

REVISIONS TO THE STATE IMPLEMENTATION PLAN (SIP)  
FOR THE CONTROL OF OZONE AIR POLLUTION

INSPECTION/MAINTENANCE SIP FOR DALLAS/FORT WORTH,  
EL PASO, AND HOUSTON/GALVESTON  
OZONE NONATTAINMENT AREAS

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION  
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## APPENDICES

### APPENDIX

- A Federal Register Part VII, U.S. Environmental Protection Agency, 40 CFR Part 51, Inspection/Maintenance Program Requirements; Final Rule, dated November 5, 1992 and Flexibility Amendments, dated September 18, 1995.
- B Texas Health and Safety Code, Subtitle C, Air Quality, Revised September 1, 1995. (Tex. Health & Safety Code)
- C Senate Bill 178 by 74th Legislature amendment to the Texas Health and Safety Code §§382.037 and 382.038. Section §382.037, Health and Safety Code is amended by adding Subsection (a-1) and amending subsections (d) and (n). Section §382.038, Health and Safety Code, is amended by amending subsections (a), (b), (d), and (e).
- D Texas Natural Resource Conservation Commission Regulation IV, (30 TAC Chapter 114), Control of Air Pollution From Motor Vehicles, Proposed February 28, 1996, Adopted May 29, 1996.
- E Texas Natural Resource Conservation Commission, Appropriations for Fiscal Years 1996 and 1997. Texas Department of Public Safety, Appropriations for Fiscal Years 1996 and 1997. STATE OF TEXAS, Text of Conference Committee Report, House Bill No. 1 (General Appropriations Act). Seventy-fourth Legislature, Regular Session.
- F TNRCC, "Request For Offer for the Design, Construction, and Operation of the Texas Data Link Project for the State of Texas", dated December 20, 1995. (RFO)
- G TNRCC, "Specifications For Preconditioned Two-Speed Idle Vehicle Gas Analyzer Systems for use in the Texas Motorist Choice Vehicle Emissions Testing Program", dated April 26, 1996.
- H Texas Transportation Code §547.604, §547.605, and Chapter 548 Compulsory Inspection of Vehicles.
- I Executive Order GWB 96-1 Relating to the Vehicle Emissions Inspection and Maintenance Program. Signed February 27, 1996.

J Rules and Regulations for Official Vehicle Inspection Stations and Certified Inspectors.  
Texas Department of Public Safety. September 1992.

K HK Consulting & Design, Inc., “Vehicle Safety Inspection Compliance Survey” for  
Dallas and Tarrant Counties, dated February 1996.

## COMMONLY USED TERMS

### **Core Program Area**

Dallas, Tarrant, Harris, and El Paso Counties

### **Core I/M Program Area**

Dallas, Tarrant, Harris, and El Paso Counties

### **DFW**

Dallas/Fort Worth nonattainment area

### **DPS**

Department of Public Safety

### **EPA**

A regulatory agency of the U.S. federal government responsible for creating and enforcing regulations concerning the protection of the environment from various forms of pollution, including that which is generated by motor vehicles.

### **FTE**

Full Time Equivalent Employee. When used within this SIP, an FTE is calculated by adding the time each inspector spends on vehicle inspections, and dividing by 52 weeks per year. For example, if a station employed twenty individuals, but each employee only worked on vehicle inspections two weeks worth of time per year, this station employed 1 FTE.

### **Exhaust Gas Analyzer**

A device used to measure the amount of emission gases in an exhaust sample.

### **High Emitter**

A vehicle whose measured tailpipe emissions levels exceed recommended testing standards.

### **I/M Program**

A vehicle emission inspection program as defined by the federal EPA that includes, but not limited to, the use of computerized emission analyzers, on-road testing, and/or inspection of vehicle emission devices.

### **I/M Program Area**

Dallas, Denton, Collin, Tarrant, Harris, Fort Bend, Galveston, Brazoria, Montgomery, Liberty, Waller, Chambers, and El Paso Counties

### **MPO**

Metropolitan Planning Organization

### **Program Area**

Dallas, Denton, Collin, Tarrant, Harris, Fort Bend, Galveston, Brazoria, Montgomery, Liberty, Waller, Chambers, and El Paso Counties

**QA**  
Quality Assurance

**QC**  
Quality Control

**TX96**  
Testing equipment meeting specifications for “Preconditioned Two-Speed Idle Vehicle Exhaust Gas Analyzer System” for use in the Texas Motorist’s Choice Vehicle Emission Testing Program.

**Tex. Health & Safety Code**  
Texas Health and Safety Code

**TNRCC**  
Texas Natural Resource Conservation Commission

**TxDOT**  
Texas Department of Transportation

**VID**  
Vehicle Identification Data base

**VIR**  
Vehicle Inspection Report

**VRF**  
Vehicle Repair Form

## B. OZONE CONTROL STRATEGY

(1) - (7) (No Change)

### 8. SIP Revision for Mobile Source (Revised)

#### a. Vehicle Inspection/Maintenance (I/M) Program

The I/M program shall reduce hydrocarbon emissions, which include volatile organic compounds (VOC), that react with nitrogen oxides (NO<sub>x</sub>) to form ground level ozone.

Ground level ozone is an irritant to the lungs and especially impacts children, older citizens, and others that may have decreased lung capacity. Ozone contributes to lower crop yield.

Some hydrocarbon (HC) emissions include VOC such as benzene, formaldehyde, and 1,3-butadiene, which are air toxins. They may cause cancer and have other adverse health effects.

The I/M program shall reduce emissions of carbon monoxide (CO) which interferes with the oxygen-carrying capacity of the blood. Exposure aggravates angina and other aspects of coronary heart disease and decreases exercise tolerance in persons with cardiovascular problems. Infants, fetuses, elderly persons, and individuals with respiratory diseases are also particularly susceptible to CO poisoning.

The I/M program may reduce emissions of NO<sub>x</sub>, including nitrogen dioxide and nitrous oxide, which irritates the lungs, lowers resistance to respiratory infections, and contributes to the development of emphysema, bronchitis, and pneumonia. NO<sub>x</sub> contribute to ozone formation (ground level) and visibility degradation and can also react chemically in the air to form nitric acid. NO<sub>x</sub> reductions may be achieved in enhanced I/M programs; basic I/M program areas

are required to implement programs that result in no NQ increases.

Texas implemented a vehicle emissions testing program on January 1, 1995, which met requirements contained in the U.S. Environmental Protection Agency's (EPA's) final rule for I/M programs. Senate Bill 178 (SB178), passed by the 74th Texas Legislature, canceled the testing program, reinstated the previous testing program, and authorized the renegotiation of new vehicle emissions testing programs that are more convenient and less costly. During this time, EPA finalized the I/M Flexibility Amendments providing for an additional third standard, the low-enhanced standard. States were allowed flexibility in designing a program that would meet one of the three program standards: a basic, low-enhanced, or high-enhanced performance standard. The rule also allowed areas with an urbanized area of less than 200,000 people to opt-out of the vehicle emissions testing program if the area could meet other Clean Air Act requirements. The rule also allowed States to authorize low-income time extensions more than once in the life of a vehicle. Some emissions related repairs performed 60 days or less, prior to an initial emissions test failure, could be allowed in calculating costs for minimum expenditure waivers.

## **1) Applicability**

The legal authority for the Texas Natural Resource Conservation Commission (commission or agency) and the Department of Public Safety (DPS) to implement the I/M program is granted by Executive Order of the Governor, which is attached as Appendix I. The Texas Health and

Safety Code (Tex. Health & Safety Code) 382.037 A-1 gives the Governor the authority to expand the geographic coverage of the I/M program beyond urbanized area boundaries to include areas that contribute in a significant way to mobile source emissions inventory in the nonattainment area. The commission has authority to extend the I/M program area, and has designed the Texas Motorist's Choice Program to correspond with county boundaries.

The Federal Clean Air Act (FCAA) and 40 CFR Part 51 as amended require a "basic" vehicle emissions testing program in areas that are defined as a moderate ozone or carbon monoxide (less than 12.6 ppm) nonattainment area. The Dallas/Fort Worth (DFW) area is a moderate ozone nonattainment area. While the area requires only a basic I/M program, substantial evidence suggests that a more stringent program such as the low-enhanced program or a program that exceeds the low-enhanced performance standard, is required to meet the reasonable further progress requirements of current air quality standards.

The Beaumont/Port Arthur area is a serious ozone nonattainment area with an urbanized population of less than 200,000. Under the original I/M rule, an area with an urbanized population of 50,000 or more was required to implement a basic I/M program. On September 16, 1995, EPA finalized the I/M Flexibility Amendments allowing areas such as Beaumont/Port Arthur, with an urbanized population of less than 200,000, to demonstrate a plan to reduce air pollution without utilizing the vehicle emissions testing program. The Beaumont/Port Arthur area meets this criteria, therefore, the State is proposing the removal of the vehicle emissions testing program requirements for the Beaumont/Port Arthur area.

The Houston/Galveston area (severe ozone nonattainment) and the El Paso area (serious ozone and moderate carbon monoxide nonattainment) are required to meet either a "low" or "high" enhanced performance standard. EPA's revised rule allows areas that can meet the reasonable further progress requirements with a less stringent I/M program to develop a program that is more responsive to motorists concerns. The Houston and El Paso areas meet this criteria, therefore, the State is proposing the use of the low-enhanced performance standard in each area.

The DFW and Houston/Galveston areas are unique nonattainment areas. They are made up of several counties containing areas of largely rural population. Some rural nonattainment area residents commute into Dallas, Tarrant, or Harris Counties on a regular basis, while others rarely travel into these densely populated areas.

The DFW nonattainment area consists of Dallas, Tarrant, Denton, and Collin Counties. The urbanized area extends into other counties surrounding Dallas and Tarrant Counties. The 1990 census indicates that the urbanized area population subject to the vehicle emissions testing program is approximately 175,346 more than the total population of Dallas and Tarrant Counties. Research indicates that a vehicle is owned by approximately 84.07 percent of the total population in Denton and Collin Counties. Using this methodology, the exclusion of Denton and Collin Counties from the scheduled testing requirements of the I/M program results in a shortage of approximately 147,411 vehicles. The State commits to capturing the vehicle shortage by placement of remote sensing devices in appropriate locations.

Commuting vehicles from other surrounding counties may also be identified with remote sensing.

The Houston/Galveston nonattainment area consists of Harris, Galveston, Montgomery, Chambers, Liberty, Waller, Fort Bend, and Brazoria Counties. The urbanized area extends into other counties surrounding Harris County. The 1990 census indicates that the urbanized area population subject to the vehicle emissions testing program is approximately 83,652 more than the total population of Harris County. Research indicates that a vehicle is owned by approximately 77.34 percent of the total surrounding county population. Using this methodology, the exclusion of Galveston, Montgomery, Chambers, Liberty, Waller, Fort Bend, and Brazoria Counties from the scheduled testing requirements of the I/M program results in a shortage of approximately 64,692 vehicles. The State commits to capturing the vehicle shortage by placement of remote sensing devices in appropriate locations. More information on the remote sensing element of the Texas I/M program can be found in Section #21 of this document.

The commission believes that the program that is most convenient and least intrusive to the consumer while meeting the ozone reduction requirements in these areas should be adopted. To address these goals, scheduled testing shall be conducted in Dallas, Tarrant, El Paso, and Harris Counties. Nonattainment area traffic commuting into these core counties shall be subject to a remote sensing test, and if the vehicle fails the screening criteria, may be subject to an emissions test at a designated facility. Subject four-wheel drive or vehicles weighing

8,501 pounds or more shall be subject to a two-speed idle test.

The commission has the authority to implement and administer an I/M program consistent with the FCAA. Such authority is not limited by sunset provision.

## **2) Adequate Tools and Resources**

The I/M program shall have adequate funding. The TNRCC Chapter of House Bill No. 1 (General Appropriations Act) (Appendix E), passed by the Seventy-fourth Texas Legislature, Regular Session, appropriates the commission and DPS from Clean Air Receipts and/or the Motor Vehicle Inspection Fund, all fees collected from contractors performing automobile emission inspections pursuant to Section 382.037 (f) [changed to 382.027(e)], Health and Safety Code, for the purpose of developing, administering, evaluating, overseeing, and enforcing the vehicle emissions I/M program, including federally required measures to support the availability of effective emissions repairs. In addition, House Bill No. 1, pursuant to Section 382.037, Health and Safety Code, allows the Governor and the Legislative Budget Board to appropriate to the commission and the DPS sufficient funds to implement the I/M program. These funds come from programmed fees established by the commission. This money shall be deposited to the Motor Vehicle Inspection Fund and Clean Air Act Fund in the Texas Treasury. The Clean Air Act Fund receives other fees, including \$2.00 per vehicle from an automobile safety inspection, dedicated for use of the state air quality program.

Section 159 of the General Appropriations Act allows the transfer of funds as necessary to fund implementation of emissions testing. This section also allows for fees collected from the emissions testing program to be appropriated to the commission and DPS for program continuance.

The commission anticipates, at the time of program start-up, the portion of the fee collected by vehicle inspection facilities that would be available to the commission and DPS will be \$1.75 per paid vehicle inspection at a test facility. Anticipated revenue and budgets for Fiscal Years 1996-1997 for the commission and DPS involvement in the I/M program have been proposed, and are attached as Appendix E. It is anticipated that the budget for future years shall be at similar levels. The commission commits to a dedicated staffing level of no less than 12 full-time equivalent (FTE) employees to I/M program design, oversight, and evaluation. The DPS commits to a dedicated staffing level of no less than 34 FTE employees to I/M program implementation, administration, enforcement, and support. The breakdown by agency is as follows:

**Agency**

Data collection and analysis	4 FTE employees
Performance monitoring/evaluation	4 FTE employees
SIP Amendments, Rulemaking, Program Development	1 FTE employees
Public Information	2 FTE employees
Other administrative and management functions (excluding clerical support)	1 FTE employees

**DPS**

Technician assistance	4 FTE employees
Overt and covert auditing	12 FTE employees
Consumer assistance	2 FTE employees
Waiver oversight	2 FTE employees
Enforcement	7 FTE employees
Other administrative and management functions (excluding clerical support)	3 FTE employees
Remote Sensing	4 FTE employees

The DPS has access to a wide variety of vehicles for use in covert audits of the vehicle emissions inspection program. The DPS has included in their budget the necessary oversight fees to purchase the necessary hardware and gases to be used in the quality control (QC) audit.

On-road testing (remote sensing) of ten percent of the program area vehicle population shall be conducted. The commission shall provide oversight of the data collection and shall analyze the results of the data from a pilot study in 1996. DPS shall provide implementation of the remote sensing program beginning in 1997.

The Texas Department of Transportation (TxDOT) shall assist with the sharing of vehicle registration data, and with the denial of re-registration element of the Motorist's Choice

Program. After legislation, TxDOT will allocate necessary staff to perform tasks associated with re-registration denial. TxDOT is currently providing registration data via electronic medium.

