

REVISIONS TO THE STATE IMPLEMENTATION PLAN
FOR THE INSPECTION/MAINTENANCE PROGRAM

TEXAS AIR CONTROL BOARD
12124 PARK 35 CIRCLE
AUSTIN, TEXAS 78753

JULY 23, 1992

INSPECTION/MAINTENANCE PROGRAM

A. GENERAL

1. Introduction

The Federal Clean Air Act (FCAA) Amendments of 1990 authorized the U.S. Environmental Protection Agency (EPA) to designate areas failing to meet the National Ambient Air Quality Standard for ozone as nonattainment and to classify them according to severity. The four areas in Texas and their respective classification include Houston/Galveston (severe), Beaumont/Port Arthur (serious), El Paso (serious), and Dallas/Fort Worth (moderate).

Texas is required to submit a revision to the State Implementation Plan (SIP) for each area no later than November 15, 1992 which includes an Inspection/Maintenance (I/M) program to control emissions from motor vehicles. I/M programs are already in place in Harris, El Paso, Dallas, and Tarrant Counties, but the FCAA amendments require substantial enhancements to the existing programs. An enhanced I/M program is required, as outlined in the FCAA amendments in Section 182(c)(3), in areas which are classified as serious, severe, or extreme nonattainment areas and have an urbanized population of 200,000 or more. A basic program, as outlined in the FCAA amendments in Section 182(a)(2)(B)(ii), is required in marginal and moderate ozone nonattainment areas or in

serious, severe, or extreme ozone nonattainment areas with an urbanized population less than 200,000.

Although FCAA Sections 182(a) and 182(c) require that the SIP revision be developed in accordance with guidance or rulemaking, no final federal guidelines or rulemaking requirements on basic or enhanced I/M programs have been published. Draft proposed rulemaking for basic and enhanced I/M programs was included in a February 1992 document.

EPA has recognized the unique air quality problems in El Paso and has proposed special provisions for the area to modify the requirements of the enhanced I/M performance standards. Language in the anticipated rulemaking is expected to reflect this understanding.

These SIP revisions are intended to satisfy the requirements for all new and existing I/M program areas based on compliance with a performance standard established by the EPA.

2. Definitions

EPA proposes to approve I/M SIP submissions which are consistent with the following definitions.

Emission Control Device Inspection - a visual emission control device check performed through direct observation or through indirect observation using a mirror, video camera, or other visual aid. These inspections shall include a determination as to whether each subject device is present and properly connected and whether it is the correct type for the certified vehicle configuration. Aftermarket parts, as well as original equipment manufactured parts, may be considered correct if they are of the proper design and fit for the certified vehicle configuration. Where an EPA aftermarket approval or self-certification program exists (such as for catalytic converters), inspections shall include verification that the part is either original equipment manufacture or from an approved or self-certified aftermarket manufacturer.

Emission Standards - limits for hydrocarbons (HC) and carbon monoxide (CO) emissions which in vehicles are expressed in grams per mile and in transient testing and in parts per million in idle and steady state testing. These standards will apply to all vehicles subject to the program. Failure of any standard will necessitate appropriate repairs. Nitrogen oxides (NO_x) emission standards shall be applied to vehicles subject to a transient emission test.

Evaporative System Purge Test Procedure - measurement of the total purge flow (in standard liters) occurring in the vehicle's

evaporative system during the high-tech dynamometer emission test. The purge flow measurement system shall be connected to the purge portion of the evaporative system in series between the canister and the engine, preferably near the canister. The inspector shall be responsible for ensuring that all items that are disconnected in the conducting of the test are properly reconnected at the conclusion of the test procedure. Alternative test procedures must be approved by the EPA administrator. Any damage to the evaporative emission control system during this test shall be repaired at the expense of the inspection facility.

Evaporative System Integrity Test Procedure - a test sequence consisting of a series of steps to measure an unacceptable drop in pressure, indicating a fuel tank vapor leak. Any damage done to the evaporative emission control system during the test shall be repaired at the expense of the inspection facility.

Transient Emission Test - a mass emission measurement using a constant volume sampling (CVS) system while the vehicle is driving through a computer-monitored driving cycle on a dynamometer with inertial weight settings appropriate for the weight of the vehicle. The driving cycle shall include acceleration, deceleration, and idle operating modes over 240 seconds as specified by EPA (IM240). The 240 second sequence may be ended earlier using fast pass or fast fail algorithms and multiple pass/fail algorithms may be used during the test cycle to

eliminate false failures. The transient test procedure, including algorithms and other procedural details, shall be approved by EPA prior to use in an I/M program.

