

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 COMMISSION ON ENVIRONMENTAL QUALITY
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- 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. (No change)
- B Texas Health and Safety Code, Subtitle C, Air Quality, Revised 77th Legislature, 2001 .
- C House Bill 2134 by 77th Legislature amendment to the Texas Health and Safety Code. Chapter 382, Health & Safety Code, was amended by adding Subchapter G, and §382.037 and §382.039 Health & Safety Code, were transferred to new Subsection G, and renumbered as §§382.202 - 382.208. (No change)
- D TCEQ Regulation, 30 TAC Chapter 114, Control of Air Pollution From Motor Vehicles, Adopted. (Revised)
- E TNRCC Appropriations for Fiscal Years 2002 and 2003. Texas Department of Public Safety, Appropriations for Fiscal Years 2002 and 2003. STATE OF TEXAS, Text of Conference Committee Report, House Bill No. 1 (General Appropriations Act). 77th Legislature, Regular Session. (No change)
- F TNRCC, "Request For Offer for the Design, Construction, and Operation of the Texas Information Management System (TIMS) for the State of Texas," dated June 22, 2001. (No change)
- G TNRCC, "Specifications For Vehicle Gas Analyzer Systems for use in the Texas Vehicle Emissions Testing Program," dated October 15, 2001. (No change)
- H Texas Transportation Code §547.604 and §547.605, and Chapter 548 Compulsory Inspection of Vehicles.
- I Rules and Regulations for Official Vehicle Inspection Stations and Certified Inspectors. Texas Department of Public Safety, dated March 30, 2000. (No change)
- J Texas Department of Transportation, Vehicle Titles and Registration Division "2000 Summer Research Project Parking Lot Survey Report," dated May 2001. (No change)

- K TNRCC, "Specifications For On-Board Diagnostics II (OBD-II) Analyzer for use in the Texas Vehicle Emissions Testing Program," dated October 15, 2001. (No change)

- L TNRCC and Texas Department of Public Safety "Memorandum of Understanding," dated January 22, 1997.

COMMONLY USED TERMS

Acceleration Simulated Mode (ASM-2) Test

An emissions test using a dynamometer (a set of rollers on which a test vehicle's tires rest) which applies an increasing load or resistance to the drive-train of a vehicle, thereby simulating actual tailpipe emissions of a vehicle as it is moving and accelerating. The ASM-2 vehicle emissions test is comprised of two phases: (1) the 50/15 mode - in which the vehicle is tested on the dynamometer simulating the use of 50% of the vehicle's available horsepower to accelerate at a rate of 3.3 miles per hour (mph) at a constant speed of 15 mph, and, (2) the 25/25 mode - in which the vehicle is tested on the dynamometer simulating the use of 25% of the vehicle's available horsepower to accelerate at a rate 3.3 mph at a constant speed of 25 mph.

Dallas/Fort Worth (DFW) program area

County or counties in which the Texas DPS, in coordination with the commission, administers the vehicle emissions I/M program contained in the revised Texas I/M SIP. This program area consists of the following counties: Dallas, Denton, Collin, and Tarrant.

El Paso Program area

County or counties in which the Texas DPS, in coordination with the commission, administers the vehicle emissions I/M program contained in the revised Texas I/M SIP. This program area consists of the following county: El Paso.

Emissions tune-up

A basic tune-up along with functional checks and any necessary replacement or repair of emissions control components.

Exhaust Gas Analyzer

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

Extended Dallas/Fort Worth (EDFW) program area

An area which consists of Ellis, Johnson, Kaufman, Parker, and Rockwall Counties. These counties will become part of the program area as of May 1, 2003, or 12 months after designation, whichever is earlier.

Fleet Vehicle

Any motor vehicle operated as a member of a group of motor vehicles belonging to a single non-household entity; any state or local government motor vehicle, including a motor vehicle exempted from payment of a registration fee and issued a specially designated license plate; or any federal government motor vehicle, except for a tactical military vehicle.

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 50 weeks per year. For example, if a station employed 25 individuals, but each employee only worked on vehicle inspections two weeks worth of time per year, this station employed 1 FTE.

Gas Cap Integrity Test

A fuel cap test that determines whether or not the vehicle's gas cap or caps are functioning as designed.

High Emitter

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

Houston/Galveston (HGA) Program area

County or counties in which the Texas DPS, in coordination with the commission, administers the vehicle emissions I/M program contained in the revised Texas I/M SIP. This program area consists of the following counties: Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller.

I/M Program

A vehicle emissions inspection program as defined by EPA that includes, but is not limited to, the use of computerized emission analyzers, on-road testing, on-board diagnostic (OBD) testing, and/or inspection of vehicle emission devices.

I/M Program Areas

County or counties in which the Texas DPS, in coordination with the commission, administers the vehicle emissions I/M program contained in the revised Texas I/M SIP.

Low Volume Emissions Inspection Station

A vehicle emissions inspection station that performs OBD testing only and does not to exceed 1,200 OBD tests per calendar year.

On-Board Diagnostics (OBD)

The computer system installed in a vehicle by the manufacturer which monitors the performance of the vehicle's emission control equipment, fuel metering system, and ignition system for the purpose of detecting malfunction or deterioration in performance that would be expected to cause the vehicle not to meet emissions standards.

TX96

Testing equipment meeting specifications for "Preconditioned Two-Speed Idle Vehicle Exhaust Gas Analyzer System" for use in the Texas Vehicle Emissions Testing Program.

Two-Speed Idle Test (TSI)

A measurement of the tailpipe exhaust emissions of a vehicle while the vehicle idles, first at a lower speed and then again at a higher speed.

TxDOT

Texas Department of Transportation

Vehicle Emissions Inspection Station

A facility certified to conduct an emissions inspection for a vehicle and issue a certificate of emissions inspection.

Vehicle Identification Database (VID)

A database management system which maintains specified vehicle data and emissions testing information.

Vehicle Inspection Report (VIR)

The printout created after an emissions test which displays tests results, vehicle information, and pass/fail status.

Vehicle Repair Form (VRF)

A printout that will include a description of those emissions repairs which were recommended and those which were actually performed. The VRF will be the primary document used by any motorist seeking a waiver.

CHAPTER 1: GENERAL Revised

1.1 BACKGROUND

The motor vehicle inspection and maintenance (I/M) program will reduce hydrocarbon emissions (HC), which include volatile organic compounds (VOC), that react with NO_x 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. Some HC emissions include VOCs 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 will reduce carbon monoxide (CO) emissions, which interfere 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 will reduce emissions of NO_x, 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_x contributes to ozone formation (ground level) and visibility degradation and can also react chemically in the air to form nitric acid. NO_x reductions may be achieved through on-board diagnostics (OBD) testing and acceleration simulation mode (ASM-2) testing, or a vehicle emissions testing program that meets state implementation plan (SIP) emissions reduction requirements and is approved by EPA in affected areas of the state.

Texas implemented a vehicle emissions testing program on January 1, 1995, which met requirements contained in the EPA's final rule for I/M programs. Senate Bill 178, passed by the 74th Texas Legislature, 1995, cancelled the testing program, reinstated the previous testing program, and authorized the renegotiation of a new vehicle emissions testing program that would be more convenient

and less costly. During this time, EPA finalized the I/M Flexibility Amendments on November 28, 1995, 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 nonattainment 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 Federal Clean Air Act (FCAA) 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.

1.2 PUBLIC HEARINGS INFORMATION

The commission held public hearings at the following times and locations:

CITY	DATE	TIME	LOCATION
El Paso Dayton, Texas	October 16, 2002 August 18, 2003	2:00 p.m. 7:00 p.m. 6:00 p.m.	TCEQ regional office at 401 E. Franklin Avenue, 5th floor conference room, Suite 570, El Paso Dayton High School cafeteria, 3200 North Cleveland (Highway 321 North).

1.3 SOCIAL AND ECONOMIC CONSIDERATIONS

For a detailed explanation of the social and economic issues involved please refer to the preamble that precedes the rule package accompanying this SIP.

1.4 FISCAL AND MANPOWER RESOURCES

The state has determined that its fiscal and manpower resources are adequate and will not be adversely affected through implementation of this plan.

CHAPTER 2: APPLICABILITY Revised

The legal authority for the commission and the DPS to implement the I/M program is granted by the Texas Health and Safety Code, §§382.202 - 382.208, and Texas Transportation Code, Chapters 502 and 548. This authority is not limited by Sunset provisions.