### **3) I/M Performance Standards**

The commission commits to implementing an I/M program which meets or exceeds the minimum emission reductions required in the low-enhanced performance standard contained in the EPA Flexibility Amendments. While the DFW nonattainment area is required to meet the basic performance standard in 40 CFR Part 51, modeling of the program implemented in the area exceeds the low-enhanced performance standard and will assist the area in meeting reasonable further progress requirements. EPA's Flexibility Amendments provide a further explanation of federal minimum I/M program design requirements, which are referred to as "performance standards." The computer modeling indicates the proposed I/M program meets or exceeds the required I/M performance standard for applicable air pollutants (see TECHNICAL SUPPLEMENT).

The Houston-Galveston Area Council, North Central Texas Council of Governments, and Texas Transportation Institute, modeled the core I/M program areas using the most current version of EPA's mobile source emission's model, MOBILE5a, released on March 25, 1993. For each pollutant and measurement milestone year, these organizations have provided the emission factor for:

- (A) a no-I/M scenario, which is a base case;
- (B) EPA performance standard; and
- (C) the Texas I/M Program commitment.

Outputs are described in grams per mile (g/mi) reductions, and are tabulated by core program area at the end of this document in the TECHNICAL SUPPLEMENT. Modeling runs are contained in Attachment A.

The vehicle emissions inspection program has been designed to offset NQ increases resulting from the repair of HC or CO failures. The commission shall audit repair data to determine any potential increases in NO<sub>x</sub> emissions as a result of repairing failed vehicles. The commission shall take appropriate steps to correct any NQ increases.

#### **4) Network Type and Program Evaluation**

##### **a) Network Type**

The State of Texas has chosen to implement a Motorist's Choice I/M network in the core I/M program area. This program will allow motorists a choice of test and repair or test-only facilities that offers either an annual, two-speed idle test or a biennial, loaded-mode test. The test-only facilities may offer other services for the convenience of their customers, such as oil changes, oil filter, or safety-related items. A motorist may select a test-and-repair facility that offers either an annual, two-speed idle test or a biennial, loaded-mode test. These facilities

may offer a wide range of repairs and services for the convenience of their customers. The commission will monitor test results by facility type. Program evaluation will be conducted using EPA's definition of test-only facilities, i.e., those that do not perform oil changes. This will allow motorists a choice of testing facilities offering a variety of services. There will be no difference in test fees based on facility type. The commission has developed an innovative program design which allows motorists to choose either an annual (idle test) or biennial (loaded test) subject to availability.

Vehicles that are between six and twenty-four years old and are sold shall be subject to an emissions test if the vehicle is to be registered in Dallas, Tarrant or Harris Counties once legislative authority is granted. Vehicles are also subject to an emissions test as a result of failing a remote sensing test. DPS currently does not have the desired authority to enforce remote sensing. However, authority may be granted by future legislation.

b) National Highway System Designation Act of 1995 (NHSDA) Good Faith Estimates

The commission is claiming full credit for the vehicle emissions testing program described in this revision to the State Implementation Plan (SIP). NHSDA allows states to design and implement vehicle emissions testing programs that have test-and-repair components that do not receive an automatic 50 percent (or greater) discount. Previously, EPA had assumed that decentralized vehicle emissions testing programs (allowing test-and-repair to be done at the same location) were not as effective in reducing pollution from vehicles. The MOBILE

model developed by EPA reduced the credits available for test-and-repair programs by 50 percent.

Based upon recent data collected by Radian Corporation, a gas cap integrity test should receive credit equivalent to the intrusive full pressure test estimated by MOBILE5a. Data from the Maine, Delaware, and Ontario, Canada I/M Programs shows that the failure rates from the full pressure tests were more than twice the MOBILE5a assumed failure rate and that failure rates for the purge test were much lower than the pressure test. The data also indicated that the gas cap integrity check (non-intrusive pressure test) fails approximately 5 percent of the vehicles while accounting for at least half of the pressure test failures. In Maine's I/M Program, the overall failure rate for the purge test was 2.3 percent, while 6.4 percent failed the pressure test. In the Ontario pilot program, only 1.4 percent of the vehicles failed the purge test and 10 percent of the vehicles failed the pressure test. Delaware's pilot pressure test program indicates that half of the vehicles that failed the pressure test (approximately 5 percent of the vehicles tested), fail because of a leaking gas cap. Benefits for the pressure test should be twice as high as the current MOBILE model indicates. Therefore, the commission is adjusting the credit downwards for the intrusive MOBILE5a full pressure test by half and is accounting for the 50 percent pressure test failures identified by the gas cap integrity check. When these issues are taken into account, the gas cap integrity check would appear to be equivalent to the full pressure test.

NHSDA requires EPA to grant interim approval if good faith estimates of credits are made.

The commission commits to implement the following program enhancements:

(1) Target high-emitting vehicles for testing - vehicles that fail a remote sensing scan shall be required to submit to an out-of-cycle inspection in Dallas, Tarrant, or Harris Counties.

(2) Centralized on-line data communications system that shall assist in the prevention of “shopping around” for vehicle emissions tests.

(3) Extensive data analysis for anomalies.

The commission commits to developing an acceptable evaluation of the I/M program to meet the NHSDA requirements.

c) Program Evaluation

The commission shall institute a continuous, ongoing evaluation of the I/M program consistent with EPA requirements to quantify the emissions reduction benefits for the Texas Motorist’s Choice Program.

The commission also commits to reporting the results of the evaluation to EPA on a biennial basis. The initial report will be submitted to EPA by January 1, 1999. The evaluation shall consist of at least the following:

(1) surveys that assess the effectiveness of repairs performed on vehicles that failed the tail pipe emissions test and the gas cap integrity test;

(2) measurement of tampering rates, their change over time, and the change attributable to finding and fixing such tampering as opposed to deterrence effects; and

(3) results of undercover surveys of inspector effectiveness as it relates to identifying vehicles that need repair.

The program shall evaluate a random sample of mass emissions test data of at least 0.1% of subject vehicles as required in 40CFR51.353(c). That sample shall be required to receive a DPS-administered or monitored exhaust gas test and gas cap integrity test. Such vehicles shall receive a state administered or monitored IM240 mass emission test or equivalent at the time the initial test is due as required in 40CFR51.353(c)(3).

The special testing shall take place at the time that the vehicle is scheduled to have an initial inspection, prior to any repair. A computer generated random number may be used to select testing locations for the vehicle emissions test. Special testing shall also be conducted on vehicles that have been inspected as a part of the I/M program. The commission shall then evaluate the data by model year and vehicle type to determine program effectiveness. A contractor(s) may be utilized to assist in collecting, reviewing, or evaluating program data.

The inspection data that is collected shall be submitted to EPA and used by the commission to calculate local fleet emissions factors, to assess the effectiveness of the I/M program, and to determine if the performance standard is being met.

DPS shall conduct testing, and the commission shall provide data, for the biennial evaluation program. Resources and personnel for the evaluation of the I/M program are described in

previous subsections.

## **5) Test Frequency and Convenience**

### **a) Test Frequency**

An annual or biennial emissions inspection shall be required for all subject gasoline powered motor vehicles that are between two and twenty-four years old. Subject vehicles in Dallas, Tarrant, and Harris Counties shall have the choice of testing on an annual basis utilizing TX96 equipment, or on a biennial basis utilizing a loaded mode test type. Subject vehicles in

El Paso County shall test on an annual basis utilizing TX96 gas analyzers. Modeling runs show that emission targets are achieved under this program type.

Within 60 days of resale, or prior to registration, vehicles to be registered in Dallas, Tarrant, or Harris Counties that are between six and twenty-four years old, shall be required to pass an emissions test or obtain an extension or waiver. Any vehicle which has passed the emissions test as part of a regular inspection cycle within 60 days of resale will not be required to have an additional test. The test on resale element does not affect dealer-to-dealer sales or vehicles sold to family members. The test may be performed at any test facility. A Vehicle Inspection Report (VIR) shall be required for title transfers into or within Dallas, Tarrant, or Harris Counties. DPS currently does not have the authority to implement and enforce the test on

resale element of the Texas Motorist's Choice Program. However, authority may be granted by future legislation.

Vehicle emissions testing shall be performed as an integrated part of the annual safety inspection. Vehicle owners choosing to have vehicles tested by a loaded emissions test on a biennial basis shall present the vehicle for an emissions test as part of the vehicle inspection every other year. The vehicle inspection certificate shall differentiate between vehicles receiving an annual emissions test and those receiving a biennial emissions test. The safety certificate remains with a vehicle upon resale; therefore, the testing cycle may not change. The license plate may also remain with the vehicle. Therefore, the registration cycle may not change.

An initial vehicle emissions test will be given to each vehicle presented for inspection and a test fee will be charged to the motorist. If the vehicle passes the inspection, an inspection certificate will be issued. Should the initial vehicle emissions test result in a failure, then after repairs have been made, the motorist's vehicle may be reinspected at the same facility for no charge if the test is within 15 days after the initial test was conducted. The motorist may also choose to go to a different facility for reinspection if repairs have been made and annotated on the Vehicle Repair Form (VRF). The motorist will be charged the full price of an inspection. An inspection certificate will be not be issued until after successful completion of the reinspection. If after the fifteenth day, the motorist returns to the same facility for reinspection or any other facility for reinspection, a full test fee will be charged to the

motorist. Repair information is required for all vehicles presented for retest after a failure.

At least 10% of the vehicle population located within the entire program area is targeted to be subject to remote sensing. Failing vehicles shall be required to have an emissions test within 30 days of notification. Approximately one percent of the overall vehicle population is expected to fail follow-up verification emissions tests after having been identified as being high-emitters through remote sensing.

Vehicle inspection stations shall test any subject vehicle presented for a test during the facility's operating hours. Vehicle inspection stations shall perform vehicle inspections at least eight hours per day, five days per week, for a minimum of 40 hours per week as discussed in Appendix J. Enforcement of the vehicle inspection program is further discussed in Section 11, regarding motorist compliance enforcement.

#### b) Testing Convenience

The Texas I/M program utilizes existing, local businesses for the performance of emissions testing. It is anticipated that over 2,000 facilities will elect to participate in the I/M program. Many of the same facilities that are currently performing idle emissions tests in Dallas, Tarrant, and El Paso Counties are expected to upgrade their equipment in order to continue to participate in the new I/M program. This element of the Texas I/M Program supplies the greatest amount of testing convenience for the motorist; as motorists in Dallas, Tarrant, and El Paso Counties will be able to have emissions tests performed on their vehicles at the same

facilities that they have been accustomed to utilizing.

In Harris County, many facilities currently performing vehicle inspections, repair, and/or maintenance, are expected to elect to participate in the I/M program by purchasing and/or leasing emissions testing equipment. Since these facilities are already established in vehicle inspections, repair, and/or maintenance, Harris County residents are already familiar with their locations. This element of recognition will aid in the convenience of implementing emissions testing in Harris County.

Vehicles registered and primarily operated in the core I/M program area shall be required to have an emissions test as part of their safety inspection. Subject vehicles shall have the choice of testing on an annual basis at a facility utilizing TX96 equipment, or on a biennial basis at a facility utilizing a loaded test type. Incorporating the emissions test with the safety inspection is an added convenience for the motorist, as it alleviates the need for separate tests. Implementation of test frequency issues are detailed in 30 TAC §114.3.

## **6) Vehicle Coverage**

### **a) Registered Vehicles**

The I/M program requires scheduled testing of motor vehicles that are between two and twenty-four years old, and are gasoline powered light-duty vehicles and light and heavy-duty trucks, registered or required to be registered within the core I/M program area, and which are

primarily operated within the core I/M program area and required by the DPS to comply with vehicle safety inspection requirements. Heavy-duty trucks are defined as trucks having a gross vehicle weight of 8,501 pounds or more. Leased vehicles are included in the program and shall be scheduled for vehicle testing as a part of the routine safety inspection, except those primarily operated outside of the core program area. Currently, military tactical vehicles, motorcycles, diesels, and vehicles 25 years old or older an/or registered with TxDOT as antique are excluded from the program. Diesel powered vehicles may be added to the vehicle testing program at a later date. Alternatively fueled or dual-fueled vehicles must be tested in the gasoline mode, if the vehicle can be operated on gasoline. Testing of tail pipe emissions and the gas cap integrity test (if applicable) shall be conducted using the vehicle's gasoline fuel system. The following chart, representing an estimate of subject vehicles, reflects the totals for affected counties in the core I/M program area. This data is from the 1993 TxDOT registration data base.

1993 VEHICLE POPULATION BY COUNTIES

DALLAS/TARRANT	2,301,601
EL PASO	338,921
HARRIS	2,048,882

The commission plans to identify covered vehicles through the TxDOT vehicle registration data base. Prior to chargeable testing, the TxDOT shall provide registration data to the commission for vehicles required to be tested in the core I/M program area. At a minimum,

the registration data shall be provided to the commission on a monthly basis. The TxDOT shall provide the commission with post-registration data on a monthly basis based on vehicle identification number (VIN) and/or license plate numbers.

The commission shall compare the registration data with vehicle inspection results data to identify noncompliant vehicles. Registered owners of vehicles in the core I/M program area shall be notified that their vehicle was registered but did not receive a vehicle emissions test. Remote sensing shall also identify vehicles that are operated in the core program area but registered in other areas.

Businesses and public agencies (operating any number of vehicles) may inspect and repair their own vehicles. However, businesses or agencies are required to obtain an emissions station testing license (which includes licensing of inspection technicians) from the DPS in order to participate. Once a business or public agency is licensed, all other program controls, monitoring and enforcement apply.

#### (1) Compliance

Subject vehicles must be tested in a testing facility that conducts annual tests utilizing a two-speed idle test or loaded test-only (biennial) facility and receive a valid vehicle inspection certificate. Failure to pass program elements results in noncompliance of a vehicle. The enforcement for noncompliance involves the issuance of a citation. A continuation of noncompliance may result in denial of re-registration if authorization is granted by the Legislature. Enforcement of the Motorist's Choice Program is discussed further in Section

11.

(2) Compliance Rate

Recent studies on the compliance rate of the TxDOT registration requirements are inconclusive. Estimates of vehicles failing to meet registration requirements range from 2% to 15%.

(3) Remote Compliance

The DPS will honor reciprocal agreements with other I/M programs. Exceptions may be allowed for vehicles operating in the area with proof that adequate emissions testing in another nonattainment area has been passed. Subject vehicles registered in the program area, but primarily operated in another I/M area, may be allowed to be tested in the program area or furnish proof of passing a test of adequate performance standards by the program area in which the subject vehicle is primarily operated in order to show compliance with I/M program requirements.

Vehicles that are registered in the core I/M program area but are operated in attainment areas of Texas or in another state, are not required to return to the core I/M program area for a vehicle inspection certificate. A vehicle is considered primarily operated in a county if it is used in that county for a least 60 continuous days per testing cycle.

b) Exempt Vehicles

In accordance with SB178, “circus vehicles” and “slow moving” vehicles are exempt from

vehicle emissions testing. Research of the TxDOT data base indicates no known vehicles with the designation of “circus” or “slow moving”. Antique vehicles are also excluded from the I/M program, since they are 25 years old or older.

The commission anticipates no exemptions to the Texas Motorist’s Choice Program.