Loaded Mode Two-Speed Test - conducted using a BAR90 analyzer and a dynamometer. The dynamometer can range from a simple chassis dynamometer to a more sophisticated variable inertial weight dynamometer that can be adjusted to accommodate heavy-duty vehicles. Tail pipe emissions are sampled from the vehicle at a simulated single speed of approximately 30 miles per hour.

3. Legislative Authority

Senate Bill 2, Section 2.25, authorizes the Texas Air Control Board (TACB) to design and implement programs which will meet the requirements of the FCAA as well as any subsequent rulemaking and/or policies.

B. UNIFORM REQUIREMENTS PERTAINING TO ALL I/M PROGRAMS

1. Geographic Coverage

Both basic and enhanced I/M programs are required in the urbanized area as defined in the 1980 Census. For the purposes of this SIP, specific program information for the following I/M program areas have been defined in subsequent sections.

- o Houston/Galveston nonattainment area including Harris, Galveston, Brazoria, Chambers, Liberty, Montgomery, Fort Bend, and Waller Counties;
- o El Paso County;
- o Beaumont/Port Arthur nonattainment area including Jefferson and Orange Counties; and
- o Dallas/Fort Worth nonattainment area including Dallas, Tarrant, Denton, and Collin Counties.

2. Network Type/Private Business Participation

The TACB has developed an innovative program design which includes managing and operating contractors to maximize local, private business participation while ensuring effective program management and enforcement. No automotive services or products may be sold, advertised, or recommended in any I/M program facility.

a. The managing contractor (manager) shall be selected through a competitive bidding process. The manager will:

- 1) perform demographic studies for facility placement;
- 2) purchase sites and construct facilities;

- 3) design, purchase, and maintain all I/M testing and computer equipment;
- 4) provide referee facilities for motorists disputing test findings;
- 5) issue waivers to qualifying motorists;
- 6) sell or lease each test facility to local residents or if no local residents are available, to Texas residents;
- 7) be responsible for the independent training of all inspectors in the test facility;
- 8) provide written and other media public information about the test, including the purpose of the I/M test and program as well as the location of facilities;
- 9) perform overt audits of inspection facilities and report findings to the TACB;
- 10) provide all inspection facilities with a network to provide information to the manager's host computer, which will then communicate with the TACB computer; and

11) secure and distribute vehicle emission certificates (forms) to operators.

The manager shall attempt to ensure that the operators are representative of the demographics of the nonattainment area and shall develop numerous levels of entry to ensure local residents an equitable opportunity to participate in the testing program.

b. Operating contractors (operators) have the option to purchase or lease emission test facilities. The operator will:

- 1) be responsible for the day-to-day management of the test facility;
- 2) perform emission inspections and retests;
- 3) collect the appropriate fees;
- 4) distribute program information, such as lists of certified repair technicians, and other information concerning the purpose of the test and other information approved by the TACB; and
- 5) cooperate in scheduling fleets for emission inspections.

c. Public convenience issues have been addressed in TACB's I/M program designs, eliminating long waits in the inspection line and excessive distances that must be driven to reach a testing facility.

1) The TACB will require the managing contractor to design a system so that 80% of all motorists are within 5 miles of a facility, 95% of all motorists are within 12 miles of a facility, and 99% of all motorists are within 20 miles of a facility. The managing contractor shall provide a hot-line that motorists can call and get information on station locations, hours of operation, current wait times, and other information.

2) The TACB will require managing contractors to be penalized if the average wait time for customers is longer than 15 minutes per day more than 3 days a month. Penalties shall be substantial.

3) Another motorist convenience issue is the fact that motorists will be required to go to test-only facilities. To address these concerns, the TACB will implement the certified repair technician program, outlined previously, including free retests for vehicles that fail an initial inspection at a commercial lane. This would enable motorists to have repairs and the retest done in one trip.

4) The commercial lane would also be available to fleet operators and automobile dealerships. Owners of large fleets or fleets with extended hours of operations, may request a managing contractor to arrange special hours, or to set-aside a special lane for fleet vehicles. The TACB will study other options such as providing fleet operators with coupon books, debit cards, credit cards, or other mechanisms to enable the process to work in an efficient manner.