The FCAA and 40 Code of Federal Regulations (CFR) Part 51, as amended, require an “enhanced” vehicle emissions testing program in ozone nonattainment areas designated as serious or above, or in CO nonattainment areas designated moderate or serious. The HGA area is designated severe for ozone, the DFW area is designated serious for ozone, and the El Paso area is designated serious for ozone and moderate for CO. 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 state has elected to implement a low enhanced I/M program in each area that will meet or exceed EPA's low enhanced performance standard. EPA's low enhanced performance standard consists of an annual centralized or decentralized two-speed idle (TSI) test, and visual inspection of emission control devices for all subject light duty vehicles and trucks up to 8500 gross vehicle weight rating (GVWR). Additional credit may be given for ASM-2 testing, OBD testing, remote sensing, and technician training and certification program. OBD testing, which is required by FCAA §§182(c)(3)(vii) and 202(m)(3), in addition to 40 CFR Parts 51 and 85, will begin May 1, 2002 in all affected areas.

On May 1, 2002, Dallas, Denton, Collin, Harris, and Tarrant Counties transitioned to an emissions test utilizing OBD for model year vehicles 1996 and newer, and ASM-2 for model year vehicles 1995 and older. Beginning May 1, 2003, Brazoria, Ellis, Fort Bend, Galveston, Johnson, Kaufman, Montgomery, Parker, and Rockwall Counties will implement OBD testing for model year vehicles 1996 and newer, and ASM-2 for model year vehicles 1995 and older. Beginning May 1, 2005, Chambers, Liberty, and Waller Counties will implement OBD testing for model year vehicles

1996 and newer , and ASM-2 or a vehicle emissions testing program that meets SIP emissions reduction requirements and is approved by EPA for model year vehicles 1995 and older. All vehicle emissions inspection stations in affected program areas will offer both the ASM-2 test and the OBD test to the public, with the possible exception of low volume emissions inspection stations. A “Low Volume Emissions Inspection Station” is one that performs OBD testing only and does not to exceed 1,200 OBD tests per calendar year. Program expansion is essential for reduction of emissions to be able to demonstrate attainment with the national ambient air quality standard (NAAQS) for ozone. To ensure that the SIP strategies impose no more burden than necessary to protect health and welfare, the commission decided to provide Chambers, Liberty, and Waller Counties and their respective largest municipality the flexibility to submit by May 1, 2002, individually or collectively, a resolution that is approved by the commission and EPA as an alternative air control strategy. The resolution should provide a control strategy that will provide modeled reductions of VOC and equivalent to the reductions that have been modeled for these counties through the implementation of the I/M program. The estimated "COAST Update October 2000" emission reductions modeled for Chambers County are 1.25 tpd, Liberty County are 1.06 tpd, and Waller County are 0 .75 tpd , for a combined estimated emissions reduction of 3.06 tpd.

All subject vehicles in El Paso County will be tested utilizing a TSI test. In the event that the commission publishes notification in the *Texas Register* of a determination that contingency measures are necessary in order to maintain attainment of the NAAQS in the El Paso area, the following contingency measures will become effective 12 months after the notice is published:

(i) All 1996 and newer model year vehicles equipped with OBD systems will be tested using EPA-approved OBD test procedures;

(ii) All pre-1996 model year vehicles will be tested using a TSI test; and.

(iii) All vehicle emissions inspection stations in the El Paso program area will offer both the TSI test and OBD test.

BPA is a moderate ozone nonattainment area with an urbanized population of less than 200,000. EPA's I/M flexibility amendments dated September 16, 1995 allow areas with an urbanized population of less than 200,000 to demonstrate a plan to reduce air pollution without utilizing a vehicle emissions testing program. The BPA area meets this criterion, so no vehicle emissions testing program is required.

CHAPTER 3: I/M PERFORMANCE STANDARDS

(No Change)

CHAPTER 4: NETWORK TYPE AND PROGRAM EVALUATION Revised

4.1 NETWORK TYPE

The State of Texas has implemented a decentralized I/M network in Dallas, Tarrant, Harris, and El Paso Counties. On May 1, 2002, the DFW I/M testing areas expanded to include Collin and Denton Counties, and beginning May 1, 2003, will include the EDFW program area. Beginning May 1, 2003, the HGA I/M testing areas will be expanded to include Brazoria, Fort Bend, Galveston, and Montgomery Counties, and beginning May 1, 2005 ~~2004~~, to include Chambers, Liberty, and Waller Counties. The decentralized network allows motorists a choice of test-and-repair or test-only facilities that offer the required emissions and gas cap integrity test. Test-only facilities may offer other services for the convenience of their customers, such as, but not limited to, oil changes, self-serve gasoline, and any other items that are not related to automotive parts, sales, and/or service. Test and repair facilities may offer a wide range of repairs and services for the convenience of their customers. This allows motorists a choice of testing facilities offering a variety of services with no difference in test fees based on facility type. In addition, the commission has implemented a centralized on-line data communications system that assists in monitoring test results by facility type and allows the ability for extensive data analysis.

On February 8, 1999, the commission submitted the Short Term Program Effectiveness - 18-Month Evaluation of The Texas Vehicle Emissions Testing Program that demonstrated the state's decentralized test only/test-and-repair network is comparable to a centralized test-only network. On August 20, 1999, EPA published Additional Flexibility Amendments to Vehicle Inspection Maintenance Program Requirements; Proposed Amendment to the Final Rule. In this proposed rule, 40 CFR §51.353(b), the automatic effectiveness credit discount for decentralized test-and-repair networks was deleted. For these reasons, the state has modeled the I/M program with the assumption of a "centralized network" so that the automatic discount would not be applied by the model and 100% effectiveness credit would be given.

4.2 PROGRAM EVALUATION

On October 12, 2000, the commission submitted the first Mass Emissions Transient Testing (METT) report to EPA. The METT is an ongoing evaluation of the I/M program consistent with EPA requirements to quantify the emissions reduction benefits for the Texas I/M Program. The commission commits to reporting the results of the evaluation to EPA on a biennial basis. The evaluation consists of:

- (1) Surveys that assess the effectiveness of repairs performed on vehicles that failed the emissions 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 covert surveys of inspector effectiveness as it relates to identifying vehicles that need repair.

METT is the method for evaluating enhanced I/M programs prescribed by EPA. The method uses transient testing, or loaded-mode testing on a dynamometer, to simulate actual driving conditions, and expresses emissions using a mass-based measurement in grams. To meet METT requirements, the state will test and evaluate a random sample of in-fleet vehicles following FCAA requirements for I/M program evaluations as amended by EPA on January 8, 1998 (40 CFR parts 51 and 52, Minor Amendments to Inspection Maintenance Program Evaluation Requirements; Amendment to the Final Rule) and EPA guidance issued October 30, 1998 (Guidance on Alternative I/M Program Evaluation Methods). That sample will be required to receive a DPS administered or monitored emissions and gas cap integrity test. Such vehicles will receive a state administered or monitored IM240 mass emissions test or comparable test at the time the initial test is due as required in 40 CFR §51.353(c)(3).

The special testing will take place at the time the vehicle is scheduled to have an initial inspection, prior to any repair. The commission will 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 will 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.

CHAPTER 5: ADEQUATE TOOLS AND RESOURCES

(No Change)

CHAPTER 6: TEST FREQUENCY AND CONVENIENCE

(No Change)

CHAPTER 7: VEHICLE COVERAGE Revised

7.1 REGISTERED VEHICLES

Currently in Dallas, Collin, Denton, Tarrant, Harris, and El Paso Counties, the I/M program requires annual testing of all gasoline-powered motor vehicles that are two through 24 years old, primarily operated and registered, or required to be registered, in the affected counties, and required by the DPS to comply with vehicle safety inspection requirements. Leased vehicles primarily operated in and registered, or required to be registered, in the affected counties are included in the program and must be scheduled for vehicle testing as a part of the annual safety inspection. Dual-fueled vehicles capable of operating on gasoline, are also required to be tested as part of the annual safety and emission program. Beginning May 1, 2003, these requirements will extend to include Brazoria, Ellis, Fort Bend, Galveston, Johnson, Kaufman, Montgomery, Parker, and Rockwall Counties. Chambers, Liberty, and Waller Counties will implement the vehicle emissions testing program beginning May 1, 2005 ~~2004~~, but have the option of opting out if the counties submit by May 1, 2002, individually or collectively, a resolution that is approved by the commission and the EPA as an alternative air control strategy. The resolution should provide a control strategy that will provide reductions of VOC and equivalent to the reductions that have been modeled for these counties through the implementation of the I/M program. Military tactical vehicles, motorcycles, diesel-powered vehicles, vehicles less than two years old, or vehicles 25 years old or older, and vehicles registered with TxDOT as antique are excluded from the program.

Vehicles subject to I/M testing are identified through the registration database provided to the commission by TxDOT. This database is updated through weekly tapes issued by TxDOT. The following chart represents an estimate of subject vehicles (by county), and is extracted from 2003 ~~2000~~ registration numbers.

2003 2000 SUBJECT VEHICLE REGISTRATION BY COUNTIES	
Brazoria	158,512 156,139
Chambers	18,361 18,678
Collin	339,781 309,646
Dallas	1,314,525 1,398,607
Denton	277,117 269,863
Ellis	81,845 86,684
El Paso	376,104 373,789
Fort Bend	223,527 206,328
Galveston	159,381 163,270
Harris	2,005,008 2,040,696
Johnson	87,790 88,943
Kaufman	49,224 48,740
Liberty	41,420 42,116
Montgomery	198,530 187,222
Parker	63,265 65,042
Rockwall	33,187 31,843
Tarrant	909,779 938,715
Waller	20,478 19,998

The commission compares registration data with vehicle inspection results data to identify noncompliant vehicles. Registered owners of vehicles in the affected counties are notified if they have not complied

with I/M program requirements. Specific re-registration denial procedures are specified in Chapter 11. In addition, remote sensing identifies gross polluting vehicles that are operating and registered in any of the I/M program 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.

Compliance

Subject vehicles must pass an emissions and gas cap integrity test in an inspection facility that has been certified for safety and emissions inspection by DPS and receive a valid vehicle inspection certificate. Failure to pass program elements results in noncompliance of a vehicle. The enforcement for noncompliance ranges from issuance of a citation to denial of re-registration. Enforcement of the I/M program is discussed further in Chapters 11 and 12.

Remote Compliance

DPS honors 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 DFW, EDFW, HGA, or El Paso program areas, but are operated in attainment areas of Texas or in another state, are not required to undergo emissions testing. However, the motorists must complete a DPS affidavit, and upon returning to the above mentioned areas the

vehicle must meet program requirements. A vehicle is considered primarily operated in a county if it is used in that county for a least 60 calendar days per testing cycle.

7.2 EXEMPT VEHICLES

The Texas Health and Safety Code exempts motorcycles, slow moving vehicles, military tactical vehicles, and diesel-powered vehicles, vehicles less than two years old, and vehicles 25 years old or older from emissions testing. Antique vehicles are also excluded from the I/M program, since they are 25 years old or older.

The commission anticipates no further exemptions from the fleet subject to the I/M 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. TxDOT will 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 Texas Health and Safety Code, §382.202(k).

7.3 FEDERAL VEHICLES

Under FCAA, §118(c), federal vehicles, except those identified as military tactical vehicles, operated in DFW, EDFW, HGA, or El Paso program areas are required 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 will 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 and are licensed by DPS, and the tests are performed in accordance with established inspection procedures.

7.4 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 database comparison. However, under FCAA, §118, federal employees who operate private 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 that 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 requires 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 DFW, EDFW, HGA, and El Paso program areas are as follows:

Federal Vehicle Count	
DFW/EDFW Program Areas	3,636
HGA	3,352
El Paso Program Area	940

CHAPTER 8: TEST PROCEDURES, STANDARDS, AND TEST EQUIPMENT Revised

8.1 TEST PROCEDURES AND STANDARDS

Owners of all subject gasoline-powered vehicles that are two through 24 years old that are annually inspected through DPS-certified safety inspection stations are required to have an applicable emissions test performed. Vehicles less than two years or greater than 24 years old are not required to provide proof of compliance with the I/M program requirements in conjunction with a safety inspection. Texas has implemented annual vehicle emissions testing in Dallas, Collin, Denton, Tarrant, Harris, and El Paso Counties. Currently, ASM-2 or OBD and gas cap integrity tests are performed on all subject vehicles in Dallas, Collin, Denton, Tarrant, and Harris Counties during the annual safety and emissions inspection. Gas cap integrity testing is performed on all vehicles statewide during annual safety inspections. In El Paso County, all subject vehicles will be tested utilizing a TSI and gas cap integrity test. In the event that the commission publishes notification in the *Texas Register* of a determination that contingency measures are necessary in order to maintain attainment of the NAAQS in the El Paso area, the following contingency measures will become effective 12 months after the notice is published:

(i) All 1996 and newer model year vehicles equipped with OBD systems will be tested using EPA-approved OBD test procedures;

(ii) All pre-1996 model year vehicles will be tested using a TSI test; and.

(iii) All vehicle emissions inspection stations in the El Paso program area will offer both the TSI test and OBD test.

On May 1, 2002, the DFW program area and Harris County began OBD testing for model year vehicles 1996 and newer, and ASM-2 or a vehicle emissions testing program that meets SIP emissions reduction requirements and is approved by EPA for model year vehicles 1995 and older.

Beginning May 1, 2003, the EDFW program area and Brazoria, Fort Bend, Galveston, and Montgomery Counties will begin emissions testing utilizing OBD testing for model year vehicles 1996 and newer, and ASM-2 or a vehicle emissions testing program that meets SIP emissions reduction requirements and is approved by EPA for model year vehicles 1995 and older. Beginning May 1, 2005 ~~2004~~, Chambers, Liberty, and Waller Counties will implement vehicle emissions testing utilizing OBD testing for model year vehicles 1996 and newer, and ASM-2 or a vehicle emissions testing program that meets SIP emissions reduction requirements and is approved by EPA for model year vehicles 1995 and older. Chambers, Liberty, and Waller Counties have the option of opting out of the program if the counties submit by May 1, 2002, individually or collectively, a resolution that is approved by the commission and the EPA as an alternative air control strategy. The resolution should provide a control strategy that will provide reductions of VOC and equivalent to the reductions that have been modeled for these counties through the implementation of the I/M program. In addition, as part of the safety and emissions test, vehicles are subject to anti-tampering checks including: the exhaust gas recirculation (EGR) system, evaporative emissions control system, positive crankcase ventilation (PCV) system, thermostatic air cleaner (TAC), the air injection system (AIS or smog pump), and for selected model years, the catalytic converter. No purge testing is performed in this program. Unsafe vehicles or vehicles with missing or leaky exhausts that are presented for emissions testing will be rejected.

The vehicle emissions inspection commences 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 are retrieved. The inspector confirms the information from the VID with the subject vehicle presented for emissions inspection. If no match or contact occurs with the VID, the inspector must manually enter the vehicle information into the analyzer. All emissions inspection test results are electronically stored on the analyzer for 180 days, and sent via modem to the Texas Information Management System (TIMS) host computer immediately following the completion of each test. All emissions inspection test results

are accessible to the commission and DPS.

An official test, once initiated, is 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 are performed with program-approved equipment that has been calibrated. Emissions standards are applicable to all vehicles subject to the program, and repairs are required for failure of any standard. The commission may adjust standards as necessary to maintain a passing rate of at least 80%. Upon retest, these vehicles are retested for all pollutants. A second failure of any pollutant level results in a second failure of the vehicle. Vehicles will 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 Chapter 114, "Control of Air Pollution From Motor Vehicles," outlines requirements for engine replacement, removal/installation of emission components, and tampering. Additionally, DPS Administrative Rule 37 TAC, §23.93, "Vehicle Emissions Inspection Requirements," gives guidance on engine switching. The DPS will be responsible for enforcement regarding engine switching and vehicle tampering.

The DPS uses remote sensing to identify high emitting vehicles operating in the DFW, EDFW, HGA, and El Paso program areas. Remote sensing may also be used as a quality assurance tool for randomly selected or suspect vehicle emissions facilities. Remote sensing screening is conducted according to reliable engineering practices to assure the accuracy of the test.

8.2 TESTING EQUIPMENT

TSI Testing Equipment - This equipment consists of a computerized exhaust gas analyzer and a gas

cap integrity tester. The TSI test comprises two phases: (1) high speed test (2200 - 2800 RPMs) for the first phase of the emissions test; then, (2) tested at idle (350 - 1200 RPMs). The gas cap integrity test meets EPA-required specifications and procedures. Emissions testing equipment has the capability to simultaneously sample dual-exhaust vehicles. All equipment meets acceptance testing criteria and receives a notice of approval from the commission's executive director or designee prior to use in the Texas I/M Program. All vehicle emissions inspection test systems are computerized and contain lock-out provisions for equipment tampering, equipment failure to conduct or pass calibration or leak checks, and prevention of unauthorized access. All equipment provides for automatic data collection that cannot be altered by the emissions testing facility. Steady-state idle test procedures are conducted according to Appendix B of the Federal I/M Rule and steady-state idle test equipment specifications consistent with Appendix D of the Federal I/M Rule. Specifications are contained in Appendix G. Vehicle emissions cut points used for the TSI test are located in Appendix A of the "Specifications For Vehicle Gas Analyzer Systems for use in the Texas Vehicle Emissions Testing Program."

ASM-2 Testing Equipment - This equipment consists of a computerized exhaust gas analyzer, a dynamometer, and a gas cap integrity tester. A dynamometer is a set of rollers used to simulate acceleration by applying resistance or increasing load to the drive wheels of the vehicle. The ASM-2 vehicle emissions test comprises two phases: (1) the 50/15 mode - in which the vehicle is tested on the dynamometer simulating the use of 50% of the vehicle's available horsepower to accelerate at a rate of 3.3 mph/second at a constant speed of 15 mph, and, (2) the 25/25 mode - in which the vehicle is tested on the dynamometer simulating the use of 25% of the vehicle's available horsepower to accelerate at a rate 3.3 mph/second at a constant speed of 25 mph. Applicable vehicles that cannot undergo an ASM-2 test such as, but not limited to, vehicles that exceed 8,500 GVWR or that are all-wheel drive, will receive a TSI test. Emissions testing equipment will have the capability to simultaneously sample dual-exhaust vehicles. All equipment will meet acceptance testing criteria and receive a notice of approval from the commission's executive director or his designee prior to use in the Texas I/M Program. ASM-2 inspection test systems will contain lock-out provisions for equipment tampering,

equipment failure to conduct or pass calibration or leak checks, and prevention of unauthorized access. All equipment will provide for automatic data collection that cannot be altered by the emissions testing facility. ASM-2 equipment and procedures will meet EPA requirements. Specifications for ASM-2 equipment are located in Appendix G of this document. Vehicle emissions cut points used for ASM-2 test equipment are located in Appendix G of the Specifications For Acceleration Simulation Mode (ASM-2) Test Procedures for use in the Texas Vehicle Emissions Testing Program.

OBD Testing Equipment - OBD testing equipment design and operation will meet all federal requirements contained in 40 CFR §§85.2207 - 85.2231 and recommended SAE practices (J1962, J1978, and J1979). The OBD system test equipment will 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 I/M Program. The OBD testing equipment will be tethered to the emissions analyzer, contain lock-out provisions for equipment tampering, prevent unauthorized access to the test data, and automatically retrieve the test data from the vehicle's OBD system. The OBD system will provide for automatic data collection that cannot be altered by the emissions testing facility. Specifications for OBD equipment are located in Appendix K of this document.

The commission may update emissions testing equipment specifications to accommodate new technology vehicles and changes to the program as necessary.

CHAPTER 9: QUALITY CONTROL

(No Change)

CHAPTER 10: WAIVERS AND TIME EXTENSIONS

(No Change)

CHAPTER 11: MOTORIST COMPLIANCE ENFORCEMENT

(No Change)

CHAPTER 12: MOTORIST COMPLIANCE ENFORCEMENT PROGRAM OVERSIGHT

(No Change)

CHAPTER 13: QUALITY ASSURANCE

(No Change)

**CHAPTER 14: ENFORCEMENT AGAINST CONTRACTORS, STATIONS AND
INSPECTORS**

(No Change)

CHAPTER 15: DATA COLLECTION

(No Change)

CHAPTER 16: DATA ANALYSIS AND REPORTING

(No Change)

CHAPTER 17: INSPECTOR TRAINING AND LICENSING OR CERTIFICATION

(No Change)

CHAPTER 18: PUBLIC INFORMATION AND CONSUMER PROTECTION

(No Change)

CHAPTER 19: IMPROVING REPAIR EFFECTIVENESS

(No Change)

CHAPTER 20: COMPLIANCE WITH RECALL NOTICES

(No Change)

CHAPTER 21: ON-ROAD TESTING Revised

21.1 IDENTIFICATION OF PROBABLE HIGH-EMITTING VEHICLES

The DPS is utilizing remote sensing technology to identify vehicles operating within the I/M program areas that have a high probability of being high emitters. For this purpose, the DPS is focusing on probable high-emitting vehicles that are registered within the subject counties but are not complying with periodic testing requirements in the I/M program areas. Vehicles commuting into the DFW program area will be monitored. Vehicles commuting into the HGA program area from Brazoria, Fort Bend, Galveston, and Montgomery Counties will be monitored through April 30, 2003, and through April 30, 2005 ~~2004~~, from Chambers, Liberty, and Waller Counties.

Vehicles are identified by means of a license plate recognition system which forms an integral part of the remote sensing testing process. The residence of the vehicle owner is identified by obtaining the address corresponding to the license plate in the Texas vehicle registration data base. The DPS uses 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_x 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, or NO_x levels; and
- (8) length of time between multiple high measurements taken on the same vehicle.

Appropriate combinations of one or more of these factors plus additional approved methods will be used to ensure the highest possible confidence level that the identified vehicle is a high emitter. The DPS uses appropriate screening criteria based on the best information available at the time.

21.2 VEHICLE COVERAGE SUMMARY

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 DFW, EDFW, HGA, and El Paso program areas.

21.3 VERIFICATION TESTING REQUIREMENTS

Each registered owner of a vehicle in the I/M program area which meets the subject high-emitter identification criteria will be mailed a notification letter informing him/her that the vehicle has a high probability of being a high emitter. The notification letter must require the owner to have the vehicle inspected and, if necessary, repaired to ensure compliance with emissions standards. As with the normal testing process, any vehicle that fails this inspection will be required to have repairs performed to bring it into compliance with applicable emissions standards; compliance will be verified by means of a required emissions retest. If necessary, waivers can be issued to vehicles that 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 must result in the issuance of a citation against the owner of the vehicle. This citation includes progressive penalties that may escalate to a maximum of \$1,000.00 per offense for the continuance of non-compliance. If the vehicle fails to comply within 30 days, the vehicle will be flagged in the TxDOT registration database, and the vehicle will 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 I/M program area will be cross-referenced with the Texas vehicle registration and emissions testing data base. The categories of probable high-emitting vehicles that will not be mailed notification letters include, but are not limited to, the following:

- (1) any subject vehicle that has received a waiver during the most current test cycle or is operated under the provision of a DPS approved time extension;
- (2) any subject vehicle that is scheduled to receive its next emissions inspection within 30 days;

and

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

21.3 PROGRAM FUNCTIONS AND RESPONSIBILITIES

Through means of a competitive bid process, remote sensing contractor(s) will be selected to collect, analyze, and report on-road emissions testing data to the DPS. The remote sensing contractor(s) will be required to employ sufficient staff to satisfactorily perform these functions in meeting the vehicle coverage requirements of the oversight agency. The DPS employs 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 will be selected in the core I/M program area for collection of remote sensing data.

CHAPTER 22: STATE IMPLEMENTATION PLAN SUBMISSION Revised

The State will meet the following schedule:

<u>Activity</u>	<u>Date</u>
Passage of enabling statutory authority for emissions program (Senate Bill 1856, 75th Legislature, 1997)	6/19/97
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 TSI Test	11/01/99
Adoption of final commission regulations	05/29/96
Final DPS Rules	04/24/98
Issuance of EPA's final specifications on the ASM Loaded Test	06/26/96
Issuance of Texas ASM Specifications	11/01/99
Passage of enabling statutory authority making non-compliance with the I/M program Class B and C Misdemeanors	06/19/97
Passage of enabling statutory authority to implement additional enforcement authority to DPS	06/19/97

Analysis of data for program evaluation to meet the 1995 NHSDA requirements 02/08/99

OBD II testing 05/01/02

Dallas and Tarrant Counties

Certified Stations on line, phase I 07/31/96

Texas Data Link System project completed 09/01/96

Certified stations on line, phase II 10/31/96

Full-stringency cut points for TSI test 01/01/97

Certify 4 counties in the DFW program area (Dallas, Tarrant, Collin, and Denton Counties) online with ASM (start-up cut points for ASM-2) and incorporate OBD testing 05/01/02

Houston/Galveston Area (HGA)

Texas Data Link System project completed 09/01/96

Certified stations on line 12/31/96

Emissions testing start date 01/01/97

Full-stringency cut points for TSI test	01/01/97
Certify Harris County online with ASM (start-up cut points for ASM-2) and incorporate OBD testing	05/01/02
Certify 4 counties in the HGA program area (Brazoria, Fort Bend, Galveston, and Montgomery Counties) online with ASM (start-up cut points for ASM-2) and incorporate OBD testing	05/01/03
Certify 3 counties in the HGA program area (Chambers, Liberty, and Waller Counties) online with ASM (start-up cut points for ASM-2) and incorporate OBD testing	05/01/04 05/01/05

El Paso County

Texas Data Link System project completed	09/01/96
Certified stations on line	12/31/96
Emissions testing start date	01/01/97
Full-stringency cut points for TSI test	01/01/97

Extended Dallas Fort Worth Program Area (EDFW)

Certify EDFW program area (Ellis, Kaufman, Parker, Johnson, and
Rockwall Counties) online with ASM-2 (start-up cut points for ASM-2)
and incorporate OBD testing

05/01/03