Therefore, modeling results are not affected. However, if the number of exempt on-road vehicles exceeds 0.5% of the vehicle fleet, the commission will account for that factor in modeling credit estimates.

Texas does have specially designated license plates for vehicles that are exempt from registration fees and have been referred to as "exempt." These vehicles are included in the I/M program requirements. The TxDOT shall provide “exempt” motor vehicle registration data via electronic medium to the commission.

The commission has the authority to establish classes of vehicles that are exempt from the I/M program and may establish procedures to allow and review petitions for exemption of individual vehicles, as provided in §382.037(k) of the Texas Health & Safety Code. The I/M program scheduled testing is designed to test vehicles that are between two and twenty-four years old. Therefore, vehicles less than two years old or greater than twenty-four years old are not included in the scheduled testing.

c) Federal Vehicles

Pursuant to Section 118(c) of the Federal Clean Air Act, federal vehicles, except those identified as military tactical vehicles, operated in the core I/M program area are to comply with all provisions of the I/M program. Therefore, emissions testing is required to ensure that the vehicles meet specified emissions requirements. EPA has provided the definition of a military tactical vehicle as defined in a memorandum dated March 2, 1993 from the Department of the Navy as follows:

“A motor vehicle designed to military specifications or a commercially designed motor vehicle which is needed to meet direct transportation support of combat, combat support, combat service support, tactical, or relief operations, or training of personnel for such operations. Commercial designed motor vehicles described above shall be subjected to state inspection and maintenance programs regardless of tactical status.”

Federal Government fleets are permitted to self test within their own maintenance facilities provided that they meet the required equipment standards, are licensed by DPS, and tests are performed in accordance with established inspection procedures.

#### d) United States Armed Forces Privately Owned Vehicles

The Soldiers and Sailors Relief Act of 1940 Amended in 1974 allows a nonresident owner of a vehicle registered in another state, who is an active member of the United States armed forces, to operate the vehicle in Texas without being registered in Texas. The vehicle is subject to the following requirements:

- (1) The vehicle must display valid license plates issued by another state;
- (2) The vehicle license plates and registration must be issued to the military person;
- (3) The vehicle license plates and registration must be issued by the state where the military person was last stationed or by the state the military person claims as a permanent state of residence; and
- (4) The owner must have in force a specified form of financial responsibility (insurance).

Vehicles meeting these criteria are exempt from Texas registration and therefore, would not be captured in a data base comparison. However, pursuant to Section 118 of the FCAA, federal employees who operate vehicles on federal property must furnish proof of compliance with the applicable requirements of any vehicle emissions inspection program established in the state in which the federal property is located. FCAA requires proof of compliance to be presented to the base authority in one of the following ways:

- (1) Presentation by the vehicle owner of a valid vehicle inspection report from the local I/M program or from any other I/M program;
- (2) Proof of registration within the geographic area covered by the I/M program except for any program whose enforcement is not through registration denial ; or
- (3) Another method approved by the executive director.

Visiting agency, employee, and military vehicles are exempt from the program as long as such visits do not exceed 60 calendar days per year.

Other alternative mechanisms may be approved by the executive director.

The commission shall require Commanding Officers or Directors of Federal facilities to certify annually to the commission that all subject vehicles have been tested and are in compliance with the FCAA. Current estimates of the federal vehicle population in the core I/M program area are as follows:

Federal Vehicle Count

Dallas	1,766
Tarrant	870
Harris	3,703
El Paso	1,509

**7) Test Procedures, Standards and Test Equipment**

a) Test Procedures and Standards

Owners of all subject gasoline powered vehicles that are between two and twenty-four years old that are annually inspected through DPS certified safety inspection stations shall be required to have an applicable emissions test performed. Vehicles less than two years or

greater than twenty-four years old are not required to provide proof of compliance with the I/M program requirements in conjunction with a safety inspection. Texas shall implement annual and biennial vehicle emissions testing in Dallas, Tarrant, and Harris Counties and annual testing in El Paso County. Vehicles shall be subject to a two-speed idle test or may elect a loaded mode test, and anti-tampering checks to include the Exhaust Gas Recirculation (EGR) system, evaporative emissions control system, Positive Crankcase Ventilation (PCV) system, thermostatic air cleaner, gas cap, and air injection system (smog pump) for all subject vehicles. The catalytic converter shall be checked for designated model year vehicles. No purge testing shall be performed in this program. Unsafe vehicles or vehicles with missing or leaky exhausts that are presented for emissions testing may be rejected.

The vehicle emissions inspection shall commence when the VIN, license plate number, make, model, year, and other relevant information has been entered into the system. Pre-existing data, based on the registration data base, and the prior vehicle emissions inspection history of the subject vehicle shall be retrieved. The inspector shall confirm the information from the registration data base with the subject vehicle presented for emissions inspection. If no match or contact occurs with the vehicle identification data base (VID), the inspector must manually enter the vehicle information into the analyzer. All emissions inspection test results shall be electronically stored on the analyzer for 180 days, and sent via modem to the Texas Data Link host computer immediately following the completion of each test. All emissions inspection test results shall be accessible to the commission and DPS.

An official test, once initiated, shall be performed in its entirety regardless of the intermediate outcomes, except in cases of invalid test condition, unsafe conditions or fast pass/fail algorithms. Tests involving measurements shall be performed with program-approved equipment that has been calibrated. Emissions standards shall be applicable to all vehicles subject to the program and repairs shall be required for failure of any standard. The agency shall adjust standards as necessary to maintain a passing rate of at least 80 percent. Upon retest, these vehicles shall be retested for all pollutants. A second failure of any pollutant level shall result in a second failure of the vehicle. Vehicles shall fail visual inspections of subject emissions control devices if such devices are part of the original certified configuration and are found to be missing, modified, disconnected, improperly connected, or found to be incorrect for the certified vehicle configuration under inspection.

As required by EPA guidance, 30 TAC §114.1, “Control of Air Pollution From Motor Vehicles” states requirements for engine replacement, removal/installation of emission components and tampering. Additionally, DPS Administrative Rule §23.92 “Vehicle Idle Emissions Inspection and Maintenance Program” gives guidance on engine switching. The DPS will be responsible for enforcement regarding engine switching and vehicle tampering.

The DPS commits to the use of remote sensing to identify gross polluting vehicles operating in the core I/M program area. Remote sensing may also be used as a quality assurance tool for randomly selected or suspect vehicle emissions facilities. Remote sensing screening shall be conducted according to reliable engineering practices to assure the accuracy of the test.

## b) Testing Equipment

(1) Two-speed Idle Testing Equipment - Vehicles shall be subject to a computerized, pre-conditioned two-speed idle vehicle emissions inspection and gas cap integrity test. The gas cap integrity test shall meet EPA required specifications and procedures. Emissions testing equipment shall have the capability to simultaneously sample dual-exhaust vehicles. All equipment shall meet acceptance testing criteria and receive a notice of approval from the agency's Executive Director or his designee prior to use in the Texas Motorist's Choice Program. All vehicle emissions inspection test systems shall be computerized and contain lock-out provisions for equipment tampering, for equipment failure to conduct or pass calibration or leak checks, and to prevent unauthorized access. All equipment shall provide for automatic data collection that cannot be altered by the emissions testing facility. Steady State idle test procedures will be conducted according to Appendix B of the Federal I/M Rule and steady state idle test equipment specifications will be consistent with Appendix D of the Federal I/M Rule. Specifications are contained in Appendix G

(2) Loaded-Mode Testing Equipment - Motorists shall also have the option of choosing a loaded test if they desire, subject to availability. Vehicles having a loaded test performed shall have a biennial vehicle emissions test. Loaded test equipment specifications and procedures shall meet EPA requirements for two-mode ASM equipment or an acceptable alternative. The agency shall develop written specifications and anticipates issuing the specifications within nine months of EPA's final issuances.

The agency may update emission's testing equipment specifications to accommodate new technology vehicles and changes to the program as necessary. Updates to test equipment specifications will be accomplished through the SIP.

Vehicle emissions cut points used in the Texas I/M Program are located in Appendix A of the Specifications For Preconditioned Two-Speed Idle Vehicle Gas Analyzer System For Use In The Texas Motorist's Choice Vehicle Emissions Testing Program, (Appendix G of this document).

## **8) Quality Control**

### **a) Overview**

The QC measures shall be implemented by the DPS to ensure the State of Texas meets its commitment to provide motorists with consistent and accurate test results. Vehicle inspection site personnel shall ensure that emissions measurement equipment is calibrated and maintained properly and that inspection records, calibration records, and control charts or graphs are accurately created, recorded, and maintained. Calibration practices and procedures shall be performed in accordance with requirements specified by Appendix A of Subpart S of 40 CFR Part 51 and may incorporate EPA's Policy or subsequent policies and/or procedures. Analyzer specifications are located in Appendix G.

Analyzer manufacturers shall prepare a manual of QC procedures, periodic maintenance

schedules, and calibration procedures to be followed by vehicle emissions inspection site personnel to ensure that all equipment is properly calibrated. This manual shall be submitted to the commission for approval prior to the sale of any equipment for use in the Texas Motorist's Choice Program. Manufacturers shall ensure an extended service contract is available upon the expiration of the manufacturer's original warranty period.

The vehicle analyzer specifications shall include, at a minimum, durability and functional requirements to ensure accurate measurements, and processing and recording of test samples under a wide range of adverse ambient conditions. In addition, emissions test equipment shall be:

- (1) automated to the highest degree commercially available to minimize the potential for intentional fraud and/or human error;
- (2) secure from tampering and/or abuse;
- (3) based upon written specifications; and
- (4) capable of simultaneously sampling dual-exhaust vehicles.

Preventative maintenance on all inspection equipment necessary to ensure accurate and repeatable operation shall be performed at least quarterly, or on an as needed basis to assure test accuracy. Preventative maintenance refers to any upkeep practice used to slow a component's deterioration associated with frequent use and aging.

#### b) Equipment Calibration and Maintenance

Equipment shall be maintained according to demonstrated good engineering practices to assure test accuracy. Inspection stations shall use calibration gases meeting the specifications set forth in 40 CFR Part 51. Any modification of these requirements by the manufacturer shall not be implemented without executive director approval. In addition, the commission will obtain EPA approval for any alternative calibrations and maintenance procedures.

Complete records on repairs, software modifications, and calibration of all testing equipment, shall be kept on file by the manufacturer during the original warranty and subsequent service contract agreement period. Each analyzer shall contain a historical data base which automatically records quality control check information, lockouts, and attempted tampering to ensure quality control. The analyzer housing shall be constructed to protect the analyzer bench and electrical components from ambient temperatures and humidity fluctuations that exceed the range of the analyzers. Maintenance procedures for gas cap integrity check equipment shall be maintained according to demonstrated good engineering practices to assure test accuracy.

#### c) Document Security

All vehicle inspection certificates shall be printed with a unique serial number and an official state seal, and shall be counterfeit resistant. Each vehicle inspection station shall provide for the safekeeping of safety inspection certificates (under lock and key at all times), controlling their sequence of issuance, and ensuring that they are placed on, or issued to, vehicles.

A safety certificate will not be issued until a vehicle passes all components of the inspection, including emission testing or qualifies for a waiver or low income time extension. Safety certificates are affixed to the inside of the lower portion of the windshield on the driver side to prevent theft/removal. Removal of a safety certificate by breaking into a vehicle is a felony offense.

## **9) Quality Assurance**

### **a) Overview**

The commission (in cooperation with DPS and TxDOT) shall design program features and DPS shall implement procedures to identify, correct, and prevent fraud, waste, and abuse, and to determine if adequate procedures are being followed, equipment is measuring accurately, and whether problems might exist which would reduce program effectiveness. The DPS shall conduct overt audits of performance, records, and equipment at each emissions inspection lane or test bay (analyzer). Performance audits may also include covert audits. In addition to scheduled audits, the DPS may perform random audits based on tips or complaints from consumers.

The Quality Assurance (QA) procedures shall include operation and progress reports and overt and covert audits of emissions inspectors and emissions inspection facilities. At the conclusion of a DPS audit, the auditor shall complete a formal evaluation (using either electronic or written forms) listing the conclusions of each performance, records, or

equipment audit. Copies of the evaluations shall be retained in the inspector and inspection facility history files. Each evaluation shall provide sufficient detail to support either administrative or civil enforcement actions.

An electronic data base may be used to conduct statistical audits or to alert the DPS of improprieties in the program. This electronic data base shall include, but may not be limited to, data supporting the following activities:

- (1) analysis of facility statistics;
- (2) location of data discrepancies or patterns;
- (3) investigation of the causes of problem areas;
- (4) proposal of policy for the implementation of corrective action; and
- (5) verification of whether the corrective strategies used solved the problem or

sufficient.

Overt and covert audit procedures are based upon written instructions and are updated as necessary to reflect program changes or requirements necessary to benefit the program.

#### b) Performance Audits

A minimum of three performance audits, two overt for each lane or test bay (analyzer) and one covert for each FTE equivalent lane inspector shall be conducted each year. The number of FTE lane inspectors is calculated by adding all of the full and part-time inspectors and dividing by the actual amount of time spent on inspections, and then rounding-up to the next

highest number of full-time inspectors (52 weeks = 1 FTE). In addition, performance audits may be performed as a result of audits, data analysis, or consumer complaints which indicate that inspectors may be violating regulations.

#### (1) Overt Audits

Overt audits, conducted by the DPS or their agents, shall entail the observation of skill and competence of emissions inspectors, proper machine calibrations, and sufficient documentation practices and shall include, but not be limited to, the following procedures:

- (a) a check for the observance of appropriate document security;
- (b) a check to see that required record keeping practices are being followed;
- (c) a check for certificates and other required display information; and
- (d) observation and written evaluation of each inspector's ability to properly perform an inspection.

#### (2) Covert Audits

Covert audits which shall be performed in accordance with [EPA's I/M Rule §51.363

(a)(4)(iii)]. The DPS shall have responsibility for all covert audits. A covert audit requires the auditor to drive a vehicle that is designed to fail into an undisclosed inspection station.

The auditor shall then observe the inspection and determine whether proper techniques are utilized. Covert audits may be conducted with vehicles that are designed to pass an inspection to identify facilities that may falsely fail vehicles. The number of covert audits per year shall

at least total the number of certified inspectors (based on FTEs) within the program. The method for calculating FTEs was discussed previously. Each covert audit shall follow established procedures including, but not limited to:

(a) remote visual observation of inspector performance, which may include the use of aids such as binoculars or video cameras, at least once per year per FTE in high volume stations (more than 4,000 tests per year);

(b) site visits at least once per year per number of FTE inspectors using covert vehicles designed to fail the inspection (this requirement sets a minimum level of activity, not a requirement that each inspector be involved in a covert audit) and/or for stations that conduct both testing and repairs, at least one covert vehicle visit per station per year which includes the purchase of repairs and subsequent retesting if the vehicle is initially failed for tail pipe emissions;

(c) documentation of the audit, including vehicle condition and preparation, sufficient for building a legal case and establishing a performance record;

(d) covert vehicles covering the range of vehicle technology groups (i.e., carbureted and fuel-injected vehicles) and the range of introduced malfunctions covered in the emissions test;

(e) sufficient numbers of covert vehicles and auditors to allow for frequent rotation of both to prevent detection by station personnel; and

(f) access to on-line inspection data bases by DPS oversight personnel to permit the creation and maintenance of covert vehicle records.

c) Records Audits

Vehicle inspection station and inspector records shall be screened on a monthly schedule. Records audits shall assess document security, record keeping practices, certifications, and other required display information and shall identify problems that may indicate potential fraud or incompetence.

The electronic data base shall be used to perform a computer analysis that identifies statistically inconsistent information, discrepancies, patterns, and unusual entries.

An auditor shall, if appropriate, visit an inspection station to review records not already covered in the electronic analysis. A comprehensive accounting for all safety inspection certificates that can be used to demonstrate compliance with the program shall also be performed during a records audit.

d) Equipment Audits

Equipment audits shall include a QC evaluation of required test equipment and written confirmation that appropriate test equipment is being used. Equipment audit procedures shall include, but not be limited to:

(1) A gas audit using gases of known concentration at least as accurate as those used for routine QC checks (calibration gases with a 2 percent certainty). A comparison shall be made with the concentration of the actual readings;

(2) A check of tampering and general serviceability of the equipment;

(3) A leak check;

(4) A check to determine that station gas bottles used for calibration are properly labeled and within relevant tolerances;

(5) A check to determine that the gas cap pressure test equipment is within specifications; and

(6) Functional checks of any loaded mode equipment which may be in use.

e) Auditor Training and Proficiency

The DPS may conduct or contract covert and overt audits. Auditors shall be audited at least once annually.

A standardized set of audit training procedures and curriculum shall be established by the DPS and shall include, at a minimum:

(1) the use of analyzers and other emissions testing equipment;

(2) the program rules and regulations;

(3) the basics of air pollution control;

(4) the basic principles of engine repair related to emissions;

(5) the basic principles of motor vehicle emissions control systems;

(6) state administrative procedures;

(7) covert audit practices;

(8) evidence gathering; and

(9) quality assurance practices.

## **10) Waivers and Time Extensions**

### **a) Waiver Summary**

The commission shall adopt criteria for the issuance of waivers by DPS as a form of compliance for vehicles that do not meet established emissions standards but which do meet other specific criteria. Currently, the two types of waivers which shall be utilized include:

- (1) the minimum expenditure waiver; and
- (2) the individual vehicle waiver.

Each has specific requirements of the vehicle and/or motorist which must be met prior to issuance of the waiver. Waivers shall only be issued to vehicles which meet these requirements after they have failed the initial emissions inspection. Provided that the necessary criteria are met, a vehicle that has received a waiver during one test cycle may receive another waiver during subsequent test cycles. Waivers shall not be issued for more than the duration of one test cycle. If a vehicle qualifies for a waiver and received a one-year “non-loaded” emissions test as part of its initial vehicle inspection, the waiver lasts for a one-year test cycle. If a vehicle qualifies for a waiver and received a two-year “loaded” emissions test as part of its initial vehicle inspection, the waiver lasts for a two-year test cycle.

### **b) Minimum Expenditure Waiver**

A vehicle shall be eligible for a minimum expenditure waiver provided that it has both failed its initial emissions inspection and retest(s), and has incurred emissions repairs whose costs

are equal to or are in excess of amounts described below. Emissions related repairs which shall count toward a minimum expenditure waiver include both those performed after the initial test and those performed within 60 days prior to the initial test. Costs associated with warranty-related repairs shall not count toward a minimum expenditure waiver unless the vehicle owner receives written notification from either the vehicle manufacturer or one of its authorized dealers indicating that specific warranty coverage is being denied. Costs associated with repairs necessary to correct tampering shall not count toward a minimum expenditure waiver. Tampering-related repairs are meant to include engine modifications, emissions control system modifications, or fuel type modifications disapproved by EPA.

Only costs associated with repairs that affect vehicle emissions performance shall count toward a minimum expenditure waiver. Examples of repairs costs that shall not be considered as applicable toward a minimum expenditure waiver include, but are not limited to, services for: the brake system and any of its components; steering and suspension; air conditioning; the exterior body; interior “appearance” components; electrical accessories; and others as appropriate. As a condition of receiving a minimum expenditure waiver, a visual inspection of both the vehicle and repair receipts shall be conducted to insure that the emissions repairs being claimed have actually been performed.

Beginning January 1, 1997, labor (including diagnostic) and parts costs which have been incurred for emissions repairs performed by a Recognized Emissions Repair Technician of Texas (RRT), one identified by the DPS as possessing nationally recognized certification,

shall count toward a minimum expenditure waiver. The RRT component of the Motorist's Choice Program is described in Section 20. For emissions repairs performed by either vehicle owners or other noncertified technicians, only parts (not labor) costs can count toward a waiver for either the replacement or repair of the following emissions control components:

- (1) air pump;
- (2) catalytic converter;
- (3) coil;
- (4) distributor;
- (5) evaporative canister;
- (6) exhaust gas recirculation valve;
- (7) fuel filler cap;
- (8) ignition wires;
- (9) oxygen sensor;
- (10) positive crankcase ventilation valve;
- (11) spark plugs;
- (12) thermal reactor; and
- (13) hoses, gaskets, belts, clamps, brackets, filters, or other accessories and

maintenance items related to these emissions control components and systems.

In order to process minimum expenditure waivers for repairs performed by vehicle owners (and other non-recognized technicians), original receipts for the purchase of these components and repairs shall be submitted to DPS.

In the basic I/M program area of Dallas and Tarrant Counties, the minimum expenditure waiver amount shall be \$200 for 1981-and-newer vehicles and \$75 for 1980-and-older vehicles. In the enhanced I/M program areas of Harris and El Paso Counties, the minimum expenditure waiver amount shall be \$300 in 1997. Prior to January 1, 1998, the commission may elect to adjust these amounts as necessary to meet compliance with the performance standard. Since this action would require rules changes, a public hearing would be held prior to any changes to the rules. After January 1, 1998, the minimum expenditure waiver amount in the enhanced I/M program areas of Harris and El Paso Counties for all subject vehicles shall be \$450 (1989 dollars) and shall be adjusted in January of each year by the percentage, if any, by which the Consumer Price Index (CPI) for the preceding calendar year differs from the CPI for 1989. The CPI for any calendar year is the average of the CPI for all urban consumers published by the Department of Labor, as of the close of the 12-month period ending on August 31 of each calendar year.

Upon failure of the initial or subsequent emission inspection tests, the inspection station operator shall be required to provide the motorist with a failed vehicle inspection report, warranty coverage information, a list of repair facilities, and additional failed vehicle information. Before a retest may be performed, the owner must supply the inspector with a completed VRF. After qualifying repairs have been completed, and if the vehicle fails its emissions retest, the motorist may apply with DPS for a minimum expenditure waiver.

When applying for a minimum expenditure waiver, the motorist must submit a failed retest

report, a vehicle repair form, and original repair receipt(s). The repair receipt shall indicate, at a minimum:

- (1) a itemized statement of repairs completed;
- (2) the name, location, and address of the repair facility;
- (3) the phone number of the repair facility;
- (4) the cost of parts and labor; and
- (5) the repair date.

In order to authenticate repairs, the DPS representative shall indicate on the receipt that it was submitted for waiver purposes, retain the original, and return a copy of the receipt to the motorist. The original receipts shall be maintained by the DPS for a minimum of 27 months.

The DPS representative shall log the following additional information:

- (1) the date and time of the waiver application;
- (2) the identification of the DPS representative; and
- (3) any other information as determined by the DPS.

The DPS representative shall visually verify, to the extent practical, that repairs indicated were actually performed. The DPS representative shall further review the itemized, original receipt(s) to verify that the appropriate minimum cost expenditure has been incurred.

Following a review of the repair receipt(s), the vehicle shall be retested with the applicable inspection test to assess the impact of the repair work performed. Provided that all necessary criteria have been met, a windshield certificate shall be issued for the vehicle. All information

on the issuance of minimum expenditure waivers shall be stored on the VID for tracking purposes.

#### c) Individual Vehicle Waiver

In order to address unusual cases where a vehicle cannot meet emissions standards despite every reasonable effort made by the motorist, an avenue shall be provided for I/M program compliance. This mechanism shall be necessary to allow these vehicles a means of completing the safety inspection process when the vehicle could not be expected to meet emissions testing standards even if the minimum expenditure waiver amount was met. In such an instance, the registered vehicle owner shall be required to petition the DPS in writing explaining the unusual vehicle circumstances which make compliance with emissions standards unreasonable. The registered vehicle owner shall be required to submit any and all documentation which helps to support a “good faith” effort on his/her part. The DPS will review each petition on a case-by-case basis to determine if compliance without meeting emissions standards is appropriate. Provided that it is, the DPS shall require that the vehicle receive an inspection at a DPS designated facility to substantiate the claims made by the vehicle owner. Provided that all requirements have been met, including the safety inspection, a windshield certificate shall be issued indicating that the vehicle is in compliance.

Information regarding individual vehicle waivers shall be stored on the VID for tracking purposes. It is anticipated that fewer than 500 vehicles statewide will receive an individual vehicle waiver.

#### d) Parts Availability Time Extension

If a vehicle fails its initial emissions inspection test and the repairs necessary for a reduction in emissions require an uncommon part, the vehicle may qualify for a parts availability time extension. This type of extension is granted by a DPS representative on a case-by-case basis and is issued for either 30, 60, or 90 days or longer if applicable, not to exceed one test cycle. An automotive emissions-related part is considered uncommon if it takes more than 30 days for expected delivery, the motorist can demonstrate that a reasonable attempt was made to locate necessary emissions control parts by retail or wholesale parts suppliers, and the time required shall exceed the expiration date of the vehicle's current test cycle.

Submission to a DPS representative of either an invoice or receipt indicating that the necessary emissions control component(s) has (have) been ordered shall be sufficient for the purposes of demonstrating a "good faith" effort by the motorist. If not listed on either the invoice or receipt, the motorist shall be required to submit the following information to a DPS representative for each component: (Beginning January 1, 1997, the original itemized document shall be completed by a RRT).

- (1) name and address of parts distributor;
- (2) phone number of parts distributor;
- (3) order number;
- (4) name, description, and catalog number of component; and
- (5) other information as necessary.

The DPS representative may contact the parts distributor to verify the length of time

necessary for the component(s) to be received. The DPS representative may add to the length of time projected to be necessary for a complete repair and a time extension shall be issued for either a 30, 60, or 90 day period. Upon completion of repairs, the motorist must return to an inspection station for an emissions retest. If the vehicle passes its retest, it shall be issued the appropriate windshield certificate. If the vehicle fails the retest and meets the necessary criteria, the motorist may then apply for a minimum expenditure waiver. The commission shall periodically audit the testing data base to ensure that vehicles receiving parts availability time extensions are being properly repaired and retested. A vehicle which receives a parts availability time extension in one test cycle without receiving a retest shall be ineligible for a parts availability time extension in the subsequent test cycle, in addition to other enforcement mechanisms applicable.

#### e) Compliance via Low-Income Time Extensions

A motorist whose vehicle fails an emissions inspection may apply for a low-income time extension if he/she can demonstrate a financial inability to either afford adequate repairs or to meet the applicable minimum expenditure waiver amount (in either basic or enhanced I/M program areas). The low-income time extension is intended to allow the extra time of one test cycle for an owner with a financial hardship to come into compliance by passing the emissions inspection. The low-income time extension is not intended as a permanent exemption from vehicle emissions testing and repair requirements. The low-income time extension is valid for only one test cycle and may not be issued for the same vehicle until the subject vehicle has passed an emissions test. A low-income time extension may not be issued

for the same vehicle in each of two consecutive test cycles. However, a vehicle may receive a low-income time extension more than once in its operating life (i.e., a vehicle may receive one every other test cycle if subject passes an emissions test after receiving the previous time extension).

For the purposes of the low-income time extension, financial hardship is defined as the inability to afford either adequate vehicle repair costs or the minimum expenditure waiver amount for that core I/M program area. The commission and/or DPS may base the criteria for financial hardship on one or more of the following requirements:

- (1) registered vehicle owner is recipient of financial assistance from the Texas Department of Human Services;
- (2) registered vehicle owner's adjusted gross income for the most recent calendar year is at or below the federal poverty level; and/or
- (3) other criteria as determined by the commission and/or DPS.

The low income time extension is available to a registered vehicle owner:

- (1) whose vehicle fails an emissions inspection;
- (2) whose vehicle has completed any warranty related repairs;
- (3) who has proof of meeting the appropriate hardship eligibility criteria;
- (4) whose vehicle is identified by appropriate title and/or registration information; and
- (5) whose vehicle has not received a low-income time extension during the

previous test cycle.

In order to receive a low-income time extension, the vehicle owner shall make an application and present necessary information to a DPS representative. Applicants shall be required to sign an affidavit attesting to their income status. The DPS representative shall be required to record low-income time extensions in a designated data base so that this information shall be available for proper tracking purposes. If the registered owner fulfills the appropriate criteria, a low-income time extension shall be issued for the vehicle.

f) Waiver Rate

For the purposes of demonstrating that the I/M program meets the applicable performance standard, the commission has assumed a waiver rate for each nonattainment area. The commission commits to a waiver rate in practice that is equal to or lower than the percentages of initially failed vehicles listed below:

- (1) 3 percent for the Dallas/Fort Worth area;
- (2) 3 percent for the El Paso area; and
- (3) 3 percent for the Houston area.

If the waiver rates stated in the annual report to EPA are higher than these amounts, the commission and DPS shall take corrective action to lower the waiver rate. Corrective strategies may include:

- (1) requiring the vehicle receiving a waiver to have its emissions test output

levels reduced by a specified amount;

- (2) limiting the model years that are eligible for a waiver;
- (3) raising the cost limits for minimum expenditure waivers; and/or
- (4) other measures determined by the commission and/or DPS.

If the waiver rate cannot be lowered to levels committed to in the SIP, or if the commission chooses not to implement measures to do so, then the commission shall revise the I/M emissions reduction projections in the SIP. If necessary, the commission shall develop other program changes to ensure that the performance standard is met.

#### **11) Motorist Compliance Enforcement**

Compliance shall be ensured through a sticker-based enforcement system with additional enhancements, such as comparing the registration data base with the inspection data base and some elements of registration denial. The program being proposed will achieve a compliance rate of 96 percent. Results from a safety inspection compliance survey in Dallas, Tarrant, Harris and El Paso Counties indicates a 95 percent compliance without the additional program enhancements. Results are located in Appendix K.

The safety inspection program utilizes a windshield certificate indicating the subject vehicle is in compliance with the emissions testing program. In the future, the license plate “tab” indicating current renewal will have a special identification for core counties. Law enforcement officials will be able to visually compare the county of registration and the

county of inspection.

Inspection certificates have a state seal, a unique number, and tear when removed. Additional security features have been added, which have not been utilized by counterfeiters. The Gas Analyzer Specifications (Appendix G) and the VID will assist DPS in tracking inspection certificate numbers. DPS may continue to change the inspection certificate to prevent counterfeiting.

In addition to these requirements, the commission will compare the registration data base and the inspection data base. Letters may be sent to registered owners of vehicles that meet the “subject” criteria and (1) register in a core area without a vehicle emissions inspection; (2) fail an initial inspection and do not appear for a retest and subsequently register out of the county; or (3) make changes to the registration data base which would change testing criteria - changing fuel types or weight classification. Legislation is needed to bar re-registration of vehicles that fail to respond to required testing and to implement a “test-on-resale” component.

Motorists shall be issued citations by local and state law enforcement officials for driving a vehicle with an expired or invalid state inspection certificate. These violations of the Texas Transportation Code, Sections 548.602 and 548.603 are punishable by a fine of up to \$200 for each occurrence. Every time the vehicle is driven, the owner shall be subject to an additional citation. Violators shall be given notification that they must comply with the I/M program

requirements. Noncompliance shall result in delivery of additional citations and fines which may accumulate to more than the expense of a minimum expenditure waiver. Continual noncompliance shall result in denial of re-registration dependent upon legislative approval.

Fines for motorists involved in bribery or fraud are substantially higher, and may result in incarceration. Motorist's charged with obtaining an inspection certificate in a neighboring county to avoid the emissions portion of the inspection may be charged with willful purchase of a fraudulent inspection certificate. Pursuant to Texas Transportation Code Section 548.603, this is a Class C misdemeanor.

A comparison of the TxDOT registration data base and the VID shall be used to identify subject vehicles that are registered in the core I/M program area but have failed to comply with the I/M program. Those vehicles shall be flagged in the TxDOT registration data base, and, after legislation, shall be denied re-registration until the vehicle has complied with I/M program requirements.

The commission shall use VIN decoder software to search for vehicles that have changed their fuel type designation from "gasoline" to "diesel" on their vehicle registration record to escape emissions testing requirements. In addition, records that have had the fuel type designation changed shall be flagged in the VID. The commission shall analyze this data for abuse.

Owners of subject gasoline powered vehicles twenty-four years old or less, which are identified as failing the emissions standards set for remote sensing, shall be required to comply with the vehicle emissions testing requirements of the core program area. Registered owners shall be given notification that they must submit their vehicle for emissions testing within 30 days. Noncompliance shall result in delivery of citations, and continual noncompliance shall result in denial of re-registration dependent upon legislative approval.

Upon resale of all subject gasoline powered vehicles between six and twenty-four years old which are to be registered in Harris, Dallas, or Tarrant Counties, the vehicle owner shall be denied vehicle title transfer unless the vehicle has complied with the I/M testing requirements. When a vehicle is required to meet emissions testing requirements for title transfer, the buyer shall submit to the County Tax Assessor-Collector or their deputies, a valid vehicle emissions inspection report or waiver. The seller must provide to the buyer proof of passing the vehicle emissions inspection test or receiving a waiver within 60 days of selling the vehicle or before the vehicle is registered. Motorists who do not comply with the I/M program requirements shall not be able to have the title transferred. Sales between family members shall be excluded from test on resale requirements. TxDOT currently does not have the authority to implement the test on resale element of the Texas Motorist's Choice Program. However, authority may be granted by future legislation.

The ultimate enforcement shall be denial of vehicle re-registration for those vehicles registered in the core I/M program area that do not comply with vehicle testing requirements.

DPS has the authority to issue misdemeanor citations to motorist operating a vehicle in violation of chapter 548, Tex. Transportation Code, which includes emission related inspections.

## **12) Motorist Compliance Enforcement Program Oversight**

The commission and/or DPS shall audit enforcement efforts regularly and shall follow effective program management practices, including adjustments to improve operation when necessary. The commission shall implement a QA program described in Section 9 to ensure effective overall performance of the enforcement system.

A vehicle inspection compliance survey, enclosed as Appendix K, indicates a 95 percent compliance rate for Dallas, Tarrant, Harris and El Paso Counties. The high compliance rate for vehicle safety inspections, coupled with the addition of registration data base comparison and denial of re-registration, should result in an even higher overall compliance rate. The Texas Motorist's Choice Program shall maintain a compliance rate of 96 percent.

### **a) Procedures**

The DPS and TxDOT shall implement, maintain, and assure that QC procedures are implemented consistent with 40 CFR §51.362(a). Measures shall include the establishment of written audit procedures and/or checklists for I/M document handling and processing, audit procedures, notification of motorists and inspection facilities suspected of violating program

rules and shall permit EPA audits of the enforcement procedures. These procedures shall be consistent with 40 CFR §51.362(a)(5),(b)(2) and state law.

b) Inspection Certificate

Texas Inspection Certificates are designed to prevent counterfeiting. (See Section 8 of this document, Quality Control.) Safety inspection personnel are provided written instructions and training to enable them to recognize fraudulent documents. DPS currently has a program operating that is designed to find counterfeit certificates and prosecute those selling them. Measures shall be taken to control and track inspection certificate distribution and handling. DPS shall establish a physical security program. Additionally, the DPS shall maintain a complete record of all inspection certificates received, issued, or voided at each inspection facility. The DPS shall conduct a monthly check for sequential issuance of vehicle inspection certificates. Inspectors must account for all missing certificates, and must provide a monthly report on all certificates issued. The DPS shall conduct biannual audits of inspection certificate books. DPS shall study the possibility of adopting a unique inspection certificate for use in the core I/M program area. The commission and TxDOT shall continue to explore means to improve the information regarding subject and non-subject vehicles and the accuracy of the vehicle registration data base.

c) Oversight

A contract to design, implement, and operate a telecommunications network which shall support the commission and the DPS program oversight and management requirements has

been awarded to MCI. These on-line oversight capabilities provided to the commission and DPS include, but are not limited to, the following:

- (1) display of facility testing statistics;
- (2) read-only access to the following data bases:
  - (a) inspection results,
  - (b) waivers,
  - (c) complaints, and
  - (d) recalls.
- (3) Vehicle Inspection Histories
- (4) Comparison of Vehicle Registration and Safety Inspection Data bases
- (5) Regular audit of data base information

The exception to the read-only access to data bases shall be the ability of the DPS to change some inspection results to assist in conducting covert audits, allowing a covert vehicle to be used at several facilities.

#### d) Computerized Testing

The commission shall promulgate specifications for emissions testing equipment requiring a computerized testing system that shall automatically:

- (1) make a pass/fail decision for all measurements;
- (2) record test data to an electronic medium;
- (3) conduct regular self-testing of recording accuracy;
- (4) perform electrical calibration and system integrity checks before each test,

as applicable;

(5) perform system lockouts for specified QC checks; and

(6) perform limiting and cross-checking error detection of manually entered

data.

e) Data Base

The centralized data base shall provide a computerized list of all vehicles which were scheduled to be inspected but did not actually undergo testing. Comparison of this data with the registration data base shall assist the commission in ensuring the accuracy of the registration data. The commission shall compare the testing and registration data bases to determine program effectiveness, establish compliance rates, and target violators.

The QA personnel shall perform periodic and automated reviews of collected inspection data. These reviews shall emphasize checks for valid alphanumeric sequences of the VIN, gross vehicle weights, model year, and fuel types.

The DPS shall pursue strategies to assess the compliance status of subject vehicles and to assure the quality of the enforcement data base, including the use of parking lot surveys. The DPS shall also conduct remote sensing studies applicable to subject vehicles. The DPS shall cooperate with the EPA in conducting periodic audits of the I/M program enforcement efforts.

Governmental and quasi-governmental agencies which fall outside the normal registration and

inspection processed shall be subject to enforcement pursuant to Subchapter D of the Texas Clean Air Act, Texas Health & Safety Code Chapter 382 for violations of 30 TAC §114.3.

**13) Enforcement Against Contractors, Stations and Inspectors**

The DPS shall implement, maintain, and assure that procedures are implemented to instruct individuals in the enforcement process. Procedures shall include the establishment of written procedures for personnel engaged in the I/M program to document handling and processing.

The DPS has the authority to take enforcement actions against inspectors and inspection facilities when necessary, even if the licensee had no direct knowledge of the violation.

Under the Texas Transportation Code Section 548.405, the DPS may deny an application for a certificate or revoke or suspend an outstanding certificate of any inspection station or inspector if:

a) The station or inspector conducts an inspection or issues a certificate:

(1) In violation of Texas Transportation Code Section 548.004 or Section 548.104; or

(2) Without complying with the requirements of Subchapters G and H of the Texas Transportation Code; or

b) At the station, the inspector:

(1) commits an offense under Texas Transportation Code Section 548.603; or

(2) falsely and fraudulently represents to a vehicle owner or operator that equipment required to be inspected must be repaired, adjusted, or replaced before the vehicle shall pass inspection.

The director may deny an application for certification, revoke or suspend the certificate of an inspection station or inspector, place on probation the holder of a suspended certificate, or reprimand the certificate holder for any of the following reasons:

- (a) Proof of unfitness of applicant or certificate holder under standards set out in the Texas Transportation Code or DPS rules;
- (b) Material misrepresentation in any application or any other information filed under the Texas Transportation Code or DPS rules;
- (c) Failure to maintain the qualifications for certification;
- (d) Issuance of an inspection certificate without being certified;
- (e) Issuance of an inspection certificate without having made an inspection of the vehicle or without an adjustment, correction, or repair having been made after an inspection disclosed the necessity for the adjustment, correction, or repair;
- (f) Knowing or willful issuance of an inspection certificate for a vehicle without the required items of inspection or with an item that was not in good condition and in compliance with state laws and commission (DPS) rules;
- (g) Refusing to allow the owner of the vehicle to have required corrections or adjustments made by any qualified person the owner chooses;
- (h) Charging more than the authorized inspection fee;

(i) The act or omission by the certificate holder or the holder's agent, employee, or representative that would cause denial, revocation, or suspension of a certificate to an individual applicant or certificate holder; or

(j) Willful failure to comply with this chapter or a rule adopted under this chapter.

Penalties for violations of program rules and procedures range between a six month suspension and a three year suspension. The penalty assessed shall be based on many factors, including whether the violation was a first, second, or subsequent violation, or multiple violations of different requirements. At a minimum, the inspector and station license suspension shall be imposed for at least six months whenever the vehicle is intentionally improperly passed for any portion of the test. In the case of intentional gross misconduct, a first offense may result in a fine of no less than \$100.00 or five times the inspection fee, whichever is greater, for the licensed station, and the inspector if involved. DPS may choose to revoke the inspector's or the facility's certification. The administrative process to deny an application for a license or revoke or suspend an outstanding certificate of any inspection station or the certificate of any person to inspect vehicles shall be enforced by DPS according to the Texas Transportation Code, Section 548.407 as follows:

a) Not earlier than the 31st day before the date an application for certification as an inspection station or inspector is denied or a certificate is revoked or suspended, the director shall notify the person, in writing, in person, or by certified mail to the last address given to the department by the person, of:

(1) The impending denial, revocation, or suspension;

(2) Each reason for the action; and

(3) The right to an administrative hearing to determine whether the evidence warrants the action.

b) To obtain an administrative hearing, a person must submit a written request for a hearing to the director not later than the 20th day after the date notice is given in person or is deposited in the United States mail.

c) If the director receives a timely request, the director shall provide the person with an opportunity for a hearing as soon as practicable. If the director does not receive a timely request, the director may act without a hearing.

d) The hearing must be held not earlier than the 11th day after the date written notice of the hearing, including a copy of the charges, is given to the person by personal service or by certified mail to the last address given to the department by the person.

e) The director, or a person designated by the director, shall conduct the hearing and may administer oaths and issue subpoenas for the attendance of witnesses and the production of relevant books, papers, or documents. If the hearing is conducted by a person designated by the director, the director may take action under this section on a recommendation of the designated person.

f) On the basis of the evidence submitted at the hearing, the director may deny the application or revoke or suspend the certificate.

In addition, the commission has authority to assess penalties for failure to comply with

commission rules. The commission may assess penalties of up to \$10,000 a day. The commission will develop a penalty schedule. Legislative authority is needed to allow DPS to assess penalties.

The DPS and the commission shall maintain and store records of enforcement cases and enforcement statistics on violations and penalties for a period of no less than three years, and shall compile these statistics on an annual basis.

The commission is currently seeking an Attorney General opinion explaining the constitutional impediments to immediate suspension authority. The opinion will also request relevant case law.

#### **14) Compliance with Recall Notices**

The commission shall comply with the policies of the National Recall Committee and additional EPA rulemaking or guidance as it becomes available.

After a data base is supplied by EPA, and if required by EPA Final Rule and/or guidance, the DPS shall establish the following methods to verify whether a vehicle subject to the I/M program and that is included in either a "Voluntary Emissions Recall" or a remedial plan determination pursuant to the FCAA has had the appropriate repairs made prior to inspection. Emissions testing stations shall have electronic means to identify recalled vehicles based on

lists of VINs with unresolved recalls. These lists shall be approved by the executive director on a quarterly basis. Recall data shall be obtained from a supplier identified by EPA, and shall consist of the VIN, the numbers of the recall campaign(s), and the date(s) that the repairs were performed. The Texas Data Link contractor shall supplement the VID to automatically flag the vehicle as noncompliant. The supplemental data shall include the VIN, vehicle make and model year, the recall campaign number, and date of repair. Therefore, vehicles with unresolved recalls shall automatically be identified as noncompliant when they show up for testing.

By July 31 of each calendar year, the commission shall submit an annual report to EPA, covering the previous calendar year (January 1 to December 31), providing the following information:

- a) the number of vehicles in each nonattainment area initially listed as having unresolved recalls, segregated by recall campaign number;
- b) the number of listed vehicles brought into compliance by owners;
- c) the number of listed vehicles with unresolved recalls, which as of the end of the calendar year, were not yet due for inspection;
- d) the number of listed vehicles still in noncompliance that failed inspection on the basis of noncompliance with recall; and
- e) the number of listed vehicles that are otherwise not in compliance.

## **15) Data Collection**

The commission shall collect test data to unambiguously link specific test results to a specific vehicle, I/M program registrant, test site, and inspector, and to determine whether or not the correct testing parameters were observed for the specific vehicle in question. In turn, this data can be used to distinguish complying and noncomplying vehicles as a result of analyzing the data collected and comparing it to a vehicle data base, to screen inspection stations and inspectors for investigation as to possible irregularities, and to help establish the overall effectiveness of the program.

Prior to program start-up, the commission will conduct an initial pilot program at a limited number of volunteer testing stations in the Dallas/Ft. Worth area, to allow stress testing of the system.

A contractor will establish a sophisticated central data base and statewide network for the collection, processing, transmission, monitoring, and reporting of vehicle emissions-related data. The VID, supported by a statewide network, shall receive, process, and transmit vehicle and emissions-related data at the beginning of each emissions test and at the conclusion of each test on a real-time basis. In addition, the VID shall be designed to receive and process vehicle specific, emissions-related data captured by remote sensing devices. The data contractor shall be responsible for maintaining the data collection system and for providing oversight capabilities and administrative capabilities to the commission and DPS.

The following inspection data shall be collected for each test conducted:

- a) test record number;
- b) inspection station number;
- c) analyzer number;
- d) inspector identification number;
- e) test system number;
- f) date of test;
- g) emissions test start time;
- h) time final emissions scores are determined;
- i) vehicle identification number (VIN);
- j) license plate number;
- k) inspection certificate number;
- l) gross vehicle weight rating (GVWR);
- m) transmission type;
- n) fuel type;
- o) vehicle model year;
- p) vehicle make;
- q) vehicle type;
- r) test procedure used;
- s) odometer reading;
- t) type of test performed (i.e., initial test, first retest, or subsequent retest);
- u) results of each visual inspection - parameter checks;

- v) results of the pressure test;
- w) HC scores and standards for each test mode;
- x) CO scores and standards for each test mode;
- y) CO<sub>2</sub> scores and standards for each test mode;
- z) if applicable, NO<sub>x</sub> scores and standards for each test mode;
- aa) overall test results;
- bb) audit flag;
- cc) dispute/waiver flag;
- dd) number of cylinders or engine displacement;
- ee) type of vehicle preconditioning performed;
- ff) emissions test sequences used.

The commission shall gather and report the results of the quality control checks, described in the quality control section of this document and in 40 CFR §51.359, identifying each check by station number, system number, date, and start time. The data report shall also contain the concentration values of the calibration gases used to perform the gas characterization portion of the quality control checks.

## **16) Data Analysis and Reporting**

### **a) Test Data Report**

The commission shall submit a Test Data Report to EPA by June 30 of each year

for data collected from January 1 through December 31 of the previous year. The initial report shall be submitted to EPA within 18 months of the implementation of the program.

The basic statistics reported shall include:

- (1) the number of vehicles tested by test type, model year, and vehicle type;
- (2) by test type, model year, and vehicle type, the number and percentage of

vehicles:

- (a) failing the emissions test initially;
- (b) failing each emission control component check initially;
- (c) failing the gas cap integrity test initially;
- (d) failing the first retest for tail pipe emissions;
- (e) passing the first retest for tail pipe emissions;
- (f) initially failed vehicles passing the second or subsequent retest for

tail pipe emissions;

- (g) initially failed vehicles passing each emission control component check on the first or subsequent retest by component;

(h) initially failed vehicles passing the gas cap integrity test on the first or subsequent retest;

- (i) initially failed vehicles receiving a waiver; and

- (j) vehicles with no known final outcome (regardless of reason);

- (3) the initial test volume by test type, model year, and test station;
- (4) the initial test failure rate by test type, model year, and test station; and
- (5) the average increase or decrease in tail pipe emission levels for HC, CO,

and NO<sub>x</sub> (if applicable) after repairs by test type, model year, and vehicle type for vehicles receiving a mass emissions test or approved alternative.

b) Quality Assurance Report

The commission shall submit a Quality Assurance Report to EPA by June 30 of each year for data collected from January 1 through December 31 of the previous year. The initial report shall be submitted to EPA within 18 months of full program implementation.

The basic statistics reported shall include:

- (1) the number of inspection stations and certified analyzers:
  - (a) operating throughout the year; and
  - (b) operating for only part of the year;
- (2) the number of inspection stations and lanes operating throughout the year:
  - (a) receiving overt performance audits in the year;
  - (b) not receiving overt performance audits in the year;
  - (c) receiving covert performance audits in the year;
  - (d) not receiving covert performance audits in the year; and
  - (e) that have been shut down as a result of overt performance audits;
- (3) the number of covert audits:
  - (a) conducted with the vehicle designed to fail the emissions test;
  - (b) conducted with the vehicle designed to fail the component check;
  - (c) conducted with the vehicle designed to fail the gas cap integrity test;
  - (d) conducted with the vehicle designed to fail any combination of two

or more of the above checks;

(e) resulting in a false pass for emissions;

(f) resulting in a false pass for component checks;

(g) resulting in a false pass for the gas cap integrity test; and

(h) resulting in a false pass for any combination of two or more of the

above checks;

(4) the number of inspectors and stations:

(a) that were suspended, fired, or otherwise prohibited from testing as a result of covert audits;

(b) that were suspended, fired, or otherwise prohibited from testing for other causes; and

(c) that received fines;

(5) the number of inspectors licensed or certified to conduct testing;

(6) the number of hearings:

(a) held to consider adverse actions against inspectors and stations; and

(b) resulting in adverse actions against inspectors and stations;

(7) the total amount collected in fines from inspectors and stations by type of violation;

(8) the total number of covert vehicles available for undercover audits over the year; and

(9) the number of covert auditors available for undercover audits.

c) Quality Control Report

The commission shall submit a Quality Control Report to EPA by June 30 of each year for data collected from January 1 through December 31 of the previous year. The initial report shall be submitted to EPA within 18 months of the implementation of the program.

The basic statistics reported shall include:

(1) the number of emissions testing sites and certified analyzers in use in the program;

(2) the number of equipment audits by station and lane (analyzer);

(3) the number and percentage of stations that have failed equipment audits;

and

(4) number and percentage of stations and lanes (analyzers) shut down as a result of equipment audits.

d) Enforcement Report

The commission shall submit an Enforcement Report to EPA by June 30 of each year for data collected from January 1 through December 31 of the previous year. The initial report shall be submitted to EPA within 18 months of the implementation of the program.

The basic statistics reported shall include:

(1) an estimate of the number of vehicles subject to the inspection program, including the results of an analysis of the vehicle data base, performed jointly by the commission and TxDOT;

(2) the percentage of motorist compliance based upon a comparison of the

number of valid final tests with the number of subject vehicles;

(3) the number of waivers and extensions granted to motorists;

(4) the number of compliance surveys conducted, number of vehicles surveyed in each, and the compliance rates found;

(5) a report of the program's efforts and actions to prevent motorists from having their vehicles inspected out of the program area and the results of special studies to investigate the frequency of such activity;

(6) the number of compliance documents issued to stations;

(7) the number of missing compliance documents;

(8) an assessment of the efforts to detect and enforce against motorists falsely changing vehicle classifications to circumvent program requirements and frequency of type of activity;

(9) a report on efforts to detect and enforce against motorist falsely charging vehicle classifications to circumvent program requirements, and the frequency of this type of activity;

(10) the number of parking lot sticker audits conducted, the number of vehicles surveyed in each, and the noncompliance rate found during those audits;

(11) the number and percentage of subject vehicles that were tested by the initial deadline, and by other milestones in the cycle; and

(12) the number of enforcement systems audits, and the error rate found during these audits.

e) Biennial Report

Beginning in June 1998, the commission shall submit to EPA by June 30 of every other year, biennial reports on the I/M program areas addressing:

(1) any changes made in program design, funding, personnel levels, procedures, regulations, and legal authority, with detailed discussion and evaluation of the impact on the program of all such changes;

(2) any weaknesses or problems identified in the program within the two-year reporting period, what steps have already been taken to correct those problems, the results of those steps, and any future efforts planned; and

(3) the number of enforcement system audits and the error rate found during those audits.

**17) Inspector Training and Licensing or Certification**

DPS has authority to certify inspectors. These requirements are authorized by the Texas Transportation Code 548.402 and are incorporated in DPS rules, 37 TAC, Chapter 23.

a) Introduction

Anyone who wishes to own or operate a vehicle inspection station, or who would like to become a certified vehicle inspector may submit a written application to the DPS.

Before any person can inspect vehicles under the Texas Vehicle Inspection Act, they must

attend a training session and be examined and certified by a member of the Vehicle Inspection Service of the DPS. DPS training procedures located in Appendix J shall be revised to reflect all elements of the Texas Motorist's Choice Program.

b) Station Owner and/or Manager Requirements

At a minimum, the owner and/or manager of the emissions inspection station shall employ one full-time certified inspector who has successfully completed the training and testing specified in the Appendix J . The certified inspector shall conduct all emissions testing when vehicles are presented for testing in the core I/M program area.

The following requirements must be met to be certified and conduct inspections in the I/M program:

- (1) must be at least 18 years of age;
- (2) must hold a valid driver's license from their state of residence;
- (3) must be employed by a licensed official vehicle inspection station before examination shall be given;
- (4) should be of good moral character and physically capable of conducting the required inspection;
- (5) must not be under suspension in the Texas Vehicle Inspection Program;
- (6) must make application for inspector certification on form DPSV1-3;
- (7) must attend a training session conducted by the DPS;
- (8) is required to pass, with a grade of not less than 80 on the general examination,

a written or verbal examination based on the law and rules and regulations of the DPS pertinent to the vehicle inspection program;

(9) must successfully demonstrate the ability to correctly operate the testing devices at the inspection station where employed;

(10) must submit the statutory fee when the certification process by the test administrator is completed and the person is ready for issuance of an inspection certificate; and

(11) is exempt from the inspector certificate fee if employed at a governmental inspection station. Dual authorization for another class of inspection station would require an inspection certificate fee.

In addition to the standard safety inspection requirements listed above, curriculum for the emissions inspector training program shall include, at a minimum, the following subjects:

- (a) the air pollution problem, its causes and effects;
- (b) purpose, function, and goals of the inspection program;
- (c) inspection regulations;
- (d) test procedures and the rationale for their design;
- (f) safety and health issues related to the inspection process;
- (g) emissions control device configuration, and inspection;
- (h) test equipment operation, calibration, and maintenance;
- (i) QC procedures; and
- (j) public relations.

Instruction is furnished by:

- (a) inspector schools conducted by the DPS;
- (b) studying the Vehicles Inspection Rules and Regulations Manual;
- (c) individual instruction by either a DPS representative or by a company equipment representative;
- (d) association with others (mechanics, service managers, etc); and
- (e) if DPS does not conduct the inspector training, the commission shall monitor and evaluate inspector training.

The written examination may be conducted at the inspection station where the person works, at a DPS office, or any place decided upon by the DPS. The demonstration of the ability to correctly operate the testing equipment devices shall ordinarily be conducted at the inspection station where the person is to work, but may be conducted elsewhere. In every instance, the demonstration shall be performed on the same type of devices as those used at the place of employment.

c) Process for Certification and Recertification of Inspectors

The process for certification and recertification of inspectors is as follows:

- (1) Periodic inspector schools shall be conducted by the DPS.
- (2) After each inspector school has been conducted, examinations shall be given by the test administrator to those individuals affected. Examinations:
  - (a) shall not necessarily be given at the time that school is held;

- (b) may be done either in groups or for individuals; and
- (c) may be given verbally in cases of illiterate applicants.

Permission is needed from the owner and/or manager if tests are given during the individual's working hours. Unauthorized assistance or cheating shall disqualify applicant.

(3) Parameters are to be inspected. In addition to the standard safety inspection requirements for certification, the applicant is required to properly operate the testing devices and identify the following vehicle emissions components at the inspection station where employed. This shall include demonstrations by all applicants of their ability to perform a "dry run" inspection. The applicant must:

- (a) visually inspect the thermostatic air cleaner (TAC) intake system;
- (b) visually inspect the exhaust gas recirculation (EGR) system valve, hoses and wires;
- (c) visually inspect the positive crankcase ventilation (PCV) system, valve and hoses;
- (d) visually inspect the air injection system (AIS);
- (e) visually inspect the evaporative emissions control system, canister, hoses, and gas filler caps;
- (f) visually inspect the catalytic converter system ( for vehicles originally equipped with a catalytic converter at the time of manufacture);
- (g) proper operation of a gas cap integrity check; and
- (h) proper operation of a Four-Gas (CO, CO<sub>2</sub>, HC, O<sub>2</sub>) Analyzer.

d) Failure to Pass the Written Test

Each person failing to pass the written test is informed on his/her failure to qualify on the examination, his/her grade, his/her mistakes, and given the correct answers to the questions missed. He/she shall be advised that he/she may take a subsequent examination in seven days. The second examination conducted at the end of the seven day waiting period shall be a different examination. Failure of the second examination shall be cause for a waiting period of thirty days. A review of the second examination shall not be given; the applicant shall be told his/her grade and whether or not he/she passed.

e) Failure to Pass the Demonstration Test

Persons failing to pass the demonstration test are informed of their failure to pass the demonstration test. They are shown their mistakes in the use of the testing devices and in vehicle component identification. They are advised where and when subsequent tests may be taken. After two consecutive failures, additional tests shall be conducted only after due evaluation of the circumstances involved.

f) Passing the Written and Demonstration Tests

When a person has satisfactorily passed the written examination, demonstrated his/her ability to operate the testing devices and correctly identified the vehicles emissions components, a fee of \$10.00 shall be paid which shall certify an inspector until August 31 of the even-numbered year following the date of appointment. The applicant shall notify his/her service manager

and/or owner and complete DPS form VI-3 for submission to the Vehicle Inspection Records Department of DPS in Austin.

g) Expiration of Certification of Inspectors

Certification of inspectors shall expire upon any of the following events:

- (1) On August 31 of the even-numbered year following the individual's first date of appointment. Thereafter, appointments are for two-year periods;
- (2) When individual certification has been withdrawn by the DPS;
- (3) When the inspector's drivers license is suspended or expired; or
- (4) When the inspector fails to attend a required recertification school.

h) Reexamination

The following are reasons for reexamination:

- (1) At any time a DPS representative feels an inspector needs to be reexamined, the DPS representative may require the inspector to take any part of the written and demonstration tests. Failure to take and/or pass such a required test disqualifies the inspector immediately.
- (2) The DPS reserves the right to withdraw for cause its certification of any inspector, or require attendance at any procedure updating training program at any time, or require reexamination at any time to determine if the inspector has full knowledge of the current official inspection rules and regulations.
- (3) If the examination discloses the certified inspector is not familiar with new or

existing regulations, the certified inspector shall be removed from inspections until able to pass a reexamination.

i) Dual Authorization

A certified inspector may be certified at more than one vehicle inspection station at the same time. Inspection station owners shall furnish information as may be required by the DPS pertaining to inspectors employment at the station on form V1-3a within three working days of a change in the inspector's employment. In such instances, the dual authorization shall be recorded in the inspectors notebook on form V1-27.

j) Changes in Employment

If a certified inspector changes his/her place of employment, he/she may be required to prove his/her ability to correctly operate the testing equipment at such vehicle inspection station, and may be required to take a complete written examination. The inspection station owner shall notify the DPS representative supervising the station within three working days of a change of employment of inspectors at the station.

**18) Public Information**

a) Public Awareness Plan

Prior to the implementation of the vehicle emissions inspection program, the commission and the DPS shall establish a public awareness plan in order to increase public awareness and

public acceptance of the I/M program. The implementation of the plan shall be ongoing. At a minimum, the plan shall address the following educational strategies:

- (1) significance of the air quality problem;
- (2) requirements of federal and state law;
- (3) roles of motor vehicles in the air quality problem;
- (4) benefits of an emissions inspection program;
- (5) steps to maintaining a vehicle in a low emissions condition;
- (6) steps to finding a qualified repair technician;
- (7) requirements of the I/M program; and
- (8) any other functions as determined by the commission and/or DPS.

b) Vehicle Inspection Report (VIR)

Each motorist shall receive a VIR at the completion of each emissions inspection. The report shall present a Pass/Fail status for each pollutant tested, the inspector's identification number, whether it was an initial test or retest, and information on applicable warranty protection. In addition, the vehicle owner or driver shall be provided with a computer-generated record of test results, including all of the items listed in 40 CFR part 85, subpart W as being required on the test record.

c) Vehicle Repair Form (VRF)

Repair information must be supplied by the repair technician before the vehicle is eligible for a free retest. The following information is required:

- (1) information identifying the Recognized Emission Repair Technician of Texas;
- (2) summary information corresponding to the emissions components serviced;
- (3) cost of parts and labor; and
- (4) repair technician recommended repairs that were not performed.

d) General Repair Information

Motorists with vehicles failing an emissions inspection shall be offered information by the inspector on the following topics:

- (1) list of repair facilities in the area;
- (2) information on the results of repairs performed by repair facilities in the area;
- (3) diagnostic information; and
- (4) warranty repair information.

e) Repair Industry Performance Statistics

Performance monitoring statistics shall be available to motorists whose vehicles fail the I/M emissions test in the core I/M program area.

**19) Consumer Protection Provisions**

The DPS shall institute procedures and mechanisms to protect the public from fraud and abuse by inspectors, mechanics, and others involved in the I/M program.

#### a) DPS Challenge Facilities

DPS shall provide challenge/referee facilities. Motorists whose vehicle fails an emissions inspection may challenge the findings at selected DPS facilities. DPS shall track the number and results of all challenge tests. If the vehicle passes its challenge retest, the motorist shall be issued a vehicle emissions certificate indicating the passing status of the vehicle. No fee will be assessed for the second emissions test if the test is obtained within 15 days of the original emissions inspection. An emissions testing facility that produces excessive challenge retests may be subjected to more frequent auditing.

#### b) The DPS Oversight

##### (1) Audits

Covert audits (at least one per year per number of FTE inspectors) and overt audits (at least two per year per certified analyzer) shall be performed at emissions inspection facilities as part of the DPS oversight process. Auditors shall check for proper operation of equipment and accurate record keeping practices. Failure of audits may result in additional training requirements, fines, and loss of inspection/certification authority. Audit procedures are defined under the Quality Assurance section.

##### (2) System Calibration Surveillance

DPS shall maintain a program of surveillance to verify that emissions inspection stations are performing required emissions tests using properly calibrated and correctly functioning equipment. Methods of surveillance:

- (a) any emissions inspection station shall be available at any reasonable time

for a check by the DPS for the calibration and proper operation of all equipment;

(b) any documentation necessary to enable the DPS to perform calibration checks shall be available at all times at each station;

(c) any defective condition which would adversely affect the accuracy of tests performed shall be corrected immediately; and

(d) if so ordered by the DPS, the equipment affected by such a defective condition shall not be used to perform vehicle inspections until objective evidence that the defective condition has been corrected.

### (3) Technician Monitoring

Technician Performance Monitoring that shall track the effectiveness of repairs performed by repair technicians shall be implemented. Performance Monitoring shall be made available to the public (and the technicians) with objective information on the performance of repair facilities.

### c) Whistle Blower's Protection

The consumer protection provisions provide mechanisms for protecting whistle blowers and following up on complaints by the public or others involved in the process. Whistle Blowers protection is described in the following subsection, Complaint Handling Procedures.

### d) Complaint Handling Procedures

DPS shall be responsible for promptly addressing and appropriately resolving motorist complaints and requests for information. The vehicle emissions inspection station owner

and/or manager shall be responsible for resolving complaints about damage to vehicles being tested and complaints about rude and/or incompetent employees. The DPS shall be responsible for developing a plan describing the types of complaints for which the DPS and the station owners and/or managers are separately responsible.

The DPS shall keep a computerized record of phone-in and written complaints and shall generate complaint reports. If complaints are sustained, the vehicle emissions inspection station involved may be penalized. Emissions Inspectors that receive repeated sustained complaints may be subject to further sanctions.

e) Warranty Repair Assistance

Emissions inspection stations shall be generally aware of warranty coverage that is available to motorists. The emissions inspection technician or an emissions inspection brochure shall relay this information to motorists whose vehicle fails an emissions inspection. Warranties may be available from automobile dealerships or parts manufacturers. New vehicle warranties are valid if the following conditions are met:

(1) For model year 1994 and older vehicles:

- (a) The vehicle is less than five years old and has less than 50,000 miles;
- (b) An original equipment part or system fails because of a defect in materials or workmanship;
- (c) The failure would cause the vehicle to violate federal emissions standards;

and

(d) The emissions warranty covers emissions control parts and their repairs.

The following list of emissions control parts and their components are covered by the emissions warranty:

- (1) Exhaust Gas Conversion System;
- (2) Exhaust Gas Recirculation System;
- (3) Evaporative Emission Control System;
- (4) Positive Crankcase Ventilation System;
- (5) Air Injection System; and
- (6) Early Fuel Evaporative System.

(2) For vehicles beginning with model year 1995:

The emissions device warranty period for emissions control components for light-duty vehicles, trucks and engines shall be two years/24,000 miles. The FCAA amendments state that eight years/80,000 miles warranties shall cover the costs of necessary repairs and of emissions control parts manufactured in 1995 or thereafter. This warranty is valid for repair or replacement of emissions control parts such as the catalytic converter, the electronic emissions control unit, the onboard emissions diagnostic system and any other devices with a cost of more than \$200 as adjusted by the CPI of 1989, as identified by EPA.

## **20) Improving Repair Effectiveness**

### a) Background

Repair effectiveness is defined as the ability to detect, analyze, and adequately repair an

emissions related problem following the failure of a motor vehicle emissions inspection. 40 CFR §51.369 specifically states that an acceptable repair effectiveness program must include technical assistance, performance monitoring, and repair technician training.

Technical assistance involves closely communicating with the repair community and providing access to technical assistance hotline services. Performance monitoring utilizes statistics to track conforming and nonconforming repairs, repair methods, and repair technicians and/or facilities.

Once a vehicle fails its initial emissions inspection, emissions related repairs must be conducted prior to obtaining an emissions retest. Before engaging in emissions related repairs, all repair technicians should provide an emissions repair vehicle diagnosis to the motorist. An emissions repair diagnosis is a list of recommended repairs and an estimated cost breakdown to correct vehicle emissions failures. At the motorist's discretion, any repairs they believe to be unnecessary may be excluded. However, the motorist is ultimately responsible for additional emissions related repair expenses if the vehicle fails its emissions retest and does not qualify for a waiver.

#### b) Technical Assistance Plan

Emissions test results for failed vehicles shall be stored on the VID and be readily accessible to both inspection stations and other repair facilities. Until a failed vehicle passes an emissions retest, inspection stations and other repair facilities shall be able to electronically obtain

the test results for that vehicle if the following requirements are met:

- (1) DPS Certified Gas Analyzer; and
- (2) Contract with MCI for Texas Data Link access.

Timely emissions inspection program information shall be distributed through a periodic newsletter to inspection stations, vehicle repair facilities, and Recognized Emission Repair Technicians of Texas. DPS shall inform repair facilities of changes to the inspection program, training course schedules, common problems and potential solutions for particular engine families, diagnostic tips, repairs, and other technical assistance issues. As time and resources permit, this information may be made available via electronic means to inspection stations, repair facilities, and Recognized Emission Repair Technicians of Texas.

The periodic newsletter shall contain contact information for any technical assistance hotline service that wishes to be listed. Repair technicians seeking specific repair advice shall be free to utilize any of the several commercial technical assistance hotline services at their own expense. In order to be included on this list of commercial technical assistance hot line services, the service must:

- (1) be available via a toll-free number during normal business hours;
- (2) be able to provide emissions repair information for a large cross-section of gasoline-powered motor vehicles dating from the present back to model year 1970;
- (3) be able to provide emissions repair advice which could be used by a technician in the repair of a vehicle that has failed either a steady-state or transient emissions test; and

(4) be able to answer questions related to the legal requirements of state and federal law with regard to emission control device tampering, engine switching, or similar issues.

c) Performance Monitoring

Emissions inspection and repair information for tested vehicles in each nonattainment area shall be recorded and maintained by the VID. To the maximum extent possible, the VID shall be utilized to automate the collection of repair data provided prior to the emissions retest from individual inspection stations and repair facilities. However, the DPS may utilize other paper-based methods for the reporting of repair data from motorists and repair facilities not equipped with computers that are connected to the VID. The vehicle repair form (VRF) shall include but not necessarily be limited to:

- (1) vehicle repairs actually performed;
- (2) vehicle repairs which were recommended but not performed; and
- (3) the identity of the facility performing the repairs.

At a minimum, performance monitoring shall include the following criteria for each repair facility:

- (1) the number of vehicles receiving a retest after repair;
- (2) the percentage of vehicles passing the first retest;
- (3) the percentage of vehicles requiring more than one retest before passing; and
- (4) the percentage of vehicles receiving a waiver.

The DPS shall implement a system for providing feedback, including qualitative and statistical information, to individual repair facilities on a regular basis (at least annually) regarding their success in repairing failed vehicles. The feedback report shall list the repair success rate for the facility based on repair information collected.

d) Repair Technician Training

If experience with I/M program operation indicates that motorist demand for qualified technicians is not being satisfied, the DPS shall take steps to ensure that adequate technician training resources are available to the repair community. As part of this process, the DPS may assess both current curricula and future improvements in the program for inclusion in the following areas:

- (1) diagnosis and repair of malfunctions in computer controlled, closed loop vehicles;
- (2) the application of emissions control theory and diagnostic data to the diagnosis and repair of failures on steady-state emissions tests, transient emissions tests, and/or the evaporative system functional checks; and
- (3) general training on the various subsystems related to engine emissions control.

e) Recognized Emissions Repair Technician Requirements

Technicians wishing to apply for DPS emissions repair recognition must have at least three years of work experience and possess current ASE certification in the categories of:

- (1) Engine Repair, ASE Test A1;

- (2) Electrical/Electronic systems, ASE Test A6;
- (3) Engine Performance, ASE Test A8; and
- (4) Beginning January 1, 1998, Advanced Engine Performance Specialist, ASE Test L1.

**21) On-Road Testing**

a) Identification of Probable High-Emitting Vehicles

The DPS plans to utilize remote sensing technology to identify vehicles operating within the core I/M program area that have a high probability of being high-emitters. For this purpose, the DPS intends to focus on the following categories of vehicles:

- (1) probable high-emitting vehicles commuting from surrounding counties that are identified within the core I/M program area;
- (2) probable high-emitting vehicles that are registered within the subject counties but are not complying with periodic testing requirements in the core I/M program area; and
- (3) other probable high-emitting vehicles identified in the core I/M program area whose ownership can be identified through the Texas vehicle registration data base.

Vehicles shall be identified by means of a license plate recognition system which shall form an integral part of the remote sensing testing process. The residence of the vehicle owner shall be identified by obtaining the address corresponding to the license plate in the Texas vehicle registration data base. The DPS plans to use one or more of the following factors to

develop appropriate high-emitter screening criteria:

- (1) measured tail pipe CO level;
- (2) measured tail pipe HC level;
- (3) measured tail pipe NO<sub>x</sub> level;
- (4) measured vehicle speed;
- (5) measured vehicle acceleration;
- (6) measured engine operating temperature (if available);
- (7) number of times a unique vehicle is identified above specific CO, HC, and NO<sub>x</sub> levels; and
- (8) length of time in which multiple high measurements are taken on the same vehicle.

Appropriate combinations of one or more of these factors shall be used to insure the highest possible confidence level that the identified vehicle is a high-emitter. The DPS shall use appropriate screening criteria based on the best information available at the time the remote sensing program is fully operational. The commission shall conduct a pilot study to recommend initial test limits for the remote sensing program.

#### b) Vehicle Coverage Summary

In order to satisfy the overall coverage requirements of the FCAA, approximately 175,346 persons in the Dallas/Fort Worth (1990 U.S. Census) urbanized area that are not residents of either Dallas or Tarrant Counties must be accounted for by a vehicle emissions identification

and repair process; for the Houston (1990 U.S. Census) urbanized area, the corresponding figure is approximately 83,652 persons that are not residents of Harris County. In order to meet these coverage requirements in both areas without placing an undue burden on any one of the several surrounding counties, the DPS shall use remote sensing to identify a sufficient number of high-emitting commuting vehicles that are contributing to the overall mobile source pollution problem.

Based on the analysis provided in the tables below, the DPS plans to use remote sensing to identify at least 147,411 commuting vehicles in Dallas and/or Tarrant Counties and at least 64,692 commuting vehicles in Harris County. Of all the vehicles scanned with remote sensing, the DPS plans to recruit and conduct follow-up verification tests on at least 22,112 high-emitting commuting vehicles in Dallas and/or Tarrant Counties and at least 9,704 high-emitting commuting vehicles in Harris County. These numeric targets are subject to change based on both program experience and the use of revised information as it becomes available.

<b>DALLAS/FORT WORTH AREA</b>	<b>Subject Counties</b>	<b>Surrounding Counties</b>	<b>Total</b>
<i>1990 US Census Population</i>	3,022,913	537,561	3,560,474
<i>Light-Duty Vehicle &amp; Truck Population</i>	2,301,601	451,921	2,753,522
<i>Vehicles/Persons Ratio</i>	76.14%	84.07%	77.34%

<b>HOUSTON AREA</b>	<b>Subject Counties</b>	<b>Surrounding Counties</b>	<b>Total</b>
<i>1990 US Census Population</i>	2,818,199	912,932	3,731,131
<i>Light-Duty Vehicle &amp; Truck Population</i>	2,048,882	706,018	2,754,900
<i>Vehicles/Persons Ratio</i>	72.70%	77.34%	73.84%

<b>COMMUTING VEHICLE COVERAGE SUMMARY</b>	<b>Dallas/Fort Worth Area</b>	<b>Houston Area</b>
<i>1990 US Census Urbanized Area Population</i>	3,198,259	2,901,851
<i>1990 US Census Subject County Population</i>	3,022,913	2,818,199
<i>Required Additional Population Coverage</i>	175,346	83,652
<i>Commuting Vehicles/Persons Ratio (from surrounding counties)</i>	84.1%	77.3%
<i>Required Commuting Vehicle Coverage</i>	147,411	64,692
<i>Dirtiest 15% of Required Commuting Vehicle Coverage</i>	22,112	9,704
<i>Potential Commuting Vehicles (from surrounding counties)</i>	451,921	706,018
<i>Dirtiest 15% as a Portion of All Potential Commuting Vehicles</i>	4.89%	1.37%

In addition to the coverage requirements described above for commuting vehicles, the DPS plans to use remote sensing to evaluate the on-road emissions performance of at least 20,000 of the vehicles subject to emissions testing in the core I/M program area of Dallas, Tarrant, Harris, and El Paso Counties.

c) Verification Testing Requirements

Each registered owner of a vehicle in the I/M program area which meets the subject high-emitter identification criteria may be mailed a notification letter informing him/her that the

vehicle has a high probability of being a high-emitter. The notification letter may require the owner to have the vehicle inspected and, if necessary, repaired to insure compliance with emissions standards. As with the normal testing process, any vehicle which fails this inspection shall be required to have repairs performed which bring it into compliance with applicable emissions standards; compliance shall be verified by means of a required emissions retest. If necessary, waivers can be issued to vehicles which have begun the testing process as a result of high-emitter identification through remote sensing.

Failure to comply with the requirements of the notification letter may result in the issuance of a citation against the owner of the vehicle. This citation shall include progressive penalties that may escalate to a maximum of \$200.00 per offense for the continuance of non-compliance until an emissions inspection is conducted on the vehicle. If the vehicle fails to comply within 30 days, the vehicle shall be flagged in the TxDOT registration data base, and the vehicle shall be denied re-registration until the vehicle is in compliance with the I/M program.

All vehicles identified as high-emitters which are registered in the core I/M program area shall be cross-referenced with the Texas vehicle registration and emissions testing data base. The categories of probable high-emitting vehicles that shall not be mailed notification letters include, but are not limited to:

- (1) any subject vehicle which has received a waiver during the most current test cycle;

(2) any subject vehicle which is scheduled to receive its next emissions inspection within 60 days; and

(3) other appropriate categories as determined by the DPS.

d) Program Functions and Responsibilities

Through means of a competitive bid process, remote sensing contractor(s) shall be selected to collect, analyze, and report on-road emissions testing data to the DPS. The remote sensing contractor(s) shall be required to employ sufficient staff to satisfactorily perform these functions in meeting the vehicle coverage requirements of the oversight agency. The DPS shall employ sufficient staff both to oversee contractor functions and to coordinate with various state agencies and local government entities. Through cooperation with local transportation and law enforcement officials, applicable sites shall be selected in the core I/M program area for collection of remote sensing data. For program audit purposes, on-road testing may include a pullover component based on the voluntary participation of motorists to have roadside tailpipe testing and anti-tampering checks conducted on their vehicles. When approved emissions reduction credit methodologies for remote sensing are available from EPA, the commission shall determine the appropriate amount of credit to be claimed for the remote sensing program.

**22) State Implementation Plan Submission**

The State shall meet the following schedule:

<u>Activity</u>	<u>Date</u>
Passage of enabling statutory authority for emissions program.	Completed
Issuance of final requests for offers on the Texas Data Link Project.	Completed
Proposal of draft commission regulations.	02/28/96
Issuance of final specifications of the TX96 Idle Test.	04/26/96
Adoption of final commission regulations.	05/29/96
Proposal of Final DPS regulations.	08/15/96
Issuance of EPA's final specifications on the ASM Loaded Test.	To Be Determined
Issuance of Texas ASM Specifications	9 months after EPA issuance
Passage of enabling statutory authority making non-compliance with the I/M program a Class C Misdemeanor	09/01/97

Passage of enabling statutory authority to implement additional enforcement authority to DPS	09/01/97
Analysis of data for program evaluation to meet the NHSDA of 1995 requirements.	18 months after EPA's Approval

**Dallas and Tarrant Counties**

Certified Stations on line, phase I.	07/31/96
Texas Data Link project completed.	09/01/96
Certified Stations on line, phase II.	10/31/96
Full-stringency cut points.	01/01/97

### **Harris County**

Texas Data Link project completed. 09/01/96

Certified Stations on line. 12/31/96

Emissions testing start date. 01/01/97

Full-stringency cut points. 01/01/97

### **El Paso County**

Texas Data Link project completed. 09/01/96

Certified Stations on line. 12/31/96

Emissions testing start date. 01/01/97

Full-stringency cut points. 01/01/97

TECHNICAL SUPPLEMENT

THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION (TNRCC)  
“BASIC AND ENHANCED PERFORMANCE STANDARDS” AND THE TNRCC  
MODELING INPUTS FOR THE PROPOSED INSPECTION/MAINTENANCE PROGRAM.

## TECHNICAL SUPPLEMENT

### INSPECTION/MAINTENANCE (I/M) PERFORMANCE STANDARDS

#### FOR LOW ENHANCED PROGRAM AREAS

##### (EPA Flexibility Amendments)

###### (A) Overview

The TNRCC commits to implementing an I/M program which meets or exceeds the minimum emission reductions required in the low enhanced performance standard (EPA Flexibility Amendments) promulgated on September 18, 1995. A performance standard is the targeted motor vehicle emission reduction generated from specific I/M program input parameters (design elements) using EPA's current MOBILE emissions computer model. The most recent computer modeling performed for the TNRCC indicates that the proposed I/M program meets or exceeds the required I/M performance standard for the applicable air pollutants. This version of the Technical Supplement includes the modeling inputs, procedures, and results and revises information provided in an earlier document dated February 16, 1994.

A state is required to meet or exceed the applicable performance standard for any I/M non-attainment area. There are two applicable performance standards for the Texas non-attainment areas: basic and low enhanced. The DFW non-attainment area is required to implement a basic I/M program. However, a more stringent program is needed to meet Reasonable Further Progress requirements. For this reason, modeling for the DFW non-

attainment area was based upon a low enhanced performance standard. The Houston/Galveston and El Paso non-attainment areas are required to implement low enhanced I/M programs. The low enhanced performance standards are less stringent than the enhanced performance standard and, thus, provides greater I/M program parameter flexibility. However, if one input parameter for a proposed I/M program design is more lax than the applicable performance standard parameter, the proposed I/M program design must compensate by being more restrictive in another input parameter in order to meet the performance standard. The Texas I/M Program design is an equilibrium of the applicable performance standard parameters and compensations.

The state MPOs modeled the core I/M program area using the most current version of EPA's mobile source emission model, MOBILE5a, released on March 23, 1993. For each pollutant and measurement milestone year, the MPOs have provided the emission factor in grams per mile (g/mi) for the following scenarios:

- (1) the EPA performance standard; and
- (2) the Texas I/M program commitment.

Local parameters used in the MOBILE5a input include data collected on a county-wide basis. Average speeds used for modeling were 35.8 mph for the Houston/Galveston non-attainment area and 32.9 mph for the El Paso non-attainment area. A speed of 30 mph was used for the modeling of the DFW non-attainment area. These speeds were approved as sufficient for the I/M performance demonstration in verbal communication with the EPA on February 12, 1996

and may differ from speeds used in the modeling for the 15% Rate-of-Progress SIP.

Modeling for all core program areas included use of class B volatility gasoline. No refueling emissions were modeled for I/M program purposes since they are considered to be area (stationary source, not mobile source) emissions in the TNRCC inventory. Modeling for the core program areas also included a technician training component. Waiver-qualified repairs must be performed by Recognized Emission Repair Technicians whose qualifications are provided in the I/M program description preceding this section.

For modeling and attainment demonstration purposes, non-attainment areas designated as moderate for ozone must model vehicle emission reductions for 1997; serious ozone non-attainment areas must model vehicle emission reductions for 1997 and 2000; and severe ozone non-attainment areas must model vehicle emission reduction for 2000, 2003, 2006, and 2008. All carbon monoxide (CO) non-attainment areas must model vehicle emission reductions for 2001.

## (B) Modeling Analysis for Low Enhanced I/M Programs

### (1) Network Type

#### (a) Performance Standard

A state must model the performance standard for each low enhanced I/M program area using a test-only (centralized) I/M network design.

(b) Texas I/M Program

The proposed Texas I/M program in the core program area is a hybrid program composed of test-only and test-and-repair facilities. Due to the passage of the National Highway System Designation Act of 1995 (National Highway Act), Section 348, the submittal of an I/M SIP within 120 days of passage eliminates the automatic 50% discount for test-and-repair networks. With the submittal of this SIP within this deadline, the Texas I/M program is equivalent to a test-only network, thus, the modeling was performed with an assumption of a “centralized network”.

(2) Start Date

(a) Performance Standard

A state must model the performance standard for each low enhanced I/M program area with a start date of 1983 for any non-attainment area having an existing I/M program; otherwise, a start date of 1995 applies toward any non-attainment area with a newly subject I/M program.

(b) Texas I/M Program

The proposed I/M program for Dallas and Tarrant counties was modeled with a start date of 1990, 1995 for Harris county emissions testing and 1983 for the anti-tampering program, and 1987 for El Paso county to reflect the start of the existing decentralized emission inspection programs in the respective areas. Although Harris county vehicles have been subject to an anti-tampering program, no emissions testing was conducted, therefore, 1995 is

an appropriate start date.

### (3) Test Frequency

#### (a) Performance Standard

A state must model the performance standard for each low enhanced I/M program area with an annual emission inspection frequency.

#### (b) Texas I/M Program

The proposed I/M program for Harris, Dallas, Tarrant, and El Paso counties will be an annual emissions inspection. Upon EPA's release of its final guidance on ASM test procedures and equipment, TNRCC will develop ASM or equivalent steady-state/transient loaded emissions testing specifications for voluntary participation in a loaded-mode component of the proposed I/M program.

### (4) Model Year Coverage

#### (a) Performance Standard

A state must model the performance standard for each low enhanced I/M program area with an emissions inspection of 1968 and newer model year vehicles.

(b) Texas I/M Program

Vehicle coverage for the proposed I/M program in the core I/M program area is based upon a 24-year rolling window from the year in which the test is being performed with an exemption from testing for the 2 newest model years.

(5) Vehicle Type Coverage

(a) Performance Standard

A state must model the performance standard for each low enhanced I/M program area for light-duty vehicles and light-duty trucks (types 1 and 2).

(b) Texas I/M Program

The proposed I/M program for the core I/M program area includes gasoline powered light-duty vehicles, light-duty trucks (types 1 and 2), and heavy-duty gasoline vehicles.

Motorcycles are excluded from emissions inspection requirements.

(6) Exhaust Emissions Test Type

(a) Performance Standard

A state must model the exhaust emissions test type in the performance standard for each low enhanced I/M program as an idle exhaust emissions test (as described in Appendix B of Subpart S of EPA's final I/M rule.)

(b) Texas I/M Program

The exhaust emissions type for the proposed I/M program in Harris, Dallas, Tarrant, and El Paso counties will be a steady-state preconditioned two-speed idle exhaust emissions test. Upon EPA's release of its final guidance on ASM test procedures and equipment, TNRCC will develop ASM or equivalent steady-state/transient loaded emissions testing specifications for voluntary participation in loaded-mode component of the proposed I/M program.

(7) Emission Standards

(a) Performance Standard

Modeling the performance standard for emission standards requires cutpoints no weaker than specified in 40 CFR Part 85, Subpart W (steady-state exhaust emission testing) for 1981 and newer model year light-duty vehicles and light-duty trucks.

(b) Texas I/M Program

The emission standards in the proposed Texas I/M Program for steady-state exhaust emission testing are 220 parts per million (ppm) of hydrocarbon (HC) and 1.2 percent CO in accordance with 40 CFR Part 85, Subpart W. Cutpoints for possible future steady-state/transient loaded testing would be 1.2 ppm volatile organic compounds (VOC), 20 ppm CO, and 3.0 ppm for oxides of nitrogen (NO<sub>x</sub>).

## (8) Emissions Control Device Inspections

### (a) Performance Standard

Modeling of the low enhanced performance standard requires a visual inspection of the PCV on all 1968 through 1971 model year vehicles, inclusive, and of the EGR valve on all 1972 and newer model year vehicles.

### (b) Texas I/M Program

The emissions control device inspection for the proposed I/M program in the low enhanced core program area includes a visual inspection of the EGR system, evaporative emission control system, gas cap, PCV system, thermostatic air cleaner, and the air injection system (smog pump) for all model year vehicles. A visual inspection of the catalyst will be performed for model year vehicles 1981 and newer.

## (9) Evaporative System Function Checks

### (a) Performance Standard

No evaporative system function checks are required when modeling the performance standard for low enhanced I/M programs.

### (b) Texas I/M Program

The evaporative system function check included in the proposed I/M program is a gas cap

system integrity test for all model year vehicles.

(10) Stringency

(a) Performance Standard

Modeling of the low enhanced I/M performance standard requires a 20% emissions test failure rate among pre-1981 model year vehicles.

(b) Texas I/M Program

Modeling of the proposed I/M program in the core I/M program area includes a 20% emissions test failure rate among pre-1981 model year vehicles.

(11) Waiver Rate

(a) Performance Standard

The low enhanced performance standard includes a 3% waiver rate provision for modeling purposes.

(b) Texas I/M Program

The waiver rate for the proposed I/M program provides a 3% waiver rate.

(12) Compliance Rate

(a) Performance Standard

Modeling the performance standard requires a 96% compliance rate of the covered vehicles in an I/M program.

(b) Texas I/M Program

The proposed I/M program for the core I/M program area is modeled with a compliance rate of 96%.

(13) Evaluation Date

(a) Performance Standard

Modeling the performance standard for a low enhanced I/M program requires an evaluation date of 2000 for ozone non-attainment areas and 2001 for CO non-attainment areas. For severe ozone non-attainment areas, an evaluation date of 2000 and for each three years thereafter, until the ozone attainment date is met.

(b) Texas I/M Program

The proposed I/M program for El Paso county is modeled with an evaluation date of 2000 for ozone. The proposed I/M program for Dallas and Tarrant counties is modeled with evaluation dates of 1997 and 2000. The proposed I/M program for Harris county is modeled with

evaluation dates of 1997, 2000, 2003, 2006, and 2008.

(c) MOBILE5a Summary Output Tables

TABLES 1-3 reflect vehicle emissions reductions (in grams per mile) calculated by EPA's MOBILE5a computer model for the proposed I/M program in each of the core program areas.

TABLE 1. Aggregated Dallas/Tarrant County MOBILE5a Output (g/mi)

January 1997	VOC	NO <sub>x</sub>	CO
Performance Std.	1.88	1.95	12.59
Texas Program	1.63	1.86	10.68

January 2000	VOC	NO <sub>x</sub>	CO
Performance Std.	1.68	1.78	11.23
Texas Program	1.41	1.68	9.15

TABLE 2. Aggregated El Paso MOBILE5a Output (g/mi)

January 1997	VOC	NO <sub>x</sub>	CO
Performance Std.	1.907	2.257	13.394
Texas Program	1.646	2.147	11.155

January 2000	VOC	NO <sub>x</sub>	CO
Performance Std.	1.695	2.058	11.758
Texas Program	1.420	1.929	9.459

TABLE 3. Aggregated Harris County MOBILE5a Output (g/mi)

January 1997	VOC	NO <sub>x</sub>	CO
Performance Std.	1.421	1.981	10.659
Texas Program			

TABLE 3 cont. Aggregated Harris County MOBILE5a Output (g/mi)

January 2000	VOC	NO <sub>x</sub>	CO
Performance Std.	1.233	1.787	9.069
Texas Program			

January 2003	VOC	NO <sub>x</sub>	CO
Performance Std.	1.119	1.656	8.307
Texas Program			

January 2006	VOC	NO <sub>x</sub>	CO
Performance Std.	1.052	1.570	7.923
Texas Program			

January 2008	VOC	NO <sub>x</sub>	CO
Performance Std.	1.021	1.539	7.823
Texas Program			