3. Vehicle Applicability

All 1968 and newer model year gasoline and alternatively fueled light-duty vehicles, light-duty trucks, and heavy-duty gasoline trucks registered in a nonattainment area shall be inspected in the I/M program. Dual-fueled or bi-fueled vehicles will be inspected using both fuels. The TACB will study the feasibility of inspecting diesel vehicles. Leased vehicles registered in the I/M program area must also be inspected.

Section 118(c) of the FCAA requires federal government vehicles registered in the I/M program area to comply with all provisions of the I/M program. Military tactical vehicles are exempted from this position. All federal government agencies having jurisdiction over any property or facility shall require all employees operating motor vehicles on the property or facility to furnish proof of compliance with the vehicle I/M program. The agency

shall use one of the following methods to establish proof of compliance by:

a. presentation by the vehicle owner of a valid certificate from the vehicle I/M program;

b. presentation by the vehicle owner of proof of vehicle registration within the geographic area covered by the I/M program; or,

c. another method approved by the TACB by January 1, 1994.

4. Waivers

In enhanced I/M program areas, waivers are limited to emission-related repairs. No waivers for vehicles and parts covered by the emission control performance warranty shall be granted, unless the warranty remedy has been denied in writing. Waivers are permitted for emission-related repairs not covered by warranty, and requires an expenditure of \$450 or more for repairs (adjusted annually). The annual adjustment shall be determined by EPA on the basis of the Consumer Price Index. The TACB shall publish the adjusted waiver amount in the enhanced I/M program areas prior to implementing the change. All changes shall be effective on January 1 of each year.

b. The proposed EPA rulemaking document requires a minimum of \$75 for pre-1981 model year vehicles and \$200 for 1981 and later model year vehicles to qualify for a waiver in a basic I/M program. Waivers shall not be issued to vehicles for tampering-related expenses. Waivers shall not be issued for emission control devices that are covered under warranty, unless the warranty coverage has been denied in writing.

c. Repairs shall be performed by a certified technician in order to qualify for a waiver.

d. Managing contractors shall maintain information regarding the issuance of waivers in a data system that is accessible to the TACB.

e. The TACB shall study the possibility of granting hardship waivers and other alternative means of vehicle repairs, that would enable a vehicle to remain in the system, but would address air quality. Alternatives to be studied include setting up programs such as grants or low cost loans to motorists to have vehicles repaired. Such a study would include the impact on the repair industry. Other alternatives such as a vehicle scrappage program will also be studied. The vehicle scrappage program enables industry or the government to purchase older vehicles that are gross emitters. The vehicles will immediately be removed from on-road use and will be crushed. No emissions

control parts may be removed from a vehicle purchased under the scrappage program.

f. The manager shall have access to aftermarket parts catalogues to assist motorists in obtaining difficult to locate parts. If parts are unavailable for vehicles that are unable to pass the tampering inspection, the manager may issue a waiver. These waivers shall be maintained separately in a computer file. The motorist will be required to apply for waivers for parts that are unavailable each testing cycle.

g. Waivers shall be issued by the manager only as authorized by EPA. In the Texas Department of Public Safety (DPS) administered programs, the DPS shall continue to authorize waivers.

5. Quality Control Measures

The quality control measures to be implemented by the TACB shall ensure that emissions measurement equipment is calibrated and maintained properly and that inspection, 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 EPA and/or the TACB.

Preventative maintenance on all inspection equipment shall be performed on a periodic basis, not to exceed one (1) month. Computerized analyzers shall automatically record quality control check information, lockouts, attempted tampering, and any circumstance which requires a service representative to work on the machine.

Once per week, the calibration of each dynamometer and each fly wheel shall be checked by a dynamometer coast-down procedure approved by EPA and the TACB.

Measures shall be established to maintain security of inspection and/or waiver certificates. The TACB will coordinate with the Texas Department of Transportation (TxDOT), Motor Vehicle Registration and County Tax Assessors to develop compliance documents (inspection certificates) that will be counterfeit resistant. All inspection and waiver certificates shall be printed with a unique serial number and an official program seal. Cost-effective, efficient measures will be taken to ensure that inspection certificates cannot be stolen or removed without being damaged.

6. Quality Assurance

The TACB will design and implement an ongoing quality assurance program to identify, correct, and prevent fraud, waste, and abuse and to determine if procedures are being followed and are

adequate, equipment is measuring accurately, and whether other problems might exist which would reduce program effectiveness. Several types of audits shall be conducted to address these concerns.

Each operator is responsible for ensuring that operations are performed correctly and that equipment is being adequately maintained. The operator is responsible for the day-to-day operations of a facility. The manager is responsible for calibration of equipment, routine and special equipment needs, providing a host computer system which updates information to both the TxDOT and the TACB, and conducting overt audit activities.

The TACB will conduct overt and covert audits to determine if performance standards are being met. The TACB will also monitor inspector and facility performance through the use of real-time data communications, if applicable.

Performance audits shall be performed regularly and will include an evaluation of the inspector's conformance with written procedures. Performance audits shall be performed for facilities and inspectors suspected of violating regulations as a result of audits, data analysis, or consumer complaints. Overt performance audits shall be performed at least twice a year and must include appropriate recordkeeping practices, and observations and written

evaluations of the inspector's ability to properly perform an inspection.

Covert audits shall include observations of inspector performance and must be conducted annually. An annual site visit using a covert vehicle set to fail an emissions test will be conducted at each facility. Remote visual observations may also be conducted.

The TACB will analyze the results of any covert audit, including vehicle condition and preparation, sufficient for building a legal case and establishing a performance record. On-line inspection data bases shall be accessible to the TACB personnel to permit the creation and maintenance of covert vehicle records.

Record audits shall be reviewed or screened monthly to assess facility performance. The review shall include a computerized analysis to identify statistical inconsistencies, unusual patterns, and other discrepancies. Visits to inspection stations to review records not covered in the electronic analysis will be conducted as needed. A comprehensive accounting of all inspection and waiver certificates will be required.

Quality assurance control evaluations of the required test equipment will include:

- a. a gas audit using gases of known concentrations and comparing those concentrations to actual readings;
- b. a check for tampering, worn instrumentation, blocked filters, and other conditions that would impede accurate sampling;
- c. a check for critical flow;
- d. a check of the CVS flow calibration;
- e. a leak check;
- f. a check to determine that station gas bottles used for calibration purposes are properly labeled and within relevant tolerances;
- g. functional dynamometer checks addressing coast-down, roll speed and roll distance, inertia weight selection, and power absorption;
- h. a check of the system's ability to accurately detect background pollutant concentrations;
- i. a check of the pressure monitoring devices used to perform the evaporative canister pressure test; and

- j. a check of the purge flow metering system.

Failure to conduct proper tests, account for inspection/waiver certificates, or properly maintain equipment may result in financial penalties, the loss of the contract or authorization to perform emissions testing, or other enforcement action.

7. Data Requirements/Recordkeeping

The TACB shall collect test data linking specific test results to a specific vehicle, motor vehicle registration address, test site, and inspector, and determine whether or not the correct testing parameters were observed for the specific vehicle in question. The data collected can be used to distinguish complying and noncomplying vehicles as a result of analyzing the data collected and comparing it to the registration data base, to screen inspection stations and inspectors for investigation as to possible irregularities, and to establish the overall effectiveness of the program. At a minimum, the following data will be collected for each test conducted:

- a. test record number;
- b. inspection station and inspector numbers;
- c. test system number;

- d. date of the test;
- e. emission test start time and time final scores are determined;
- f. vehicle identification number;
- g. license plate number;
- h. test certificate number;
- i. gross vehicle weight rating;
- j. vehicle model year, make, and type;
- k. number of cylinders;
- l. transmission type;
- m. odometer reading;
- n. category of test (i.e., initial, first retest, or subsequent retest);
- o. fuel type;

- p. type of vehicle preconditioning performed;
- q. emission test sequence(s) used;
- r. HC emission scores and standards for each applicable test mode;
- s. CO emission scores and standards for each applicable test mode;
- t. Carbon dioxide emission scores and standards for each applicable test mode;
- u. NO_x emission scores and standards for each applicable test mode;
- v. results of the applicable visual inspection; and
- w. results of the evaporative system functional tests.

The TACB shall gather the results of applicable quality control checks and will identify each check by station 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.

8. Inspector Training

The managing contractor shall provide formal training and certification of inspectors. The training shall address the following issues:

- a. air pollution causes and effects;
- b. the purpose, function, and goal of the inspection program;
- c. inspection regulations and procedures;
- d. technical details of the test procedures and the rationale for their design;
- e. emission control device function, configuration, and inspection;
- f. test equipment operation, calibration, and maintenance;
- g. quality control procedures and their purpose;
- h. public relations; and

i. safety and health issues related to the inspection process.

In order to be certified, a trainee shall pass a written test covering all aspects of the training. In addition, a "hands-on" test shall be administered in which the trainee demonstrates the ability to conduct a proper inspection, to properly utilize equipment, and to follow other procedures. