing emission repairs on vehicles of a specific manufacturer. (See Appendix 7 (a))

College: The Delaware Technical and Community College

Compliance Rate: The percentage of vehicles out of the total number required to be inspected in any given year that have completed the inspection process to the point of receiving a final certificate of compliance or a waiver.

Director: The Director of the Division of Motor Vehicles in the Department of Public Safety.

Division: The Division of Motor Vehicles in the Department of Public Safety of the State of Delaware.

Department: The Department of Natural Resources and Environmental Control of the State of Delaware.

Emissions: Products of combustion and fuel evaporation discharged into the atmosphere from the tailpipe, fuel system or any emission control component of a motor vehicle.

Emissions Inspection Area: The emissions inspection area shall constitute the entire counties of New Castle and Kent.

Emissions Standard(s): The maximum concentration of hydrocarbons (HC),carbon monoxide (CO) or oxides of nitrogen (NOX), or any combination thereof, allowed in the emissions from a motor vehicle as established by the Secretary, as described in this regulation.

Failed Motor Vehicle: Any motor vehicle which does not comply with applicable exhaust emission standards, evaporative system function check requirements and emission control device inspection requirements during the initial test or any retest.

Flexible Fuel Vehicle: Any vehicle 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.

Going Concern: An individual or business with a primary, full time interest in the repair of motor vehicles.

GPM: Grams per mile (grams of emissions per mile of travel).

Manufacturer's Gross Vehicle Weight: The vehicle gross weight as designated by the manufacturer as the total weight of the vehicle and its maximum allowable load.

Model Year: 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: Includes every vehicle, as defined in 21 Del. Code, Section 101, which is self-propelled, except farm tractors, off-highway vehicles,motorcycles and mopeds.

Motor Vehicle Technician: A person who has completed an approved emissions inspection equipment training program and is employed or under contract with the State of Delaware.

New Model Year Exemption: An exemption of a designated new model year of an applicable vehicle from any or all of the requirements in this regulation. The exemption shall begin on the first day of October of the calendar year, which will be the anniversary date for calculating the applicability of a vehicle for a new model year exemption. For example, a 1997 model year vehicle titled in Delaware in August of 1996 will have an anniversary date of October 1, 1996 and thus does not lose its five model year exemption status until October 1, 2001.

New Motor Vehicle: 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, unregistered vehicle title.

Official Inspection Station: All official Motor Vehicle Inspection Stations located in New Castle and Kent counties, operated by, or under the auspices of, the Division.

Operator: An employee or contractor of the State of Delaware performing any function related to motor vehicle inspections in the State.

Performance Standard: The complete matrix of emission factors derived from the analysis of the model program as defined in 40 CFR Part 51 Subpart S, by using EPA's computerized Mobile5a emission factor model. This matrix of emission factors is dependent upon various speeds, pollutants and evaluation years.

PFI: The Plan for Implementation of Regulation No. 31, which can be also considered to be the technical support document for that regulation.

Reasonable Cost: 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 towards compliance. It shall not include the cost of those repairs determined by the Division to be necessary due to the 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.

Registration Fraud: Any attempt by a vehicle owner or operator to circumvent the requirements to properly and legally register any motor vehicle in the State of Delaware.

Secretary: The Secretary of the Department of Natural Resources and Environmental Control.

Stringency Rate: The tailpipe emission test failure rate expected in an I/M program among pre-1981 model year passenger cars or pre-1984 light-duty trucks.

Vehicle Type: EPA classification of motor vehicles by weight class which includes the terms light duty and heavy duty vehicle.

Waiver: An exemption issued to a motor vehicle that cannot comply with the applicable exhaust emissions standard and cannot be repaired for areasonable cost.

Waiver Rate: The number of vehicles receiving waivers expressed as a percentage of vehicles failing the initial exhaust emission test.

(08/13/98)
Section 2 -Low Enhanced I/M Performance Standard.

(a) Onroad testing:

The performance standard shall include onroad testing of at least 0.5% of the subject vehicle population, or 20,000 vehicles whichever is less, as a supplement to the periodic inspection required in paragraph (a) of Section 3. The requirements are contained in Section 12 of this regulation.

(b) Onboard diagnostics (OBD):

[Reserved]

(06/11/99)
Section 3 - Network Type And Program Evaluation.

(a) The LEIM Program shall be a test-only, centralized system operated in New Castle and Kent Counties by the State of Delaware's Division of Motor Vehicles.

(1) Network type:

Centralized testing.

(2) Start date:

January 1, 1995

(3) Test frequency:

Biennial testing.

(4) Model year coverage:

Idle and two-speed idle test of all covered vehicles: Model years 1968 and newer for light

duty vehicles and model years 1970 and newer for light duty trucks with the exception of the five most recent model years.

(5) Vehicle type coverage:

Light duty vehicles, and light duty trucks, rated up to 8,500 pounds Gross Vehicle Weight Rating (GVWR).

(6) Exhaust emission test type:

(i) Idle test of all covered vehicles: Model years 1968 through 1980 for light duty vehicles and model years 1970 through 1980 for light duty trucks according to the requirements found in Appendix 6 (a).
(ii) Two-speed idle test (vehicle engine at idle and 2500 revolutions per minute (rpm) of all covered vehicles model years 1981 and newer according to the requirements found in Appendix 6 (a).

(7) Emission standards:

(Emissions limits according to model year may be found in Appendix 3 (a) (7))

Maximum exhaust dilution measured at no less than 6% CO plus carbon dioxide (CO2) on all tested vehicles (as described in Appendix B of the EPA Rule).

(8) Emission control device inspections:

Visual inspection of the catalyst on all 1975 and later model year vehicles with the exception of new motor vehicles registered in Delaware.

(9) Evaporative system function checks:

Evaporative system integrity (pressure) test on 1975 and later model year vehicles with the exception of the five most recent model years.

(10) Stringency:

A 20% emission test failure rate among pre1981 model year vehicles.

(11) Waiver rate:

A 3% rate, as a percentage of failed vehicles.

(12) Compliance rate:

A 96% compliance rate.

(13) Evaluation date:

Low enhanced I/M program areas subject to the provisions of this paragraph shall be shown to obtain the same or lower emission levels as the model program described in this paragraph by 2000 for ozone nonattainment areas and 2001 for CO nonattainment areas, and for severe and extreme ozone nonattainment areas, on each applicable milestone and attainment deadline, thereafter. Milestones for NOX shall be the same as for ozone..

(b) Onboard diagnostics (OBD):

[Reserved]

(c) Program Evaluation

(1) Program evaluation shall be used in determining actual emission reductions achieved from the LEIM program for the purposes of satisfying the requirements of sections 182(g)(1) and 182(g)(2) of the Clean Air Act, relating to reductions in emissions and compliance demonstration.

(2) Transient mass emission test procedure: A randomly selected number of subject vehicles that are due to be tested according to the requirements of this regulation will be required to undergo, in addition to the required tests, an alternative test procedure to provide information for the purpose of evaluating the overall effectiveness of the Low Enhanced Inspection and Maintenance Program. The test is referred to as the VMASTM method. See Appendix 3 (c) (2).

06/11/99

Section 4 - Test Frequency And Convenience.

(a) The LEIM Program shall be operated on a biennial frequency, which requires an

inspection of each subject vehicle at least once every two years, regardless of any change in vehicle status, at an official inspection station. New vehicles must be presented for LEIM program testing not more than 60 months after initial titling.

(b) This system of inspections and registration renewals allows the additional benefit of coupling both enforcement systems together. Local, County and State police shall continue to enforce registration requirements, which shall require inspection in order to come into compliance . Requirements of inspection of motor vehicles before receiving a vehicle registration is found in the Delaware Criminal and Traffic manual Title 21 Chapter 21. Violations of registration provisions and the resulting penalties are found in the Delaware Criminal and Traffic Law Manual, Title 21, Chapter 21. One 60 day extension shall be available to allow testing and repair.(See Appendix 4 (a) for the citations)

(c) Stations shall be open to the public at hours designed for maximum public convenience. These hours shall equal a minimum of 42 hours per week. Stations shall remain open continuously through the designated hours, and every vehicle presented for inspection during these hours shall receive a test prior to the daily closing of the station. Testing hours shall be Monday and Tuesday: 8:00 am to 4:30 pm, Wednesday: 12 noon to 8 pm Thursday and Friday 8:00 am to 4:30 pm. These hours may be subject to change by the State. Official inspection stations shall adhere to regular, extended testing hours and shall test any subject vehicle presented for a test during its test period.

02/10/01

Section 5 - Vehicle Coverage.

(a) Subject Vehicles

The LEIM program is based on coverage of all 1968 and later model year, gasoline powered, light duty vehicles and 1970 and later model year light duty trucks up to 8,500 pounds GVWR (with the exception of the five most recent model years*)*. The following is the complete description of the LEIM program:

Vehicles registered or required to be registered within the emission inspection area, and fleets primarily operated within the emissions inspection area boundaries and belonging to the covered model years and vehicle classes comprise the subject vehicles, which are as follows: (See Appendix 5 (a) for DMV Out of State Renewals)

(1) All vehicles titled/registered in Delaware from model year 1968 light duty vehicles and 1970 and later model year light duty trucks and whose vehicle type are subject to the applicable test schedule.

(2) All subject fleet vehicles shall be inspected at an official inspection station.

(3) Subject vehicles which are registered in the program area but are primarily operated in another LEIM 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).

(4) Vehicles which are operated on Federal installations located within an emission inspection shall be tested, regardless of whether the vehicles are registered in the emission inspection jurisdiction. This requirement applies to all employeeowned or leased vehicles (including vehicles owned, leased, or operated by civilian and military personnel on Federal installations) as well as agencyowned or operated vehicles, except tactical military vehicles, operated on the installation. 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. In areas without test fees collected in the lane, arrangements shall be made by the installation with the LEIM 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:

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

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

(iii) Another method approved by the Director.

(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) Vehicles able to be powered by more than one fuel, such as compressed natural gas and/or gasoline, must be tested and pass emissions standards for all fuels when such standards have become adopted by the Department..

(b) Exemptions

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

(1) Vehicles manufactured and registered as Kit Cars

(2) Tactical military vehicles used exclusively for military field operations.

(3) All motor vehicles with a manufacturer's gross vehicle weight over 8,500 pounds.

(4) All motorcycles and mopeds

(5) All vehicles powered solely by electricity generated from solar cells and/or stored in batteries.

(6) Non-road sources, or vehicles not operated on public roads

(7) Vehicles powered solely by Diesel fuel

(c) Any exemption from inspection requirements issued to a vehicle under this Section shall not have an expiration date and shall expire only upon a change in the vehicle status for which the exemption was initially granted.

(d) Fleet owners are required to have all non-exempted vehicles under their control inspected at an official inspection station during regular station hours.

(e) 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.

(f) New Model Year Clean Screen: Clean Screening exemptions will be determined for model years of vehicles six to eight years old that may be exempt from the two speed idle exhaust emissions test and the evaporative emissions test (except for a fuel cap pressure test) if warranted by queue conditions at the inspection lanes. Each Delaware inspection lane shall independently control clean screen activation. Clean screen mode shall occur when the inspection lane queue exceeds 60 minutes. The Lane Manager (or designee) must advise inspection personnel to activate the process. Once a queue reduction to less than 60 minutes takes place, reversion to the normal testing protocol shall occur. Wait times will be determined by queue lengths that surpass lane markers that indicate expected wait time of 60 minutes or more. The Lane Manager (or designee) is responsible for advising inspection personnel to activate the clean screening exemption process. Once a reduction in queue length to that representing a motorist wait time of less than 60 minutes takes place, reversion to the normal testing protocol shall occur.Each Delaware inspection lane shall independently control clean screen activation. The Division of Motor Vehicles will cap, on an annual basis, the number of vehicles which may be exempted through clean screening by model year in order to prevent failure to meet expected emission reductions. The first year of implementation will have an annual cap of 14,000 vehicles. If the specified number of vehicles clean screened for an individual model year equals the annual cap of emissions for that individual model year, no more vehicles for that model year will be exempt. The maximum allowable number of vehicles to be clean screened will be re-evaluated annually.

06/11/99

Section 6 -Test Procedures And Standards.

(a) Test procedure requirements. (The test procedure use to perform this test shall conform to the requirements shown in Appendix 6 (a)).

(1) Initial tests (i.e., those occurring for the first time in a test cycle) shall be performed without repair or adjustment at the inspection facility, prior to the test.

(2) An official test, once initiated, shall be performed in its entirety regardless of intermediate outcomes except in the case of invalid test condition or unsafe conditions.
(3) Tests involving measurements shall be performed with equipment that has been calibrated according to the quality control procedures established by the Department

(4) Vehicles shall be rejected from testing, as covered in this section, if the exhaust system is missing or leaking, or if the vehicle is in an unsafe condition for testing.

(5) After an initial failure of any portion of any emission test in the LEIM program, all vehicles shall be retested without repairs being performed. This retest shall be indicated on the records as the second chance test. After failure of the second chance test, prior to any subsequent retests, 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" (Appendix 6(a)(5) which will be distributed to anyone failing the emissions test.)

(6) Idle testing using BAR 90 emission analyzers (analyzers that have been certified by the California Bureau of Automotive Repair) shall be performed on all 1968 through current (minus five years) model year vehicles in New Castle and Kent Counties.

(7) Emission control device inspection.

Visual emission control device checks 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.

(8) Evaporative System Integrity Test. Vehicles shall fail the evaporative system integrity test(s) if the system(s) cannot maintain the equivalent pressure of eight inches of water using USEPA approved fast pass methodology. Additionally, vehicles shall fail evaporative system integrity testing if the canister is missing or obviously disconnected, the hoses are crimped off, or the fuel cap is missing. Evaporative system integrity test procedure is found in See Appendix 6 (a) (8) .

(9) Onboard diagnostic checks.

[Reserved]

(b) Test standards

(1) Emissions standards.

HC, CO, CO+CO2 (or CO2 alone), emission standards shall be applicable to all vehicles subject to the LEIM program and repairs shall be required for failure of any standard regardless of the attainment status of the area.

(i) Steadystate short tests.

Appropriate model program standards shall be used in idle testing of vehicles from model years 1968 light duty vehicles and model years 1970
light duty trucks and newer.

(2) Visual equipment inspection standards performed by the Motor Vehicle Technician.

(i) Vehicles shall fail visual inspections 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.

(3) Onboard diagnostics test standards.

[Reserved].

(c) Applicability.

In general, section 203(a)(3)(A) of the Clean Air Act prohibits altering a vehicle's configuration such that it changes from a certified to a noncertified configuration. In the inspection process, vehicles that have been altered from their original certified configuration are to be tested by the Motor Vehicle Technician in the same manner as other subject vehicles.

(1) 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.

(2) Vehicles that have been switched from an engine of one fuel type to another fuel type that is subject to the LEIM program (e.g., from a diesel engine to a gasoline engine) shall be subject to the test procedures and standards for the current fuel type, and to the requirements of paragraph (c)(1) of this section.

(3) 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.

(4) 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.

(5) Mixing vehicle classes (e.g., lightduty with heavyduty) and certification types (e.g., California with Federal) within a single vehicle configuration shall be considered tampering.

08/13/98

Section 7 - Waivers And Compliance Via Diagnostic Inspection.

(a) Waiver issuance criteria.

(1) Motorists shall expend a reasonable cost, as defined in Section 1 of this Regulation in order to qualify for a waiver. Effective January 1, 1997 for vehicles registered in New Castle County and July 1, 1997 for vehicles registered in Kent County, in order to qualify for waiver repairs on any 1981 or later model year vehicle shall be performed by a certified repair technician or a certified manufacturer repair technician, as defined in Section 1 of this regulation, and must have been appropriate to correct the emission failure. Repairs of primary emission control components may be performed by nontechnicians (e.g., owners) to apply toward the waiver limit. The waiver would apply to the cost of parts for the repair or replacement of the following list of emission control component systems: Air induction system (air filter, oxygen sensor), catalytic converter system (convertor, preheat catalyst), thermal reactor, EGR system (valve, passage/hose, sensor) PCV System, air injection system (air pump, check valve), ignition system (distributor, ignition wires, coil, spark plugs). 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.

(2) Any available warranty coverage shall be used to obtain needed repairs before expenditures can be counted towards the cost limits in paragraph (a)(4) of this section. 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.

(3) Receipts shall be submitted for review to further verify that qualifying repairs were performed.

(4) A minimum expenditure for repairs of $75 for pre81 model year vehicles or a minimum expenditure of $200 for 1981 model year and newer vehicles shall be spent in order to qualify for a waiver. The minimum repair cost for 1981 and newer vehicles shall increase to $450 starting January 1, 2000. 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.

(5) The issuance of a waiver applies only to those vehicles failing an exhaust emission tests. No waivers are granted to vehicles failing the evaporative emission integrity test.

(6) Waivers shall be issued by the Division Director only after:

(i) a vehicle has failed a retest for only the exhaust emissions portions of the program, performed after all qualifying repairs have been completed;

(ii) and a minimum of 10% improvement (reduction) in hydrocarbons (HC) and carbon monoxide (CO) has resulted from those repairs. This requirement [Section 7 (a) (6) (ii)] will cease to be in effect starting January 1, 2000.

(7) Qualifying repairs include repairs of primary emission control components performed within 90 days of the test date.

(8) Waivers issued pursuant to this regulation are valid until the date of current registration expiration.

(9) Waivers will not be issued to vehicles for tampering related repairs. The cost of tamperingrelated repairs shall not be applicable to the minimum expenditure in paragraph (a)(4) of this section. The Director will 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

(b) Compliance via diagnostic inspection.

Vehicles subject to an emission test at the cutpoints shown in Appendix 3 (a)(7) of Regulation 31 may be issued a certificate of compliance without meeting the prescribed emission cutpoints, if, after failing a retest on emissions, a complete, documented physical and functional diagnosis and inspection performed by a Delaware Certified Emission Repair Technician shows that no

additional emissionrelated repairs are needed.

(c) (1)In order to meet the requirements of the EPA Rule, the State commits to maintaining a waiver rate equal to or less than 3% of the failed vehicles.

(2) The Secretary shall take corrective action to lower the waiver rate should the actual rate reported to EPA be above 3%.

(3) Actions to achieve the 3% waiver rate, if required, shall include measures such as not issuing waivers on vehicles less than 6 years old, raising minimum expenditure rates, and limiting waivers to once every four years. If the waiver rate cannot be lowered to levels committed to in the SIP, or if the State chooses not to implement measures to do so, then the Secretary shall revise the I/M emission reduction projections in the SIP and shall implement other LEIM program changes needed to ensure the performance standard is met.

08/13/98

Section 8 - Motorist Compliance Enforcement.

(a) Registration denial.

Registration denial enforcement (See Appendix 8 (a), the Systems Requirement Definition for the Registration Denial process) is defined as rejecting an application for initial registration 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 LEIM program requirement prior to granting the application. This enforcement is the express responsibility of the Division with the assistance of police agencies for on road inspection and verification. The law governing the registration of motor vehicles is found in the Delaware Criminal and Traffic Law Manual, Title 21, Chapter 21. Pursuant to section 207(g)(3) of the Act, nothing in this section shall be construed to require that new vehicles shall receive emission testing prior to initial retail sale. In designing its enforcement program, the Director shall:

(1) Provide an external, readily visible means of determining vehicle compliance with the registration requirement to facilitate enforcement of the LEIM program. This shall be in the form of a window sticker and tag sticker which clearly indicate the vehicles compliance status and next inspection date;

(2) Adopt a schedule of biennial testing that clearly determines when a vehicle shall have to be inspected to comply prior to (re)registration;

(3) Design a registration denial system which features the electronic transfer of information from the inspection lanes to the Division's Data Base, and monitors the following information:

(i) Expiration date of the registration;

(ii) Unambiguous vehicle identification information; and

(iii) Whether the vehicle received either a waiver or a certificate of compliance, and;

(iv) The Division's unique windshield certificate identification number to verify authenticity; and (v) The Division shall finally check the inspection data base to ensure all program requirements have been met before issuing a vehicle registration.

(4) Ensure that evidence of testing is available and checked for validity at the time of a new registration of a used vehicle or registration renewal.

(5) Prevent owners or lessors from avoiding testing through manipulation of the title or registration system; title transfers do not restart the clock on the inspection cycle.

(6) Limit and track the use of time extensions of the registration requirement to only one 60 day extension per vehicle to prevent repeated extensions.

(b) (1) (i) Owners of subject vehicles must provide valid proof of having received a passing test or a waiver to the Director’s representative in order to receive registration from the Division.

(ii) State and local enforcement branches, such as police agencies, as part of this program, shall cite motorist who do not visibly display evidence of compliance with the registration and inspection requirements.

(iii) Fleet and all other registered applicable vehicle compliance shall be assured through the regular enforcement mechanisms concurrent with registration renewal, on-road testing and parking lot observation. Fleets shall be inspected at official inspection

stations.

(iv) Federal fleet compliance shall be assured through the cooperation of the federal fleet managers as well as also being subject to regular enforcement operations of the Division.

08/13/98

Section 9 - Enforcement Against Operators And Motor Vehicle Technicians.

(a) Imposition of penalties

The State of Delaware shall continue to operate the LEIM program using State of Delaware Employees for all functions. Should enforcement actions be required for violations of program requirements, the Agreement between State of Delaware Department of Public Safety Motor Vehicle Division and Council 81 of the American Federation of State, County and Municipal Employees, Section 8, Disciplinary Action, and, the State of Delaware Merit Rules, shall be adhered to in all matters. Applicable provisions of these documents are found in Appendix 9 (a).

(b) Legal authority.

(1) The Director shall have the authority to temporarily suspend station Motor Vehicle Technicians' certificates immediately upon finding a violation or upon finding the Motor Vehicle Technician administered emission tests with equipment which had a known failure and that directly affects emission reduction benefits, in accordance with the Agreement between State of Delaware Department of Public Safety Motor Vehicle Division and Council 81 of the American Federation of State, County and Municipal Employees, Section 8 Disciplinary Action.

(2) The Director shall have the authority to impose disciplinary action against the station manager or the Motor Vehicle Technician, even if the manager had no direct knowledge of the violation but was found to be careless in oversight of motor vehicle technicians or has a history of violations, in accordance with the Agreement between State of Delaware Department of Public Safety Motor Vehicle Division and Council 81 of the American Federation of State, County and Municipal Employees, and the State of Delaware Merit Rules. The lane manager shall be held fully responsible for performance of the motor vehicle technician in the course of duty.

08/13/98

Section 10 - Improving Repair Effectiveness.

A prerequisite for a retest shall be a completed repair form that indicates which repairs were performed. (See Section 6 (a) (5) of this Regulation).

08/13/98
Section 11 - Compliance With Recall Notices.

[Reserved]

08/13/98
Section 12 - OnRoad Testing.

(a) Periodic random Delaware registered vehicle pullovers on Delaware highways will occur without prior notice to the public for on-road vehicle exhaust emission testing.

(b) Vehicles identified by the on-road testing portion of the LEIM program shall 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. 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 will take action to suspend the vehicle registration.

02/10/01
Section 13 - Implementation Deadlines.
All requirements related to the LEIM program shall be effective ten days after the Secretary's order has been signed and published in the State Register except for the following provisions that have been amended to this regulation:

	Date of Implementation
(a) Five year new model year exemption from the idle and two speed idle tests	September 1, 1999
(b) Two-speed idle test (vehicle at idle and 2500 rpm) of all covered vehicles model years 1981 and newer	November 1, 1999
(c) Program Evaluation using VMASTM test procedure.	January 1, 2000

APPENDIX 1 (d)

Commitment to Extend the I/M Program to the Attainment Date
Letter from Secretary Tulou to EPA Regional Administrator,
W. Michael McCabe

June 1, 1998

Mr. W. Michael McCabe
Regional Administrator
EPA, Region III
841 Chestnut Building
Philadelphia, PA 19107

Dear Mr. McCabe:

This correspondence is to address one of the cited deficiencies published in the May 19,1997 EPA rulemaking, concerning Delaware's Inspection and Maintenance regulation. I understand that this letter will address the following deficiency:

> Provide a statement from an authorized official that the authority to implement Delaware's I/M program as stated above will continue through the attainment date . . .

The Delaware I/M regulation has no sunset provision and there is nothing in the Delaware statute that requires our regulations to have a sunset date nor to be reauthorized in order to continue beyond a sunset date.
We fully expect, barring the repeal of 7 Del. Chapter 67, the Delaware I/M regulation will be implemented to the full extent of the law through the attainment date and most likely through the maintenance period when that occurs.

Please feel free to contact Darryl Tyler, Program Administrator of the Air Quality Management Section at (302) 739-4791, if you should have any questions.

Sincerely,

Christophe A. G. Tulou
Secretary

cc: Jeffrey W. Bullock, Governor's Chief of Staff
J. Jonathan Jones, Governor's Policy Assistant for Federal Affairs
Secretary Karen L. Johnson, Delaware Department of Public Safety
Secretary Anne P. Canby, Delaware Department of Transportation

APPENDIX 3 - (a)(7)

EXHAUST EMISSION LIMITS ACCORDING TO MODEL YEAR

Group	Auto/Station Wagons (passenger vehicles)	Pickup/Van under 8501#	HC Limit (ppm)	CO Limit %
1	1968-70	1970-72	900	9.00
2	1971-74	1973-78	600	6.00
3	1975-79	1979-8	400	4.00
4	1980	(none)	220	2.00
5	1981 +	1984 +	220	1.20

APPENDIX 3 (c) (2)
VMASTM TEST PROCEDURES

General Requirements

(1) Test Parameters. The following information shall be determined for the vehicle being tested and used to automatically select the dynamometer inertia, power absorption settings, and evaporative emission test parameters.

(i) Model Year
(ii) Manufacturer
(iii) Model name
(iv) Body style
(v) Number of cylinders
(vi) Engine displacement

Alternative computerized methods of selecting dynamometer test conditions, such as VIN decoding, may be used.

(2) Ambient Conditions. The ambient temperature, absolute humidity, and barometric pressure shall be recorded continuously during the transient test, or as a single set of readings if taken less than 4 minutes prior to the transient driving cycle.

(3) Restart. If shut off, the vehicle shall be restarted as soon as possible before the test and shall be running at least 30 seconds prior to the transient driving cycle.

(4) During the entire VMASTM testing procedure the vehicle shall be operated by a certified Motor Vehicle Technician (herein called inspector) and the vehicle owner or operator shall be asked to wait in a specified area during the test.

Pre-inspection and Preparation

(1) Accessories. All accessories (air conditioning, heat, defogger, radio, automatic traction control if switchable, etc.) shall be turned off by the inspector, if necessary.

(2) Traction Control and Four-Wheel Drive (4WD). Vehicles with traction control systems that cannot be turned off shall not be tested on two wheel drive dynamometers. Vehicles with 4WD that cannot be turned off shall only be tested on 4WD dynamometers. If the 4WD function can be disabled, then 4WD vehicles may be tested on two wheel drive dynamometers.

(3) Leaks. The vehicle shall be inspected for exhaust leaks. Audio assessment while blocking exhaust flow, or measurement of carbon dioxide or other gases, shall be acceptable.

Vehicles with leaking exhaust systems shall be rejected from testing.

(4) Operating Temperature. The vehicle temperature gauge, if equipped and operating, shall be checked to assess temperature. If the temperature gauge indicates that the engine is well below (less than 180(F) normal operating temperature, the vehicle shall not be fast-failed and shall get a second-chance emission test if it fails the initial test for any criteria exhaust component. Vehicles in overheated condition shall be rejected from testing.

(5) Tire Condition. Vehicles shall be rejected from testing if tire cords, bubbles, cuts, or other damage are visible. Vehicles shall be rejected that have space-saver spare tires on the drive axle. Vehicles may be rejected if they do not have reasonably sized tires. Vehicle tires shall be visually checked for adequate pressure level. Drive wheel tires that appear low shall be inflated to approximately 30 psi, or to tire side wall pressure, or manufacturer's recommendation. The tires of vehicles being tested for the purposes of program evaluation under the Code of Federal Regulations Title 40 §51.353(c) shall have their tires inflated to tire side wall pressure.

(6) Ambient Background. [RESERVED]

(7) Sample System Purge. [RESERVED]

Equipment Positioning and Settings

(1) Purge Equipment. If an evaporative system flow meter purge test is to be performed:

(i) The purge flow meter shall be connected in series between the evaporative canister and the engine.

(ii) All hoses disconnected for the test shall be reconnected after a purge flow test is performed.

(1) Roll Rotation. The vehicle shall be maneuvered onto the dynamometer with the drive wheels positioned on the dynamometer rolls. Prior to test initiation, the rolls shall be rotated until the vehicle laterally stabilizes on the dynamometer. Drive wheel tires shall be dried if necessary to prevent slippage during the initial acceleration.

(2) Cooling System. The use of a cooling system is optional when testing at temperatures below 50(F). Furthermore, the hood may be opened at the state's discretion. If a cooling system is in use, testing shall not begin until the cooling system is positioned and activated. The cooling system shall be positioned to direct air to the vehicle cooling system, but shall not be directed at the catalytic converter.

(3) Vehicle Restraint. Testing shall not begin until the vehicle is restrained. Any restraint system shall meet the requirements of the Code of Federal Regulations Title 40, §85.2226(a)(5)(vii).

The parking brake shall be set for front wheel drive vehicles prior to the start of the test. The parking brake need not be set for vehicles that release the parking brake automatically when the transmission is put in gear.

(4) Dynamometer Settings. Dynamometer power absorption and inertia weight settings shall be automatically chosen from an EPA-supplied electronic look-up table which will be referenced based upon the vehicle identification information obtained in Code of Federal Regulations Title 40, §85.2221(a)(1). Vehicles not listed shall be tested using default power absorption and inertia settings in the latest version of the EPA I/M Look-up Table, as posted on EPA's web site: www.epa.gov/orcdizux/im.htm

(6) Exhaust Collection System. The exhaust collection system shall be positioned to insure complete capture of the entire exhaust stream from the tailpipe during the transient driving cycle. The system shall meet the requirements of §85.2226(b)(2) in the Code of Federal Regulations Title 40,.

Vehicle Conditioning

(1) Queuing Time. Not applicable

(2) Program Evaluation. Vehicles being tested for the purpose of program evaluation under Section 3 (c) (2) shall receive two full VMAS emission tests (i.e., a full 240 seconds each). Results from both tests and the test order shall be separately recorded in the test record. Emission scores and results provided to the motorist may be from either test.

(3) Discretionary Preconditioning.

(i) Any vehicle may be preconditioned by maneuvering the vehicle on to the dynamometer and driving the 94 to 239 second segment of the transient cycle in §85.2221(e)(1) Code of Federal Regulations Title 40,. This method has been demonstrated to adequately precondition the vast majority of vehicles (SAE 962091). Other preconditioning cycles may be developed and used if approved by the Administrator of the USEPA.

(4) Second-Chance Purge Testing**.** Not applicable

Vehicle Emission Test Sequence

(2) Transient Driving Cycle. The vehicle shall be driven over the following cycle:

Table A

Time	Spee	Time	Speed	Time	Speed	Time	Speed	Time	Speed	Time	Speed
(sec)	(mph)	(sec)	(mph)	(sec)	(mph)	(sec)	(mph)	(sec)	(mph)	(sec)	(mph)
0	0.0	40	17.7	80	32.2	120	18.1	160	33.5	200	56.7
1	0.0	41	19.8	81	32.4	121	18.6	161	36.2	201	56.7
2	0.0	42	21.6	82	32.2	122	20.0	162	37.3	202	56.3
3	0.0	43	23.2	83	31.7	123	20.7	163	39.3	203	56.0
4	0.0	44	24.2	84	28.6	124	21.7	164	40.5	204	55.0
5	3.0	45	24.6	85	25.1	125	22.4	165	42.1	205	53.4
6	5.9	46	24.9	86	21.6	126	22.5	166	43.5	206	51.6
7	8.6	47	25.0	87	18.1	127	22.1	167	45.1	207	51.8
8	11.5	48	25.7	88	14.6	128	21.5	168	46.0	208	52.1
9	14.3	49	26.1	89	11.1	129	20.9	169	46.8	209	52.5
10	16.9	50	26.7	90	7.6	130	20.4	170	47.5	210	53.0
11	17.3	51	27.5	91	4.1	131	19.8	171	47.5	211	53.5
12	18.1	52	28.6	92	0.6	132	17.0	172	47.3	212	54.0
13	20.7	53	29.3	93	0.0	133	17.1	173	47.2	213	54.9
14	21.7	54	29.8	94	0.0	134	15.8	174	47.2	214	55.4
15	22.4	55	30.1	95	0.0	135	15.8	175	47.4	215	55.6
16	22.5	56	30.4	96	0.0	136	17.7	176	47.9	216	56.0
17	22.1	57	30.7	97	0.0	137	19.8	177	48.5	217	56.0
18	21.5	58	30.7	98	3.3	138	21.6	178	49.1	218	55.8
19	20.9	59	30.5	99	6.6	139	22.2	179	49.5	219	55.2
20	20.4	60	30.4	100	9.9	140	24.5	180	50.0	220	54.5
21	19.8	61	30.3	101	13.2	141	24.7	181	50.6	221	53.6
22	17.0	62	30.4	102	16.5	142	24.8	182	51.0	222	52.5
23	14.9	63	30.8	103	19.8	143	24.7	183	51.5	223	51.5
24	14.9	64	30.4	104	22.2	144	24.6	184	52.2	224	50.5
25	15.2	65	29.9	105	24.3	145	24.6	185	53.2	225	48.0
26	15.5	66	29.5	106	25.8	146	25.1	186	54.1	226	44.5
27	16.0	67	29.8	107	26.4	147	25.6	187	54.6	227	41.0
28	17.1	68	30.3	108	25.7	148	25.7	188	54.9	228	37.5
29	19.1	69	30.7	109	25.1	149	25.4	189	55.0	229	34.0
30	21.1	70	30.9	110	24.7	150	24.9	190	54.9	230	30.5
31	22.7	71	31.0	111	25.2	151	25.0	191	54.6	231	27.0
32	22.9	72	30.9	112	25.4	152	25.4	192	54.6	232	23.5
33	22.7	73	30.4	113	27.2	153	26.0	193	54.8	233	20.0
34	22.6	74	29.8	114	26.5	154	26.0	194	55.1	234	16.5
35	21.3	75	29.9	115	24.0	155	25.7	195	55.5	235	13.0
36	19.0	76	30.2	116	22.7	156	26.1	196	55.7	236	9.5
	17.1	77	30.7	117	19.4	157	26.7	197	56.1	237	6.0
38	15.8	78	31.2	118	17.7	158	27.3	198	56.3	238	2.5
39	15.8	79	31.8	119	17.2	159	30.5	199	56.6	239	0.0

(sec)	(mph	(sec)	(mph)	(sec)	(mph)	(sec)	(mph)	(sec)	(mph)	(sec)	(mph)

(3) Driving Trace. The inspector shall follow an electronic, visual depiction of the time/speed relationship of the transient driving cycle (hereinafter, the trace). The visual depiction of the trace shall be of sufficient magnification and adequate detail to allow accurate tracking by the inspector/driver and shall permit anticipation of upcoming speed changes. The trace shall also clearly indicate gear shifts as specified in paragraph (3) and Table B below.

(4) Shift Schedule. To identify gear changes for manual shift vehicles, the driving display presented to the inspector/driver shall be designed according to the following shift schedule and prominently display visual cues where the inspector/driver is required to change gears:

Table B

Shift Sequence (gear)	Speed (Miles per hour)	Approximate Cycle Time (seconds)
1 - 2	15	9.3
2 - 3	25	47.0
De-clutch	15	87.9
1 - 2	15	101.6
2 - 3	25	105.5
3 - 2	17.2	119.0
2 - 3	25	145.8
3 - 4	40	163.6
4 - 5	45	167.0
5 - 6	50	180.0
De-clutch	15	234.5

Gear shifts shall occur at the points in the driving cycle where the specified speeds are obtained. For vehicles with fewer than six forward gears the same schedule shall be followed with shifts above the highest gear disregarded.

Automatic shift vehicles with overdrive or fuel economy drive modes shall be driven in those modes.

(4) Speed Excursion Limits. Speed excursion limits shall apply as follows:

(i) The upper limit is 2 mph higher than the highest point on the trace within 1 second of the given time.

(ii) The lower limit is 2 mph lower than the lowest point on the trace within 1 second of the given time.

(iii) Vehicle speed excursions beyond tolerance limits given in items a. and b. above are acceptable provided that each such excursion is not more than 2 seconds in duration.

(iv) Speeds lower than those prescribed during accelerations are acceptable provided the vehicle is operated at maximum available power during such accelerations until the vehicle speed is within the excursion limits.

(v) [Reserved : Criteria that shall allow limited excursions of speed higher than the prescribed upper limit in paragraphs (i) through (iii)]

(vi) A transient emissions test shall be void and the vehicle retested if the speed excursion limits prescribed by paragraphs (i) through (iii) are exceeded, except in the event that computer algorithms, developed by the Department, determine that the conditions of paragraphs (v) and (vi) are applicable. Tests may be aborted if the speed excursion limits are exceeded.

APPENDIX 4 (a)
SECTIONS FROM DELAWARECRIMINAL AND TRAFFIC LAW MANUAL

PENALTIES FOR NON-COMPLIANCE OF VEHICLE REGISTRATION
21 Del. C. 21, §§ 2115, 2116

§ 2115

"No person shall:

(l) Operate or, being the owner of any motor vehicle, trailer or semitrailer, knowingly permit the operation upon a highway of any motor vehicle, trailer or semitrailer which is not registered or which does not have attached thereto and displayed thereon the number plate or plates assigned thereto by the Department and unexpired registration plate or plates, subject to the exemptions allowed in this title, or under temporary or limited
permits as otherwise provided by this title;

(2) Display or cause or permit to be displayed or have in possession any registration card, number plate or registration plate, knowing the same to be fictitious or to have been canceled, revoked, suspended or altered;

(3) Lend to, or knowingly permit the use by, one not entitled thereto any registration card, number plate or registration plate issued to the person so lending or permitting the use thereof;

(4) Fail or refuse to surrender to the Department upon demand any registration card, number plate or registration plate which has been suspended, canceled or revoked as provided in this title;

(5) Use a false or fictitious name or address in any application for the registration or inspection of any vehicle, or for any renewal or duplicate thereof, or for any certificate or transfer of title, or knowingly make a false statement, knowingly conceal a material fact or otherwise commit a fraud in any such application;

(6) Drive or move or, being the owner, cause or knowingly permit to be driven or moved, on any highway any vehicle or combination of vehicles which is in such unsafe condition as to endanger any person or which is equipped in any manner in violation of this title, but the provisions of this title with respect to equipment on vehicles shall not apply to implements of husbandry, road machinery, road rollers or farm tractors except as herein made applicable;

(7) Own or operate any qualified motor vehicle as defined under the International Registration Plan, as authorized in Chapter 4 of this title, not properly displaying an apportioned plate with required registration credentials, or operate a qualified motor vehicle without having in that person's possession a trip permit registration as authorized in § 2103(6) of this title. Any person

who violates this subsection shall, for the first offense, be fined not less than $115 nor more than $345, and for each subsequent offense not less than $345 nor more than $575. In addition, such person shall also be fined in an amount which is equal to the cost of registering the vehicle at its gross weight at the time of the offense or at the maximum legal limit, whichever is less, which fine shall be suspended if, within 5 days of the offense, the court is presented with a valid registration card for the gross weight at the time of the offense or the maximum legal limit for such vehicle.

(8) Do any act forbidden or fail to perform any act required under this chapter. (36 Del. Laws, c. 10, § 25; 40 Del. Laws, c. 38, § 10; Code 1935, § 5563; 43 Del. Laws, c. 244, §14; 21 Del. C. 1953, § 2115; 49 Del. Laws, c. 220, § 21; 70 Del. Laws, c. 186, § 1; 70 Del. Laws, c. 202, § 2.)

Revisor's note.—Section 3 of 70 Del. Laws, c. 202, effective July 10, 1995, provides: "If any provision of this act or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provision or application, and to that end the provisions of this act are declared to be severable."

Effect of amendments.—70 Del. Laws, c. 202, effective July 10, 1995, inserted present (7) and redesignated former (7) as (8)."

§ 2116

"(a) Whoever violates this chapter shall, for the first offense, be fined not less than $10 nor more than $100 or be imprisoned not less than 30 days nor more than 90 days o; both. For each subsequent like offense, the person shall be fined not less than $50 nor more than $200 or imprisoned not less than 90 days nor more than 6 months or both, in addition to which any person, being the operator or owner of any vehicle which requires a registration fee which is calculated upon the gross weight of the vehicle and any load thereon shall be fined at a rate double that which is set forth in this subsection and be imprisoned as provided herein or both. In addition, such person shall also be fined in an amount which is equal to the cost of registering the vehicle at its gross weight at the time of the offense or at the maximum legal limit, whichever is less; which fine shall be suspended, if within 5 days of the offense the court is presented with a valid registration card for the gross weight at the time of the offense for the maximum legal limit for such vehicle.

(b)(1) Notwithstanding the provisions of subsection (a) of this section, whoever violates § 2115(1)(5) of this title shall, for the first offense, be fined not less than $50 nor more than $200, be imprisoned not less than 30 days nor more than 90 days, or be penalized by both fine and imprisonment. For each subsequent like offense, such person shall be fined Appendix 4 (a) Page 3
not less than $100 nor more than $300, be imprisoned not less than 90 days nor more than 6 months, or be penalized by both fine and imprisonment.

(2) Any owner or operator of a vehicle which requires a registration fee which is calculated upon the gross weight of the vehicle, and any load thereon, and who violates §2115(1)(5) of this title, shall be fined at a rate double that which is set forth in this subsection, or be imprisoned as provided herein, or be both fined and imprisoned. In addition, such person shall also be fined an amount which is equal to the costs of registering the vehicle either at its gross weight at the time of the offense, or at the maximum legal limit, whichever is less. Such fine shall be suspended if, within 5 days of the offense, the court is presented with a valid registration card for the actual gross weight of the vehicle at the time of the offense.

(c) This section shall not apply to violations for which a specific punishment is set forth elsewhere in this chapter.

(d) For any violation of the registration provisions of § 2102 or § 2115 of this subchapter and in absence of any traffic offenses relating to driver impairment' the violator's copy of the traffic summons shall act as that violator's authority to drive the vehicle involved by the most direct route from the place of arrest to either the violator's residence or the violator's current place of abode. (36 Del. Laws, c. 10, § 32; 37 Del. Laws, c. 10, §§ 10, 11; Code 1935, § 5570; 21 Del. C. 1953, § 2116; 59 Del. Laws, c. 332, §§ 1, 2; 64 Del. Laws, c. 207, § 2; 69 Del. Laws, c. 307, §§ 1, 3, 4.).”

Appendix 5 (a)

DIVISION OF MOTOR VEHICLES POLICY
ON
OUT-OF-STATE RENEWALS

The following is the Division's policy for accomplishing a registration renewal on a vehicle located outside the State of Delaware when the vehicle owner is unable to return the vehicle for inspection prior to the renewal date. Vehicles located within a 200 mile radius of a Division of Motor Vehicles facility will be inspected at a division inspection station prior to renewal. All other vehicles may be renewed by accomplishing the following procedures:

Refer all inquiries on out-of-state renewal to the Dover Correspondence Office (739-3147). Normally, customers will be provided the out-of-state renewal package by the Dover Administrative Office Correspondence Section. Lane locations may provide the renewal package to walk-in customers, but the completed paperwork must be mailed to Dover for processing.

(1) When all documents are completed and the vehicle has passed inspection, copies of the Application for Out-of-State Registration and the inspection report (MV Form 210(a) will be provided to Dover Lane (Tom Kersey) and DNREC Air Quality Section (Phil Wheeler).

(2) Tom Kersey or his designated representative will load the inspection information on the MV210(a) form into the computer system. The MV210(a) form will be saved for two years by the Dover lane.

(3) When the inspection information has been loaded, Tom Kersey will send a Vehicle Inspection Report to Dover Correspondence, the renewal can be completed and the registration card and plate sticker can be mailed to the customer.

(4) All documents will be saved by the Registration Correspondence Section for two years.

(5) Random audit procedures: Correspondents prior to renewing selected vehicles will call the inspection station and inspector shown on the MV210(a) form. One out of every ten vehicles will be selected to verify the vehicle was inspected. The verification will be conducted prior to sending copies to DNREC and Dover lane. Indicate on the bottom of Page 2 of the form the date and time of verification and the name of the person performing the verification. Sandy Tracy will be in charge of the verification and selection process.

Appendix 5 (f)
New Model Year Clean Screen

BACKGROUND -

Delaware's revised I/M State Implementation Plan (SIP) commits the State to implementing a clean screen program to help reduce lines during peak inspection periods. Delaware previously enacted a provision to use the low emitter profile model (LEP) to clean screen vehicles at the lanes during peak inspection periods. During off-peak periods, all vehicles that show up for inspection would be tested. Currently, however, the LEP clean screen program has not been implemented, and long lines are a problem during certain times. The main reason for not implementing the LEP clean screen program is the complexity of integrating the LEP program into the existing information system. The low emitter profile has been replaced in this regulation with a new model year clean screen exemption that will in effect exempt during one calendar year, approximately another 9,200 vehicles from the major portion of the emissions testing program. This provision will reduce inspection volume by about 18% when it's activated.

It is important to note that the vehicle ages under this provision will be six, seven and eight model years old according to the definition in model year exemption in Section 1 (f) . Under the low emitter profile a clear distribution of exemptions of each model year was defined by the regulation. The provisions of Section 5 (f) does not require a definite distribution of any one of the six, seven or eight years old model years to be exempt. **.** It is expected that, because it will be a random arrival of vehicles into the lanes, the number of each model year exempted will be proportional in number to the actual fleet size of each applicable model year . That is, the distribution should be no more than 24% of the number of vehicles in each model year when considering the cap of 14,000 vehicle years being eligible to be clean screened.

EMISSION IMPACTS OF NEW MODEL YEAR CLEAN SCREEN –

Restricting clean screen to only the above vehicles cannot result in greater emissions than including all the clean screen candidates identified by the LEP. To further confirm that this approach would not cause problems with compliance with Delaware's revised I/M SIP, the exemptions were modeled with MOBILE5b. Unlike the use of Radian's LEP model, this approach does not need to be modeled with the Clean Screen Credit Utility. This alternative option – expanding model year exemptions during peak periods – would have less impact on the emission reduction credits for Delaware's I/M program than the LEP Clean Screen program presented in Delaware's I/M SIP that has already been approved by EPA. Table 1 presents the impact of the alternative clean screen program, assuming it's in operation for 24% of the

inspections. As shown, on-demand model year exemptions would provide more emission reductions than the program Delaware has committed to in its SIP.

Table 1.
Estimated Impact of New Model Year Clean Screen Program

Scenario	MoBILE5b Emission Factor (grams/mile) 1999 Evaluation Year		
	Exhaust	Evap	Total
No IM	0.928	0.781	1.709
Existing 5 model year exemption, TSI+ Pressure	0.759	0.679	1.438
8 model year exemption TSI+pressure	0.796	0.704	1.532
New Model Year Clean Screen-8 model Years TSI+pressure-24% of the time When	0.768	0.685	1.453

TSI – Two speed idle test

APPENDIX 6 (a) IDLE TEST PROCEDURE

The on-site test inspection of motor vehicles uses the ESP FICS 4000 - Bar 90 computerized Emission Analyzer which will require minimal time to complete the inspection procedure.

GENERAL TEST PROCEDURES

1. If the inspection technician observes a vehicle having coolant, oil, excess smoke or fuel leaks or any other such defect that is unsafe to allow the emission test to be conducted the vehicle shall be rejected from the testing area. The inspection technician is prohibited from conducting the emissions test until the defects are corrected.

2. The vehicle transmission is to be placed in neutral gear if equipped with a manual transmission, or in park position if equipped with an automatic transmission. The hand or parking brake is to be engaged. If the parking brake is found to be defective, then wheel chocks are to be placed in front and/or behind the vehicle's tires.

3. The inspection technician advises the owner to turn off all vehicle accessories.

4. The inspection technician enters the vehicle registration number (tag) or the vehicle identification number into the BAR 90 system. This information is electronically transmitted to the Division of Motor Vehicle’s database. The system will also identify for each vehicle entered into the BAR 90 system whether the vehicle is eligible for a clean screen exemption.
Only under certain conditions determined by the vehicle services chief or his designee will those vehicles eligible for the clean screen exemption be excuse from any exhaust emissions test for the current two year test cycle. In no case shall the number of vehicles exempt in any one calendar year, under the clean screen procedures, exceed 40% of the total number of vehicles subject to the requirements of Regulation 31. The clean screen procedures or methodology is described in Appendix Y.

5. If the vehicle registration number is in the database, the following information will be transmitted to and verified by the inspection technician:

a. Vehicle make
b. Vehicle Year
c. Vehicle Model
d. Vehicle Body Style
e. Vehicle fuel type and
f. other related information

6. The inspection technician will verify this information and verify the last five characters of the Vehicle Identification Number (VIN) prior to beginning the emission test.

7. If the vehicle's identification number is not on the database, the R.L. Polk VIN Package shall be automatically accessed. This VIN package will return the following information to the inspection technician who, in turn will verify the returned information:

a. Vehicle make
b. Vehicle Year
c. Vehicle Model
d. Vehicle Body Style
e. Vehicle fuel type

8. The DMV System will identify and require an emission inspection on all eligible vehicles meeting the State's criteria for an emission inspection. Once the vehicle information has been verified and accepted, the system will prompt the inspection technician to place the analyzer test probe into the tailpipe. The technician connects the tachometer lead to the vehicle's spark plug and verifies that the idle RPM is within the specified range. If the RPM exceeds the allowed range the vehicle is rejected and not tested. The technician will insert the probe at least 10 inches into the exhaust pipe. Genuine dual exhaust vehicles will be tested with a dual exhaust probe. Once the probe has been placed into the exhaust pipe the test will begin. The test process is completely automatic, including the pass/fail decision.

9. If the vehicle has been identified as requiring a completed Vehicle Inspection Repair (VIRR) Report Form prior to reinspection, the inspection technician will review the form for completeness and, if applicable, record into the system the Certified Emission Repair Technician's (CERT) number or Certified Manufacturer's Repair Technician (CMRT) number before the retest.

TWO SPEED IDLE TEST PROCEDURES

1. Exhaust gas sampling algorithm. The analysis of exhaust gas concentrations will begin 10 seconds after the applicable test mode begins. Exhaust gas concentrations will be analyzed at a rate of two times per second. The measured value for pass/fail determinations will be a simple running average of the measurements taken over five seconds.

2. Pass/fail determinations. A pass or fail determination will be made for each applicable test mode based on a comparison of the applicable standards listed in Appendix 3 (a)(7) and the measured value for HC and CO. A vehicle will pass the test mode if any pair of simultaneous values for HC and CO are below or equal to the applicable standards. A vehicle will fail the test mode if the values for either HC or CO, or both, in all simultaneous pairs of values are above the applicable standards.

3. Void test conditions. The test will immediately end and any exhaust gas measurements will be voided if the measured concentration of CO plus CO2 (CO+ CO2) falls below six percent of the

total concentration of CO plus CO2 or the vehicle's engine stalls at any time during the test sequence.

4. Multiple exhaust pipes. Exhaust gas concentrations from vehicle engines equipped with dual exhaust systems will be sampled accordingly.

5. The test will be immediately terminated upon reaching the overall maximum test time.

6. Test sequence.

(a) The test sequence will consist of a first-chance test and a second chance test as follows:

(i) The first-chance test will consist of an idle mode followed by a high-speed mode.

(ii) The second-chance high-speed mode, as described will immediately follow the firstchance high-speed mode. It will be performed only if the vehicle fails the first-chance test. The second-chance idle will follow the second chance high speed mode and be performed only if the vehicle fails the idle mode of the first-chance test.

(b) The test sequence will begin only after the following requirements are met:

(i) The vehicle will be tested in as-received condition with the transmission in neutral or park, the parking brake actuated (or chocked) and all accessories turned off. The engine shall appear to and is assumed to be at normal operating temperature.

(ii) The tachometer will be attached to the vehicle in accordance with the analyzer manufacturer's instructions.

(i) The sample probe(s) will be inserted into the vehicle's tailpipe to a minimum depth of 10 inches **.** If the vehicle's exhaust system prevents insertion to this depth, a tailpipe extension will be used.

(iv) The measured concentration of CO plus CO2 (CO + CO2) will be greater than or equal to 6% of the total concentration.

(c) First-chance test and second-chance high-speed mode. The test timer will start (tt=0)when the conditions specified above are met. The first-chance test and secondchance high-speed mode will have an overall maximum test time of 390 seconds (tt=390). The first-chance test will consist of an idle mode following immediately by a high-speed mode. This is followed immediately by an additional second-chance high-speed mode, if necessary.

(d) First-chance idle mode. The mode timer will start (mt=0) when the vehicle engine speed is between 550 and 1300 rpm. If engine speed exceeds 1300 rpm or falls below 550 rpm, the mode timer will reset to zero and resume timing. The maximum idle mode length will be 30 seconds (mt=30) elapsed time. The pass/ fail analysis will begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination will be made for the vehicle and the mode terminated as follows:

(i) The vehicle will pass the idle mode and the mode will be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), measured values are less or equal to the applicable standards listed in Appendix 3 (a)(7)

(ii) The vehicle will fail the idle mode and the mode will be terminated if the provisions of d (i) are not satisfied within an elapsed time of 30 seconds (mt=30).

(iii) The vehicle may fail the first-chance and second-chance test will be omitted if no exhaust gas concentration less than 1800 ppm HC is found by an elapsed time of 30 seconds (mt=30).

(e) First-chance and second-chance high-speed modes. This mode includes both the firstchance and second-chance high-speed modes, and follows immediately upon termination of the first-chance idle mode. The mode timer will reset (mt=0) when the vehicle engine speed is between 2200 and 2800 rpm. If engine speed falls below 2200 rpm or exceeds 2800 rpm for more than two seconds in one excursion, or more than six seconds over all excursions within 30 seconds of the final measured value used in the pass/fail determination, the measured value will be invalidated and the mode continued. If any excursion lasts for more than ten seconds, the mode timer will reset to zero (mt=0) and timing resumed. The minimum high-speed mode length will be determined as described under paragraphs (e) (i) and (ii) below. The maximum highspeed mode length will be 180 seconds (mt=180) elapsed time.

(i) Ford Motor Company and Honda vehicles. For 1981-1987 model year Ford Motor Company vehicles and 1984-1985 model year Honda Preludes, the pass/fail analysis will begin after an elapsed time of 10 seconds (mt=10) using the following procedure.

(A) A pass or fail determination, as described below, will be used, for vehicles that passed the idle mode, to determine whether the high-speed test should be terminated prior to or at the end of an elapsed time of 180 seconds (mt=180).

(I) The vehicle will pass the high-speed mode and the test will be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), the measured values are less than or equal to the applicable standards listed in Appendix 3(a)(7).

(II) If at an elapsed time of 30 seconds (mt=30) the measured values are greater than the applicable standards listed in Appendix 3 (a)(7), the vehicle's engine will be shut off for not more than 10 seconds after returning to idle and then will be restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure. The mode timer will stop upon engine shut off (mt=30) and resume upon engine restart. The pass/fail determination will resume as follows after 40 seconds have elapsed (mt=40).

(III) The vehicle will pass the high-speed mode and the test will be immediately terminated if, at any point between an elapsed time of 40 seconds (mt=40) and 60 seconds (mt=60), the measured values are less than or equal to the applicable standards listed in Appendix 3 (a)(7).

(IV) The vehicle will pass the high-speed mode and the test will be immediately terminated if, at a point between an elapsed time of 60 seconds (mt=60) and 180 seconds (mt=180) both HC and CO emissions continue to decrease and measured values are less than or equal to the applicable standards listed in Appendix 3 (a)(7).

(V) The vehicle will fail the high-speed mode and the test will be terminated if neither paragraphs (e) (i) (A) (III) or (e) (i) (A) (IV), above, are not satisfied by an elapsed time of 180 seconds (mt=180).

(B) A pass or fail determination will be made for vehicles that failed the idle mode and the high-speed mode terminated at the end of an elapsed time of 180 seconds (mt=180) as follows:

(I) The vehicle will pass the high-speed mode and the mode will be terminated at an elapsed time of 30 seconds (mt=30) if any measured values of HC and CO exhaust gas concentrations during the high-speed mode are less than or equal to the applicable standards listed in Appendix 3 (a)(7).

(II) Restart. If at an elapsed time of 30 seconds (mt=30) the measured values of HC and CO exhaust gas concentrations during the high-speed mode are greater than the applicable short test standards as described in Appendix 3 (a)(7), the vehicle's engine will be shut off for not more than 10 seconds after returning to idle and then will be restarted. The probe may be removed from the tailpipe or the sample pump turned off it necessary to reduce analyzer fouling during the restart procedure. The mode timer will stop upon engine shut off (mt=30) and resume upon engine restart. The pass/fail determination will resume as follows after 40 seconds (mt=40) have elapsed.

(III) The vehicle will pass the high-speed mode and the mode will be terminated at an elapsed time of 60 seconds (mt=60) if any measured values of HC and CO exhaust gas

concentrations during the high-speed mode are less than or equal to the applicable standards listed in Appendix 3 (a)(7).

(IV) The vehicle will pass the high-speed mode and the test will be immediately terminated if, at a point between an elapsed time of 60 seconds (mt=60) and 180 seconds (mt=180) both HC and CO emissions continue to decrease and measured values are less than or equal to the applicable standards listed in Appendix 3 (a)(7).

(V) The vehicle will fail the high-speed mode and the test will be terminated if neither paragraphs (e) (i) (B) (I), (e) (i) (B) (III) or e (i) (B) (IV), above, is satisfied by an elapsed time of 180 seconds (mt=180).

(ii) All other light-duty vehicles. The pass/fail analysis for vehicles not specified in paragraph (e) (i), above, will begin after an elapsed time of 10 seconds (mt=10) using the following procedure.

(A) A pass or fail determination will be used for 1981 and newer model year vehicles that passed the idle mode, to determine whether the high-speed mode should be terminated prior to or at the end of an elapsed time of 180 seconds (mt=180). For pre-1981 model year vehicles, no high speed idle mode test will be performed.

(I) The vehicle will pass the high-speed mode and the test will be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), the measured values are less than or equal to the applicable standards listed in Appendix 3 (a)(7).

(II) The vehicle will pass the high-speed mode and the test will be immediately terminated if emissions continue to decrease after an elapsed time of 30 seconds (mt=30) and if, at any point between an elapsed time of 30 seconds (mt=30) and 180 seconds (mt=180), the measured values are less than or equal to the applicable standards listed in Appendix 3 (a)(7).

(III) The vehicle will fail the high-speed mode and the test will be terminated if neither the provisions of paragraphs (e) (ii)(A)(I) or (e) (ii)(A)(II), above, is satisfied.

(B) A pass or fail determination will be made for 1981 and newer model year vehicles that failed the idle mode and the high-speed mode terminated prior to or at the end of an elapsed time of 180 seconds (mt=180). For pre-1981 model year vehicles, the duration of the high speed idle mode will be 30 seconds and no pass or fail determination will be used at the high speed idle mode.

(I) The vehicle will pass the high-speed mode and the mode will be terminated at an elapsed time of 30 seconds (mt=30) if any measured values are less than or equal to the applicable standards listed Appendix 3 (a)(7).

(II) The vehicle will pass the high-speed mode and the test will be immediately terminated if emissions continue to decrease after an elapsed time of 30 seconds (mt=30) and if, at any point between an elapsed time of 30 seconds (mt=30) and 180 seconds (mt=180), the measured values are less than or equal to the applicable standards listed in Appendix 3 (a)(7).

(III) The vehicle will fail the high speed mode and test will be terminated if neither the provisions of paragraphs (e) (ii)(B)(I) or (e) (ii)(B)(II) is satisfied.

(f) Second-chance idle mode. If the vehicle fails the first-chance idle mode and passes the high-speed mode, the mode timer will reset to zero (mt=0) and a second chance idle mode will commence. The second-chance idle mode will have an overall maximum mode time of 30 seconds (mt=30). The test will consist on an idle mode only.

(i) The engines of 1981-1987 Ford Motor Company vehicles and 1984-1985 Honda Preludes will be shut off for not more than 10 seconds and restarted. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure.

(ii) The mode timer will start (mt=0) when the vehicle engine speed is between 550 and 1300 rpm. If the engine speed exceeds 1300 rpm or falls below 550 rpm the mode timer will reset to zero and resume timing. The minimum second-chance idle mode length will be determined as described in paragraph (f) (iii) below. The maximum second-chance idle mode length will be 30 seconds (mt=30) elapsed time.

(iii) The pass/fail analysis will begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination will be made for the vehicle and the second-chance mode will be terminated as follows:

(A) The vehicle will pass the second-chance idle mode and the test will be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), any measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(B) The vehicle will pass the second-chance idle mode and the test will be terminated at the end of an elapsed time of 30 seconds (mt=30) if, prior to that time, the criteria of paragraph (f)(iii)(A), above, are not satisfied and the measured values during the time period between 25 and 30 seconds (mt=25-30) are less than or equal to the applicable short test standards listed Appendix 3 (a)(7).

(C) The vehicle will fail the second-chance idle mode and the test will be terminated if neither of the provisions of paragraphs (f) (iii)(A) or (f)(iii)(B), above are satisfied by an elapsed time of 30 seconds (mt=30).

SINGLE SPEED IDLE TEST From 40 CFR 51 Appendix B to Subpart S -- Test Procedures

(I) Idle Test

(a) General requirements.

(1) Exhaust gas sampling algorithm. The analysis of exhaust gas concentrations shall begin 10 seconds after the applicable test mode begins. 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.

(2) Pass/fail determination. A pass or fail determination shall be made for each applicable test mode based on a comparison of the short test standards contained in Appendix C to this subpart, and the measured value for HC and CO as described in paragraph (I)(a)(1) of this appendix. A vehicle shall pass the test mode if any pair of simultaneous measured values for HC and CO are below or equal to the applicable short test standards. A vehicle shall fail the test mode if the values for either HC or CO, or both, in all simultaneous pairs of values are above the applicable standards.

(3) Void test conditions. The test shall immediately end and any exhaust gas measurements shall be voided if the measured concentration of CO plus CO2 falls below six percent or the vehicle's engine stalls at any time during the test sequence.

(4) Multiple exhaust pipes. Exhaust gas concentrations from vehicle engines equipped with multiple exhaust pipes shall be sampled simultaneously.

(5) The test shall be immediately terminated upon reaching the overall maximum test time.

(b) Test sequence. (1) The test sequence shall consist of a first chance test and a second chance test as follows:

(i) The first chance test, as described under paragraph (c) of this section, shall consist of an idle mode.

(ii) The second chance test as described under paragraph (I)(d) of this appendix shall be performed only if the vehicle fails the first chance test.

(2) The test sequence shall begin only after the following requirements are met:

(i) The vehicle shall be tested in asreceived condition with the transmission in neutral or park and all accessories turned off. The engine shall be at normal operating temperature (as indicated by a temperature gauge, temperature lamp, touch test on the radiator hose, or other visual observation for overheating).

(ii) The tachometer shall be attached to the vehicle in accordance with the analyzer manufacturer's instructions.

(iii) The sample probe shall be inserted into the vehicle's tailpipe to a minimum depth of 10 inches. If the vehicle's exhaust system prevents insertion to this depth, a tailpipe extension shall be used.

(iv) The measured concentration of CO plus CO2 shall be greater than or equal to six percent.

(c) First chance test. The test timer shall start (tt=0) when the conditions specified in paragraph (I)(b)(2) of this appendix are met. The first chance test shall have an overall maximum test time of 145 seconds (tt=145). The first chance test shall consist of an idle mode only.

(1) The mode timer shall start (mt=0) when the vehicle engine speed is between 350 and 1100 rpm. If engine speed exceeds 1100 rpm or falls below 350 rpm, the mode timer shall reset to zero and resume timing. The minimum mode length shall be determined as described under paragraph (I)(c)(2) of this appendix. The maximum mode length shall be 90 seconds elapsed time (mt=90).

(2) The pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination shall be made for the vehicle and the mode shall be terminated as follows:

(i) The vehicle shall pass the idle mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(ii) The vehicle shall pass the idle mode and the test shall be terminated at the end of an elapsed time of 30 seconds (mt=30), if prior to that time the criteria of paragraph (I)(c)(2)(i) of this appendix are not satisfied and the measured values are less than or equal to the applicable short test standards as described in paragraph (I)(a)(2) of this appendix.

(iii) The vehicle shall pass the idle mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds (mt=30) and 90 seconds (mt=90), the measured values are less than or equal to the applicable short test standards as described in paragraph (I)(a)(2) of this appendix.

(iv) The vehicle shall fail the idle mode and the test shall be terminated if none of the provisions of paragraphs (I)(c)(2)(i), (ii) and (iii) of this appendix is satisfied by an elapsed time of 90 seconds (mt=90). Alternatively, the vehicle may be failed if the provisions of paragraphs (I)(c)(2)(i) and (ii) of this appendix are not met within an elapsed time of 30 seconds.

(v) Optional. The vehicle may fail the first chance test and the second chance test shall be omitted if no exhaust gas concentration lower than 1800 ppm HC is found by an elapsed time of 30 seconds (mt=30).

(d) Second chance test. If the vehicle fails the first chance test, the test timer shall reset to zero (tt=0) and a second chance test shall be performed. The second chance test shall have an overall maximum test time of 425 seconds (tt=425). The test shall consist of a preconditioning mode followed immediately by an idle mode.

(1) Preconditioning mode. The mode timer shall start (mt=0) when the engine speed is between 2200 and 2800 rpm. The mode shall continue for an elapsed time of 180 seconds (mt=180). If engine speed falls below 2200 rpm or exceeds 2800 rpm for more than five seconds in any one excursion, or 15 seconds over all excursions, the mode timer shall reset to zero and resume timing.

(2)Idle mode.

(i) Ford Motor Company and Honda vehicles. The engines of 19811987 Ford Motor Company vehicles and 19841985 Honda Preludes shall be shut off for not more than 10 seconds and restarted. This procedure may also be used for 1988-1989 Ford Motor Company vehicles but should not be used for other vehicles. The probe may be removed from the tailpipe or the sample pump turned off if necessary to reduce analyzer fouling during the restart procedure.

(ii) The mode timer shall start (mt=0) when the vehicle engine speed is between 350 and 1100 rpm. If engine speed exceeds 1100 rpm or falls below 350 rpm, the mode timer shall reset to zero and resume timing. The minimum idle mode length shall be determined as described in paragraph (I)(d)(2)(iii) of this appendix. The maximum idle mode length shall be 90 seconds elapsed time (mt=90).

(iii) The pass/fail analysis shall begin after an elapsed time of 10 seconds (mt=10). A pass or fail determination shall be made for the vehicle and the idle mode shall be terminated as follows:

(A) The vehicle shall pass the idle mode and the test shall be immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(B) The vehicle shall pass the idle mode and the test shall be terminated at the end of an elapsed time of 30 seconds (mt=30), if prior to that time the criteria of paragraph (I)(d)(2)(iii)(A) of this appendix are not satisfied and the measured values are less than or equal to the applicable short test standards as described in paragraph (I)(a)(2) of this appendix.

(C) The vehicle shall pass the idle mode and the test shall be immediately terminated if, at any point between an elapsed time of 30 seconds (mt=30) and 90 seconds (mt=90), measured values are less than or equal to the applicable short test standards described in paragraph (I)(a)(2) of this appendix.

(D) The vehicle shall fail the idle mode and the test shall be terminated if none of the provisions of paragraphs (I)(d)(2)(iii)(A), (d)(2)(iii)(B), and (d)(2)(iii)(C) of this appendix

(E) Are satisfied by an elapsed time of 90 seconds (mt=90).

APPENDIX 6 (a) (5)

Vehicle Emission Repair Report Form

Monday through Friday at the Air Quality Management Section Office, 156 South State Street, Dover. For more information call Philip Wheeler at 302/739-4791
Dover. For more information call Philip Wheeler at 302/739-4791

APPENDIX 6 (a)(8)

EVAPORATIVE SYSTEM INTEGRITY (PRESSURE) TEST

ESP Alternative Pressure Test

The EPA has defined an evaporative pressure test that involves removing hoses from the charcoal canister. An alternative, less intrusive test technique has been developed by ESP. The EPA pressure test is performed by removing the gas tank fuel vapor vent line from the charcoal canister and pressurizing the gas tank through this line with nitrogen gas. The pressure in the gas tank is then monitored for two minutes and if the pressure drops below a specified level, the

vehicle is failed. The canister is often difficult to access and the vent hoses difficult to remove and replace. The alternative test consists of pressurizing the gas tank from the gas tank filler neck instead of the canister. The gas cap is removed and replaced by a gas cap adapter through which the fuel tank is filled with nitrogen gas. The vent hose is clamped at the canister, the gas tank is pressurized and the pressure in the tank monitored for two minutes. Clamping the hose rather than removing it is less likely to lead to breakage or hoses left disconnected, reducing the liability arising from the test procedure. The gas cap is tested on a test rig where the gas cap can be pressurized on its own. Removing the gas cap and pressurizing the tank from the filler neck has the following advantages:

Half of the leaks in the gas tank occur in the gas cap. On those vehicles where the canister and vent lines are inaccessible, 50% of the emissions reduction available from the evaporative system integrity check can be achieved by just testing the gas cap. Testing the gas cap separately allows leaking gas caps to be identified. The customer can be recommended to replace the gas cap rather than pay to have a repair station isolate the cause of the leak.

The test is less intrusive as the vapor line to the charcoal canister is clamped off rather than removed. On some vehicles the vapor line can be reached even when the canister:, itself is inaccessible. The gas tank can be more rapidly pressurized through the large filler neck opening than from the canister as the vapor line to the tank typically has a narrow orifice in the line. This is particularly important when pressurizing the large vapor space in nearly empty gas tanks. The more rapid pressure test potentially increases the throughput of the lane. The ESP method will result in a 50% time saving in the fill time or approximately 30 seconds. The 30 second time saving in the multi-position lane will result in a lane throughput increase of one to two vehicles per hour.

The ESP Alternative Pressure Test is a more accurate test because it compensates for the volume of vapor space. During the development of this technique, ESP discovered that differences in fuel level in the gas tank can result in an order of magnitude change in test results. ESP's alternative approach is designed to compensate for the pressure drop change of the vapor space condition. Without the ESP method of testing, it is expected that errors of omission and commission will result. The variability of the test results derived from the EPA prescribed method will result in problems such as, customer complaints for "Ping-Pong" effects and general public dissatisfaction with the program. To further reduce the problem of ping-ponging, ESP has developed a pressure drop table for repair stations, that will enable the repair technicians to perform the pressure test with a much higher degree of correlation to the centralized test.

APPENDIX 6(a)(9) ON-BOARD DIAGNOSTIC

TEST PROCEDURE

OBD II TEST PROCEDURE

Introduction

The Delaware Analyzer System (DAS) shall include the hardware and software necessary to access the onboard computer systems on 1996 and newer vehicles, determine OBDII readiness, and recover stored fault codes using the SAE standardized link. The analyzer shall be designed to guide the inspector-mechanic through the OBDII inspection sequence for a particular vehicle, and record the results.

(a) OBD Inspection Sequences: The following subparagraphs describe the OBDII inspection. The display monitor will guide the inspector through the required steps.

(1) The vehicle's front occupants will be asked to step out of the vehicle or moved to one of the other passenger seats. The analyzer will prompt the inspector to perform the OBDII check on all passenger vehicles and light-duty trucks model years covered in Section 2 -"Low Enhanced I/M Performance Standard"

(2) The inspector will initiate an official test by scanning or manually inputting the required vehicle and owner information into the station manager.

(3) The inspector will visually examine the instrument panel to determine if the MIL illuminates when the ignition key is turned to the "key on, engine off" (KOEO) position. This portion of the test procedure is also known as the "bulb check." Enter this information into the station manager.

(4) The inspector will locate the vehicle's data link connector (DLC) and, with the key in the off position, plug a scan tool into the connector.

(5) The inspector will start the vehicle's engine and visually check MIL illumination under the "key on, engine running" (KOER) condition. The inspector will perform the scan of the vehicle's on-board diagnostics system.

(6) Scan will determine:

(i) Vehicles readiness status

(ii) MIL status (whether commanded on or off) , and

(iii) Diagnostic Trouble Codes (DTCs) for those vehicles with MILs commanded on.

(b) Inspection results will be automatically recorded.

(1) Failed vehicles: vehicle owners will get a detailed inspection report from the inspector that will indicate the diagnostic trouble codes that have been set [leading to the inspection failure] in the vehicle's on-board computer. (Criteria for a failure of the OBD II test is given in Section 6 (b) (3).)

(2) Vehicles with unset readiness: owners with vehicles with more than two unset readiness codes for model years 1996-2000 or one unset readiness code for model years 2001 and newer will be given a failure with a Anot ready for testing@ result on their printed vehicle inspection report. Owners will be required to return to the inspection facility for a retest as soon as the readiness codes requirements of Section 6 (b) (3) are met. The vehicle owners will be given information concerning the readiness codes in their vehicle's on-board computer and advised accordingly before the vehicle is retested.

(3) An exception from the readiness codes requirements of Section 6 (b) (3) may be given for vehicles who have been given an initial test and are being retested after repairs have been performed. A repair receipt including evidence of a diagnostic scan and dated either on the same date as the initial test or some date thereafter will be considered adequate for establishing proof of repair for retests purposes only. The retest procedure for OBD will be performed according to the provisions in this appendix.

(4) An exception from the readiness codes requirements of Section 6 (b) (3) may be given for the following vehicles by model and year. [This list may be updated as warranted by new information provided by the USEPA]. The vehicles are, but not limited, to the following:

(i) 1996 Chrysler vehicles - Vehicles may clear readiness at key-off. Vehicles should be tested normally. If vehicles are found to be "Not Ready," they should be referred to a qualified service provider so the OBD software can be updated.

(ii) 1996 - 1998 Mitsubishi vehicles - These vehicles may have a high degree of "Not Ready" for catalyst monitor due to a "trip based" design. Mitsubishi has provided driving cycles in its service information to allow monitors to operate. These vehicles should be scanned for MIL illumination without regard to readiness status.

(iii) 1996 Nissan vehicles and 1997 Nissan 2.0 liter 200SX - These vehicles may have a high degree of "Not Ready"for catalyst and evaporative monitors due to a "trip based" design. Nissan has provided driving cycles in its service information to allow monitors to operate. These vehicles should be treated as other non-problematic vehicles. Nissan Technical Service Bulletin #NTB98-018, February 18, 1998.

(iv) 1996-98 Saab vehicles - These vehicles may have a high degree of "Not Ready"for catalyst and evaporative monitors due to a "trip based" design. Saab has provided driving cycles in its

service information to allow monitors to operate. These vehicles should be treated as other non-problematic vehicles.

(v) 1996 Subaru vehicles - Vehicles will clear readiness at key-off. There is no reprogramming available for this line of vehicles. These vehicles should be scanned for MIL illumination without regard to readiness status. Subaru Technical Service Bulletin #11-49-97R.

[(vi) 1997 Toyota Tercel and Paseo - Vehicles will never clear the evaporative monitor to "Ready." At this time no fix is available. Vehicles should be scanned using remaining readiness monitors as described for non-problematic vehicles.

(vii) 1996 Volvo 850 Turbo - Vehicles will clear readiness at key-off. There is no reprogramming available for this line of vehicles. These vehicles should be scanned for MIL illumination without regard to readiness status. Volvo Technical Service Bulletin #SB 2-23-0056.

(viii) 1996-98 Volvo vehicles (excluding 850 Turbo) - These vehicles may have a high degree of "Not Ready" for catalyst and evaporative monitors due to a "trip based" design. Volvo has provided driving cycles in its service information to allow monitors to operate. These vehicles should be treated as other non-problematic vehicles. Volvo Technical Service Bulletin #SB 2-23-0056.]

APPENDIX 7 (a)

EMISSION REPAIR TECHNICIAN CERTIFICATION PROCESS.

Effective January 1, 1997 for vehicles registered in New Castle County and July 1, 1997 for vehicles registered in Kent County, in order to qualify for waiver repairs on any 1981 or later model year vehicle shall be performed by a certified repair technician or a certified manufacturer repair technician, as defined in Section 1 of this regulation. The cost of such repairs must total no less than $200. Under the policy developed by the Department, a Certified Emission Repair Technician may be certified as trained to do repairs on all makes of vehicles or vehicles of a specific manufacturer. Auto repair technicians seeking to become certified under Regulation 31 have the following options in attaining the certification:

1. All those applying for certification can "test out" and gain certification without further emission repair training as provided by the College or Auto Manufacturer or other training organization. The "test out" process is administered by the College as follows:

   C Applicants without L1 ASE (Automobile Service Excellence) certification must first take the Fundamental Inspection Repair System Training final exam. Those achieving a score of 75% or better are eligible to take the Delaware Emission Education Program certification exam.

   C Applicants achieving a score of 75% or better on the certification exam will become certified on all makes of vehicles. Applicants with L1 ASE certification can test out by taking the Delaware Emission Education Program certification exam ONLY.

2. The testing procedure discussed above will determined what, if any, training is needed for applicants seeking certification.

   Technicians scoring below 75% on the "Fundamental Inspection Repair System Training" final exam must take a 60 hour fundamental emission repair training course provided by the College.

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   Those completing the 60 hour program and scoring 75% or better on the final exam can advance into a 40 hour class which is the next level of training, or attempt to test out and take the certification exam, scoring 75% or better to become certified.

   Technicians scoring below 75% on the "Delaware Emission Education Program" certification exam must take a 40 hour emission repair training course provided by the College and then score 75% or better on the final exam to become certified.

3. Technicians who are L1 ASE certified and who have approved manufacturer's emission repair training will be certified for each make of vehicle of each manufacturer that the technician was trained to do emission repairs. The procedure for certification is as follows:

C The Department will evaluate each of the manufacturer s OEM Emissions Path to determine if it meets a reasonable minimum standard. This evaluation must contain proof that the manufacturer s course work clearly covers the Delaware I/M regulation (e.g. waiver process, etc.)

C Candidate manufacturer technician submits:

His/her transcript from the manufacturer on courses taken and passed and; Proof of ASE L1 certification to the Department.

C Candidate manufacturer technician takes and passes a Delaware-specific short test which is intended to test the candidate on the Delaware regulation, any specifics on waivers that should be known, and general questions on vehicle repair.

C The Department and the Division issues manufacturing-specific certification with clearly marked authority on the certificate.

APPENDIX 8 (a)

Registration Denial

System Requirements Definition

April 30, 1997

Prepared by: Barry W. Pugh and
Edited by: Cheryl Roe - DMV

Version 1.1

Section I , Management Summary

Goals and Objectives

Improved Customer Service, Convenience and Control:

1. Implement Bar Coding interface to the Title and Registration function.
2. Design an interface between Registration Renewal and Titles to the Registration Denial system that will enable the State of Delaware to obtain an improved rating though Cleaner Air.
3. Design a Temporary tag tracking system.
4. Design an automated Waiver/Override system.
5. Design a Repair Facility and Repair Technician tracking system.
6. Design improved data inquiry capabilities and distribute to necessary customers.

Improved Personnel Training and System On-Line Help:

1. On-Line Help Training within each of the applications.
2. On-Line Training through specialized system testing.
3. Improved Operating Procedures.

Improved System Security and Flexibility:

1. System Security

- Override system parameter changes based on functionality.
- Override system parameter changes based on specific fields.
- Improved tracking of transactions, personnel and dates.
- Improved reporting to DMV management.

1. Provide additional facilities for trouble shooting and problem investigation capabilities.

Flexibility and Responsiveness to External Requirements:

2. Ability to create and maintain the registration denial tables.
3. Maintain tracking history information for the following functions:

- Temporary and Window Sticker inventory
- Temporary Tag history
- Window Sticker history
- Vehicle Inspection history

- Lane Inspector history
- Waiver history
- Override history

  Repair Facility and Repair Technical history
- Registration Notices
- External Agency history
- Audit request history

Improved Business Control Over the System:

1. Operators:

- Tighter control over the issuance of registration notices, vehicle inspections, registration renewal, title and registration denial, temporary tags and waivers.
- Improved controls over the issuance of window stickers.
- Better customer service through the offering of inspection overrides and the tracking of external agency vehicle inspections.
- Provide for the tracking of Certification of all Lane Inspectors and the Re-Certification.

1. Transactions:

- Add on-line Waiver, Override, Vehicle Inspections, Temporary tags and Window Stickers.

1. Auditing:

- Reduction of the number of vehicles being renewed without an inspection.
- Reduction of the number of multiple temporary tags being issued to the same vehicle owners.
- Identification of missing temporary tags and window stickers from DMV inventory.
- Decrease the number of false inspection readings.
- Decrease the number of external agency vehicles traveling the Delaware highways without receiving vehicle inspections.
- Increase inspection accountability through more accurate vehicle inspection testing.
- Increase reporting accuracy to the Environmental Protection Agency.

Improved System Functionality:

1. Title and Registration Denial:

- Improved editing on title and registration application.
- Design interface between vehicle inspections, temporary tags and

waivers.

1. Linkage to mainframe MVALS database:

- Information transfer from vehicle inspection database.
- Information transfer from temporary tags, window stickers and the title and registration database.
- Information transfer of registration denial data to DNREC and EPA.
- Control the issuance of temporary tags though lot range controls.
- Control the temporary tag inventory through the delivery and distribution of temporary tags.

1. Bar Code interface on title and registration cards.

2. Automation and change to reports:

- Provide on-line tracking of inspectors by location, date and time.
- Provide an inventory control system enabling the Division to review temporary tags and window stickers.
- Provide Title and Registration clerks the ability to review active and historical inspection results on-line.
- Provide an interface to the Title and Registration application to effectively associate a vehicle inspection with a specific registration and deny access until the vehicle has been successfully approved.
- Provide inspector information of a specific registration in association with a vehicle inspection.
- Provide on-line reporting activity by specific testing, location, time and inspector on a weekly, monthly and fiscal basis.
- Provide the ability to track vehicle repairs and associate them with the proper vehicle registration.
- Track overrides that are associated with a vehicle inspection.
- Provide on-line access to inspection results data to the Department of Natural Resources and Environmental Control.
- Provide the ability to select specific inspection information and print specific analysis reports.
- Provide the ability to create on-line reports to EPA on a weekly, monthly and fiscal basis.
- Provide customers with notification of inspection 90 days prior to the expiration date.

1. External Agency Vehicle Identification

- Provide the ability to identify/track external agency vehicles being operated in Delaware.
- Provide the ability to ensure the external agency vehicles have complied with the Federal standards.

- Provide the ability to automatically send and receive vehicle inspection information.
- Provide the ability to report inspection result to the EPA

Project Scope

This document does not include portions of the project already in progress or being addressed by other selected DMV vendors such as Environmental Systems Products, Inc. (ESP). It centers on the mainframe application development and maintenance that must be completed to support the requirements of the project. It assumes the vehicle inspection information to be correct and residing in the databases already established for the Registration Denial project and that ESP has provided OIS with complete and detailed technical documentation of the database content, data manipulation, calculations and report specifications. The State Implementation Plan (SIP) for the Enhanced Inspection and Maintenance Program prepared by the Delaware Department of Natural Resources and Environmental Control (DNREC) is the basis of this scope. The SIP is scheduled to be submitted to the Federal Environmental Protection Agency (EPA) in January 1997 for review and approval. ***This scope most certainly will be subject to change based upon the EPA review and their findings.***

Background:

Motor vehicle inspection and maintenance programs are an integral part of the effort to reduce mobile source air pollution. Of all highway vehicles it appears that, passenger cars and light trucks emit most of the vehicle-related pollutants. Although progress has been made in the reduction of these pollutants, the continuous increase in vehicle miles traveled on the highways has offset much of the technological progress thus far. Under the Clear Air Act, the Federal Environmental Protection Agency is attempting to achieve major emission reductions from these transportation sources. Until the development and commercialization of cleaner burning engines and fuels are successful, the main source of air pollution reduction will come from the proper maintenance of the vehicles during customer use. To put the inspection program in perspective, it is important to understand that today's motor vehicles are totally dependent upon properly functioning emission controls to keep pollution levels low. Minor malfunctions in the emission control system can increase emissions significantly. Since these emissions may not be noticeable and the subsequent malfunctions do not necessarily affect vehicle drive ability, it is difficult to detect which vehicles fall into this category. The new inspection equipment and programming provided by Environmental System Products (ESP) will capture that important data and record it on the mainframe for access by the registration renewal and vehicle titling programs. Those systems will verify the results and permit vehicles passing the inspection tests to proceed through the DMV system without change. Failing vehicles will require repair and re-testing until they pass or receive a vehicle waiver from DMV management.

Project Scope:

DMV has suggested that the project be designed and implemented in phases. Phasing the project installation makes a great deal of sense since many of the components of the entire project are still not totally defined. DMV's recommendation is:

Phase I:

- Create database images to store the ESP information.
  Test ESP system and database content.
- Analyze database content and verify accuracy.
- Install Phase I into production and begin accumulating EPA information.

Phase II:

- Design, code and test Registration Renewal Denial.
- Design, code and test a new (summary) Vehicle Waiver system.
- Design, code and test a new Inspection Results Override system.
- Design, code and test new rules for Registration and Title Denial.
- Design, code and test a new temporary tag extension tracking system.
- Design, code and test preliminary DMV management reports.
- Test on-line access to MVALS by DNREC personnel at their site locations.
- Add bar coding to the registration card print.
- Implement Phase II into production.

Phase III:

- Design, code and test Title Denial.
- Design, code and test inspection results database "time remaining" routines for:
- Registration Renewal Denial.
- Registration Renewal Notices.
- Title Denial.
- Add bar coding to the Title form.
- Implement Phase III into production.

Phase IV:

- Design, code and test reporting for DNREC and EPA auditing.
- Test on-line access to MVALS reports by DNREC personnel at their site locations.
- Design. code and test a new inventory control system for window stickers.
- Implement Phase IV into production.

Phase V:

Design, code and test DAFB vehicle tracking system.
- Design, code and test Federal vehicle tracking system. (PV, PO, etc.)
- Implement Phase V into production.

Phase VI:

Design, code and test a new Certified Repair Technicians system.
- Design, code and test a new Certified Lane Technicians system.
- Design, code and test a new (detail) Waiver system.

Create special files and/or downloads and reports to assist the DAFB in their conversion efforts.
- Design, code and test the identification and reporting of covert vehicles.

Phase I:

The Registration Denial project centers around an automated vehicle inspection system (installed by ESP) and subsequent customer permission to title or renew a registration in the State of Delaware. The new ESP system will replace the need to issue inspection cards and the associated manual inspection card tracking systems currently in place. Instead, the new system will record the information results and data of a physical vehicle inspection in databases locally on the lane PC server and remotely at OIS on the IBM mainframe. The mainframe databases will be the final residence of the data and those databases will be used for all system decisions and reporting. That database information
will be used by the MVALS programs to determine if the vehicle is in compliance with Federal and Delaware codes and laws governing legal vehicle registration. If the vehicle passes all of the inspection tests, it becomes eligible to legally travel Delaware roadways. Inspection results are related to the vehicle and applicable for 2 years.

The inspection results database and supporting databases must be mapped back to the reporting requirements of DMV management, DNREC and EPA in this phase to be absolutely positive all of the informational contents are present. Inconsistencies in the mapping may require modifications to the ESP data capture.

Phase II:

The vehicle will be rejected by MVALS if it does not pass all the inspection criteria. In this case, a temporary (60 day) tag may be issued to give the customer time to correct the detected problems with the vehicle. The design will incorporate tracking and reporting on the temporary tags after the time of issuance. When a vehicle is rejected, the customer may elect to repair the deficiency and attempt to pass the inspection again. Vehicle repairs may be made by a Certified Technician or by the customer. If the vehicle continues to fail the inspection but does not decrease measured

emissions by set percentage guidelines, DMV may elect to issue an inspection waiver based upon established rules, limitations and customer expenditure amounts. A vehicle summary of waiver expenditure information for this inspection period must be recorded and tracked in a new database by vehicle. This new database must be read during the registration renewal process, for all failing vehicles, to be sure a current record exists prior to allowing the vehicle to be legally registered. A vehicle waiver overrides the most recent inspection result. It is related to a vehicle and effective for 2 years. The waiver and inspection results databases must be accessible to DNREC personnel for inquires using MVALS.

At times DMV management may elect to override the results of an inspection and permit the vehicle legal registration without further inspections by the lane technicians. The system must permit management to override the vehicle inspection result record with a passing grade. When an override is granted, the system must record the new (overridden) information and track who, when and why the override was given. The new record will be stored in the inspection results database along with information about the operator, date and time. An override reason must be supplied before the record is written to the database. Override capability and permissible override categories must be controlled by an external means to permit DMV management to modify who can override inspection results and what can be modified.

Upon a successful inspection or if the results were overridden or a waiver is issued, a registration renewal card containing a PDF417 bar code and a new window sticker will be issued (when implemented) upon payment of fees by the customer.

Phase III:
When a vehicle is titled in the State of Delaware, it must also comply with safety and emission tests prior to becoming registered. The titling system must be modified to access the new inspection results database to make the appropriate decisions. Vehicle titling must be modified to parallel the upgrades installed into the registration renewal system. It must apply all of the same rules, waiver conditions and override capabilities. A title containing a PDF417 bar code and a new window sticker will be issued (when implemented) upon payment of fees by the customer.

After a vehicle has been renewed or titled and successfully passed inspection, or granted a waiver, the customer has the option to choose a renewal period of 6 months, 1 year or 2 years. Since inspection results and waivers are valid for 2 years, the system must determine the amount of time remaining on the inspection based upon the renewal period chosen by the customer. This algorithm must be incorporated in the registration renewal, registration renewal notification and title systems.

Phase IV:
DMV management, DNREC and the Federal EPA require reports to be generated from the data captured on the inspection results database. DMV management requires specific counts of vehicles, the types of tests that are performed and the results and percentages of the testing. They will also require management reports and online inquires to monitor the inspection system performance, database contents and results. DNREC and the Federal EPA reporting requirements

are normally completed on an annual arrangement and require reports concerning; the numbers and types of tests, vehicle breakdowns by make and year, first test and re-test results, information about the testing facilities and the results of both covert and overt audits.

DNREC must be permitted access to the inspection results and waiver databases through an on-line function that will be created within the MVALS application. This function will allow DNREC to review the inspection results and (summary) waiver information on all vehicles. To insure DMV is in compliance with the Federal regulations, DNREC will be given the capability to order printed reports on-line from MVALS concerning the inspection results and waiver information. Tracking and re-calling certified lane technicians is definitely going to be another new responsibility of the Division. DMV must track all State inspectors requiring testing and re-certification in order to comply with the new Federal EPA regulations. Reports on this activity must be submitted to the Federal EPA on an annual basis.

Phase V:
In addition to the normal vehicle registration activity occurring for Delaware citizens, with the new EPA requirements, DMV must inspect approximately 10,000 additional vehicles owned by; the (non-military) Federal Government, the military and military personnel from the Dover Air Force base (DAFB). The majority of these vehicle inspections will be on personally owned vehicles (POV) from the DAFB. The DAFB presents a unique opportunity to DMV because POV's are normally not registered in Delaware. Delaware does not require out of state vehicles to be inspected. However, with the new federal regulations, DMV is required to ensure that vehicles residing within the jurisdiction are in compliance with the state-regulated inspection program. This now includes all non-military Federally owned vehicles and vehicles stationed at federal military sites throughout the state even if they are not registered in Delaware. Notifying, tracking and re-calling (test failures) POV's will require cooperation and coordination with DAFB motor pool and security personnel. Additional software and databases may be required to assist in a successful implementation.

Phase VI:
As stated previously, the State Implementation Plan (SIP) for the Enhanced Inspection and Maintenance Program prepared by the Delaware Department of Natural Resources and Environmental Control (DNREC) is the basis of this scope. The SIP is scheduled to be submitted to the Federal EPA in January 1997 for review and approval. This phase is subject to change based upon the EPA review and their findings. The following tasks are not definite requirements but may become so after the EPA has made their final decision.

Certified repair technician information is currently being gathered and retained by the Delaware Technical Community College. DMV would like access to the information to enable them to incorporate the data into the motor vehicle inspection reports that will be produced on failed inspections. Tracking reports will include the number of vehicles passing and failing by Certified Technician and the repairs performed by the technician on each vehicle. DMV may require the

information to be downloaded from DTCC or if that is not possible, they may have need to maintain the information in duplicity.

When a vehicle is titled or renewed in the State of Delaware, the Division must comply with the security requirements established by the EPA. It requires the Division to track and report all stickers issued to vehicles that have passed the inspection program. It will be necessary to track a history of these documents when being issued, re-issued and/or replaced.

In Phase II, summary waiver information is going to be stored in a new database to assist in tracking vehicle waivers that are issued. It is planned that DNREC will retain the detail backup paperwork and copies necessary to comply with the Federal regulations. If DNREC requires DMV to record the details of a waiver, the system must be modified to comply. Waiver details would include recording the place of purchase, the line items purchased for repair and the individual amounts of each.

If additional programming or design support is required to assist the DAFB or other Federal agencies in meeting their schedules and requirements, DMV may supply resources to assist in the effort. The agencies requiring assistance may require reports, file downloads and programming expertise to expeditiously complete their commitment.

DNREC is currently handling all assignments and identification of covert vehicles. If they require assistance in this effort or require DMV to specially track them in the MVALS system, additional design and programming will be required. Reports on the activity of the covert vehicles would also be required.

Exclusions:
Not included in the scope of this project are:

- Data capture, recording, tracking and reporting of repair facilities.
  Special demarcation of Kent and Sussex county boundaries.
- Design or software programming to handle identification of covert and overt vehicles.
- Purchase of software for bar code printing.
- Covert vehicle identification and reporting issues.
- Vehicle manufacture notification requirements.

I accept this Project Scope as written and agree on the contents within.

Approved by: _____
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Approved by:_____
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DMV Chief of Vehicle Service

Approved by:_____
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Management Overview

Background

Motor vehicle inspection and maintenance programs are an integral part of the effort to reduce mobile-source air pollution. Of all highway vehicles, it appears that passenger cars and light trucks emit most of the vehicle-related pollutants. Although progress has been made in the reduction of these pollutants, the continuous increase in vehicle miles traveled on the highways has offset much of the technological progress thus far. Under the Clear Air Act, the Federal Environmental Protection Agency (EPA) is attempting to achieve major emission reductions from these transportation sources. Until the automotive manufacturers develop and commercialize cleaner-burning engines and fuels, the main source of air pollution reduction will derive from the proper maintenance of the vehicles during customer use. *The contents of this System Requirement Definition are subject to change based upon EPA review of the Delaware State Implementation Plan (SIP) and their findings.*

To put the inspection program in perspective, it is important to understand that today's motor vehicles are totally dependent upon properly functioning emission controls to keep pollution levels low. Minor malfunctions in the emission control system can increase emissions significantly. Since these emissions may not be noticeable and the subsequent malfunctions do not necessarily affect vehicle performance, it is difficult to detect which vehicles fall into this category. The new inspection equipment and programming provided by Environmental System Products (ESP) will

capture that important inspection data and record it on the mainframe for access by the registration renewal and vehicle titling programs. Those systems will verify the results and permit vehicles passing the inspection tests to proceed through the DMV titling and registration systems without change. Failing vehicles will require repair and re-testing until they pass inspection or receive a vehicle waiver from DMV management. All subsequent action, beginning with the initial inspection test – such as re-test inspection results, waivers, and overrides – will be recorded by the system.

The Project Scope document refers to six implementation phases within the development process of this project. Those six phases translate into six high-level requirement specifications categories. It is important to understand that the six requirement categories do not all directly relate to the six installation phases. Part or all of each requirement category will be implemented to establish the six-phase approach for implementation. The categories defined in the System Requirements Definition document are:

1. **System Control** - This section of the requirements document encompasses system rule file maintenance, new temporary tag and window sticker inventory file maintenance, and certified lane technician maintenance. All of the functions within this design category must be implemented before the system can become operational.

2. **Vehicle Inspection** - This corresponds to Phase I of the Project Scope and must be implemented in its entirety before other components may be installed that depend on the Inspection Result data produced. The requirements document refers to, but does not detail, the client/server system developed by ESP. Since this document was developed after the ESP design, it only addresses utilization of the data produced. Additional information regarding the design of the system can be located in the ESP design document.

3. **Vehicle Registration** - The requirements described under this section cover registration renewal, vehicle titling, temporary tag distribution, window sticker distribution, inspection result verification/handling, and vehicle repair tracking. All of the components in this section must be implemented before the system can go online. Registration renewal will be the first section to be implemented, with the title section to follow. To support either section, temporary tag distribution, window sticker distribution, and inspection result overrides and waivers must be installed. The certified repair facility and technician tracking components may be installed after the system becomes operational.

4. **External Agency** - External agencies are vehicles that are not registered with the State of Delaware. Examples of these are: Dover Air Force Base motor pools and civilian vehicles; Postal Service vehicles; Reserved Armed Forces vehicles; etc. Identification of these vehicles will not be as straightforward as the vehicles

registered in Delaware because DMV does not keep records for them today. The Clean Air Act requires those vehicles to comply with the EPA emission standards as long as they continue to operate in Delaware. This section addresses the requirements and how to accomplish them. As each agency is introduced to the system, new program components may be required. Each agency may be processed differently than the previous, based upon their technical capabilities. DMV will strive to develop a standardized approach and demand adherence from all external agencies. The components described in this section are required before introducing the first external agency to the system.

5. **Audit Reporting** - Requirements for three auditing techniques have been identified: standard auditing reports and functions; special auditing functions; and auditing as required by DNREC. Auditing the system on a periodic basis – daily, weekly, etc. – is considered a standard procedure. Reports and screens will be programmed to run automatically for all of the standard auditing procedures. Special audits and DNREC (overt and covert) audits will be discussed and will permit flexibility in selection and formatting of the information. Registration Denial data transfer to local PCs will also be an option.

6. **Information Inquiry** - The components in this section represent additional inquiry functions required to view the new information. Three separate areas have been defined as requiring access to the information: DMV, the State Police, and DNREC. Each will share many of the same inquiry components with "information blocks" applied when information is required by one agency and not the other. System rules will be developed to control the information selection and screen displays. Portions of this section will be required as the initial system is installed. Advanced inquiry facilities will be identified and included as the detail system specifications are developed.

The following paragraphs supply additional detail in reference to the above system requirement categories. If more detail is required, please refer to Section II - Data Requirements and Section III - Process Requirements located later in this document.

System Control

The requirements described in this section are designed to keep the inventory files and system rules updated and in control of the system. Currently there are five separate processes defined:

1. The Registration Denial Rule Maintenance process will permit DMV management to maintain all of the associated rules concerning the Registration Denial system. Rules pertain to system variables that actually "drive" the system decision-making

process. Externalizing the rules permits more flexibility and better overall control of the system by DMV.

2. A Temporary Tag Inventory maintenance system will be developed to control the acquisition and distribution of all temporary tags. The maintenance system will allow control of and accounting for each temporary tag distributed by DMV. Control begins when new inventory is received. It will be tracked until the vehicle to which the tag was assigned is purged from the DMV files. The inventory and temporary tag history files will be closely related.

3. A Window Sticker inventory control system will permit similar control (as in the case of temporary tags) over the window stickers issued by DMV. The maintenance system will allow control of and accounting for each window sticker distributed by DMV. A vehicle window sticker history file will be incorporated with the present DMV title file.

4. The Certified Lane Technician maintenance system will allow DMV to track and record information about their lane technician employees. Information such as certification test results, re-certification results, and demographic data will be retained and reported.

5. The last new maintenance system planned will track Certified Repair Facilities and associated Certified Repair Technicians. The system will permit maintenance and reporting of repair facilities employing certified repair technicians and their certification test results.

Vehicle Inspection

This section describes the physical vehicle inspection that normally occurs for every registered vehicle in Delaware. The process is completed prior to a vehicle being titled, and then (normally) every 2 years after for registration renewals. The entire process occurs at the inspection lane(s)and is conducted at various checkpoints within. The ESP system controls the events that occur during the inspection process and helps ensure that each station checkpoint records the appropriate results. The results of each checkpoint test will be recorded and stored in the ESP station manager computer and then transmitted to the OIS mainframe in Dover, Delaware, for permanent storage and retention. ESP handles all pass and fail parameters, anti-tampering verification and recording, permissible limits of the test, and calculating the 10% reduction in emission gases from the initial inspection for waiver processing. ESP also issues the final pass or fail grade for the vehicle.

Vehicle Registration

The normal DMV administrative "life cycle" of a vehicle is described in this section. It begins when the vehicle is purchased and titled in the State of Delaware. Under normal circumstances, a vehicle will undergo an inspection to initiate this process. However, most new vehicles purchased in the state are exempt from an initial inspection. During the vehicle "life cycle," it may be issued a temporary tag, window sticker, or a waiver for emissions; or the inspection test results may be overridden by DMV management. As the next vehicle-registration renewal period nears, a registration renewal notice is printed and sent to the customer. That notice prompts the owner to bring the vehicle to DMV for an inspection and registration renewal. The process (Notice, Inspection, Renewal) continues as long as the vehicle ownership does not change and the vehicle remains in Delaware. The major new portions of the Vehicle Registration component for Registration Denial are:

Temporary Tags -

Once a vehicle is issued a temporary tag, the paperwork flows into DMV for recordkeeping. A clerk will enter the temporary tag information into the computer using a new temporary tag data-entry program. The program will complete a stolen vehicle check as is currently done while adding a title. A record will be added to the Temporary Tag History file for that (X) tag number. That record will then be available for inquiry by DMV and law enforcement. It can be found by entering the VIN or the (X) temporary tag number. The record will remain linked to the vehicle by VIN until the vehicle is purged from the DMV files. As the record is being recorded in the Temporary Tag History file, the temporary tag number will be consumed from the Temporary Tag Inventory file. Temporary tags are not tracked by today's system and will be valuable new information for DMV and law enforcement agencies. The introduction of this system will be completely new to DMV.

Window Stickers -

After a vehicle is titled or renewed, it will be assigned a new window sticker. The current processes will be modified to assign the next available window sticker to the vehicle from the clerk's inventory. As a safety precaution the clerk must enter the window sticker number, and the program will verify the number against the available window stickers in the clerk's inventory. If the number is not found, a window sticker override will be permitted. A reason for the override must be supplied by the clerk. The program will consume the window sticker from the clerk's inventory and add the information to the Window Sticker History file. The Window Sticker History will remain on the DMV files for a minimum of one inspection cycle. Replacement window sticker issuance and fee collection will be made available on the Cash Collection miscellaneous menu. Window sticker inventories, distribution, and tracking are new processes to DMV.

Title Vehicle -

Vehicle titling is required by law, and all vehicles owned by Delaware residents traveling the highways must be titled. The title function encompasses several functions today, such as adding, correcting, and transferring titles. All of the functions used by the title section

will be affected by the changes being made for the Registration Denial project. Titling can only occur after the vehicle has passed all of the inspection tests required of the particular vehicle class. There are a few exceptions, such as the fact that a vehicle may be permitted an override (and pass) of a failed test by DMV management. Or, a vehicle may receive a waiver if it meets the vehicle repair expense limits and obtains a ten percent emission reduction measured from the initial test. A window sticker must also be issued to the vehicle.

The Correct Title function permits the title clerk to correct information on the Title file that may have been entered incorrectly during the title add function. New features must be included in the program to calculate the remaining time left on an inspection and restrict expiration date modification to the last day of that inspection. Additionally, extensions beyond that inspection date will not be permitted by the program without another inspection. The program will require the capability to assign a new window sticker without regard to inspection dates, although the Correct Title function for a tag change will not issue a new window sticker. The window sticker stays with the vehicle in all cases.

The Transfer Title function permits the title clerk to transfer vehicle title and associated information from one owner to another. Transfers occur anytime vehicle ownership changes for any reason. Expiration dates cannot be transferred to another vehicle. In all cases, a vehicle expiration date remains with the vehicle, not the tag.

The introduction of inspection result verification and handling, window sticker inventories and distribution, waivers, and overrides are new concepts that will be introduced to DMV with the installation of this system.

Waiver Process -

This process allows a clerk, or DMV management, to store vehicle waiver repair information into the system for a specific vehicle. The system will record the waiver information and retain links to the Inspection Results, Title, and Certified Technician files. Those linked files will be used for tracking and reporting the effectiveness of repair technicians and the waiver information permitted by DMV. The waiver information will be validated by the Title and Registration Renewal systems. When present and within the confines of the rules set by DMV, the vehicle will be permitted to proceed through the system without a passing inspection record. Waivers may be entered directly from the Titles and Registration Renewal screens or through an administrative function. The repair facility and repair technician information completing the vehicle repairs must be present in their respective files before a waiver can be entered. The repair facility and technician information may only be modified by DMV supervisors and above. Recording and verifying this information via computer is a completely new function to DMV.

Override Function -

This function will be used by DMV management (and selected supervisors) and permit them to perform four major functions against the Inspection Result file. It will allow:

1. Adding an Inspection Result record to the file. This will only be permitted when the ESP system is down and vehicle inspections revert back to the Bar 84 technique. This function will be extremely secure and verified each time a new entry is attempted.

2. Modification of the Inspection Result content. This is the function normally known as an override. The function will be restricted to particular DMV personnel, and even those permitted will have data-level restrictions. Overrides will be permitted on a case-by-case level and normally restricted to only safety item failures.

3. Transferring Inspection Results from one registration to another. This option will be used when the lane technician makes a mistake while entering the vehicle identification information. When a mistake has been made, the inspection results will be logged under the wrong registration. The customer will not be permitted to continue through the process unless the mistake is rectified. The system will track the transfer (from and to) information and create another record for the proper vehicle. The original inspection record will not be included in any statistical reporting.

4. Deleting individual Inspection Result records from the file. This is a very rarely used, but required, function to delete an inspection result record from the file. This option will be used when an inspection result record was created (Option #1 above) under the wrong registration. The record will be marked for deletion, but it will not be physically deleted from the file until the proper authorization is given by DMV management. This function will be highly secured and available only to those that absolutely require the function.

Daily auditing reports will be produced by the system and distributed to DMV management for all of the above functions. All of the functions listed above are completely new to DMV.

Renewal Notice -

This process will be modified to produce additional customer notices for one-year renewal and State Police inspection requests. It will examine the Titles and Inspection Results files to identify the vehicles whose registrations are about to expire. It will determine if the vehicle requires an inspection or just a registration renewal. It will also find vehicles that have been requested to report to DMV for a special inspection by the State Police. While processing the selected records, it will determine if a vehicle must receive an inspection or if the current inspection is valid for the vehicle registration renewal. Vehicles that have been inspected within the last year may renew their registration for one additional year

without another inspection. All the requirements of the owner to obtain a registration renewal will be printed on the renewal notice. The two year inspection rule applies in all cases and will be printed on the notice. The reporting changes are modifications to the current process. Adding a maintenance program to update vehicles stopped by the State Police is a new requirement of DMV.

Registration Renewal -

The registration renewal process will be modified to verify the inspection results file before permitting a renewal. As in the title process, a renewal will only occur after the vehicle has passed all of the inspection tests required for a particular vehicle class, or it was permitted an override (and pass) of a failed inspection, or a waiver was issued. A waiver requires proof of repair expenses and a ten percent emission reduction from the initial inspection before a renewal may be issued. The renewal process updates the current title record in the Title file. Once the title record is updated, the system prints a 2-D bar code on the updated registration card and issues the next available window sticker from the clerk's inventory. If the vehicle does not pass the inspection, a temporary tag will be issued, without a window sticker, by the registration clerk. Temporary tag issuance will be accessible through the renewal screen. As with the title functions, inspection result verification and handling, window sticker and temporary tag inventories, waivers, and overrides are new concepts to the registration clerks.

External Agency (Unregistered Vehicles)

This process is designed to permit DMV to identify and test vehicles stationed in Delaware that are owned by external agencies and not registered in Delaware (such as those owned by the DAFB, the postal service, and other federal motor pools). Those vehicles must be identified and tested to be sure they are in compliance with the federal emission standards. It is the responsibility of the individual agency to perform the follow-up to ensure that all vehicles are,
and remain, in compliance. The system design for this function will incorporate:

- automatically receiving and loading the vehicle and owner information into a database that will be used by ESP;
- using the information to inspect and test the vehicle (ESP);
- recording the test results and subsequent re-test results;
- providing the Inspection Results data to the external agency in either a report or an online inquiry so that notices may be forwarded by the agency;
- and reporting vehicles inspected and statistical information.

The introduction of this system will be completely new to DMV.

Audit Reporting

This process will match the Title, Inspection Result, and at times the Vehicle Audit Information files and create reports about the information. Specific calculations and formats will be determined as the design process continues. External rules will be used to control the processing. All of the following components are new to DMV:

Standard Audit Reports - The reports will be standard reports that will run unattended periodically and produce the necessary reporting and audit information. The reports will be designed in conjunction with DMV management to support the information required by DNREC and the EPA. Some of the reports will be written as part of the Phase II installation since EPA will require reports before the system will be fully installed.

Specialized Audit Reports - The reports will be specialized (by data selection, not report format or content) processes that will run to produce the necessary reporting and audit information. Special reports may be produced from the Inspection Result, Repair Facility, Technician, Waiver, and inventory files. All reports will be designed with DMV management to support any special requirements of DNREC and the EPA.

Covert Audit Reports - These reports, like the specialized reports, will be specific processes (by data selection, not report format or content) that will run to produce the necessary reporting and audit information.

An automated process will be created to allow DNREC the ability to access and report the contents of the Title and Inspection Result files. The audit function is a direct responsibility of DNREC. Additional functionality will be created as DNREC defines the requirements. All reports will be designed with DNREC management in support of the information they require.

Information Inquiry

There will be a great deal of new information created by the Registration Denial system. That new information will be accessible by DMV, the State Police, and DNREC, and they will require new systems to permit online inquiries into the data. Modifications will also be required to current systems to provide access to the data without writing new inquiry systems. Access to allow specific personnel permission to view the information will be granted based on security levels and new rules set up in the system. Changes include modification to the current Delaware State Police (CICS) processes to permit inquiry and viewing of the new data captured by DMV. The current DMV inquiry systems will be modified to access the new data and display the information for the requester.

APPENDIX 9 (a)

ENFORCEMENT AGAINST OPERATORS AND INSPECTORS

Agreement between State of Delaware Department of Public Safety Motor Vehicle Division and Council 81 of the American Federation of State, County and Municipal Employees, Section 8, Disciplinary Action. (Subject to change as the result of future union negotiations)

ARTICLE 8 DISCIPLINARY ACTION

8.1 The Employer agrees that any disciplinary action up to and including dismissal shall be taken only for just cause.

8.2 Employee suspensions shall not exceed 30 calendar days except under the following circumstances: a court action is pending in the matter which led to the suspension; as a result of an arbitration award; or as a result of a grievance settlement involving a dismissal action where arbitration is pending.

8.3 Monetary fines shall not be imposed as a disciplinary measure.

8.4 Prior to the implementation of a dismissal action, employees shall be notified in writing that such action is being considered and provided the reasons for the proposed action.

8.41 Employees shall be entitled to a pre-termination hearing, provided they submit a written request for such hearing to the Division Director and State Deputy Director for Labor Relations within 5 work days of receiving the above referenced notification. The employee may be suspended without pay during this period.

8.42 The pretermination hearing shall be held within a reasonable time after the employee has requested such hearing in compliance with 8.41.

8.43 Pretermination hearings shall be informal meetings for the purpose of providing employees an opportunity to respond to the proposed action, and offer any reasons why dismissal may not be justified or too severe a penalty.

8.44 Prior to implementing a suspension without pay, the Employer shall follow the notification requirements set forth in 8.4.

8.5 Employees shall be entitled to a presuspension meeting with the Employer prior to the implementation of the suspension, provided they make a written request for such meeting to the Division Director within 5 working days after receiving the notice.

8.51 The presuspension meeting shall be held within a reasonable time after the employee has requested such meeting in compliance with 8.5.

8.52 The pre-suspension meeting shall be an informal meeting for the purpose of providing employees an opportunity to respond to the proposed action, and offer any reasons why the proposed suspension may not be justified or too severe a penalty.

8.6 Employees may be accompanied by a Union representative at any meeting/hearing held under this Article.

8.7 Any employee failure to comply with the requirements set forth in 9.41 and 9.5 shall be treated as a waiver of any rights set forth in this Article.

8.8 Disciplinary documentation shall not be cited by the Employer in any action involving a similar subsequent offense after 2 years, except if employees raise their past work record as a defense or mitigating factor.

State of Delaware Merit Rules
CHAPTER 15 EMPLOYEE ACCOUNTABILITY

15.1 Employees shall be held accountable for their conduct. Measures up to and including dismissal shall be taken only for just cause. "Just cause.' means that management has sufficient reasons for imposing accountability. Just cause requires:

C showing that the employee has committed the charged offense;
C offering specified due process rights specified in this chapter; and
C 1mposing a penalty appropriate to the circumstances.

15.2 Employees shall receive a written reprimand where appropriate based on specified misconduct, or where a verbal reprimand has not produced the desired improvement.

14.3 Prior to finalizing a dismissal, suspension, fine or demotion action, the employee shal1 be notified in writing that such action is being proposed and provided the reasons for the proposed action.

15.4 Employees shall receive written notice of their entitlement to a predecision meeting in dismissal, demotion for just cause, fines and suspension cases. If employees desire such a meeting, they shall submit a written request for a meeting to their Agency's designated personnel representative within 15 calendar days from the date of notice. employees may be suspended without pay during this period provided that a management representative has first reviewed with the employee the basis for the action and provides an opportunity for response. Where employees' continued presence in the workplace would jeopardize others'

safety, security, or the public confidence, they may be removed immediately from the workplace without loss of pay.

15.5 The predecision meeting shall be held within a reasonable time not to exceed 15 calendar days after the employee has requested the meeting in compliance with 15.4.

15.6 Predecision meetings shall be informal meetings to provide employees an opportunity to respond to the proposed action, and offer any reasons why the proposed penalty may not be justified or is too severe.

15.7 Fines of not more than 10 days pay may be imposed, provided they do not cause employees to be paid less than the federal minimum wage as set forth in the Fair Labor Standards Act.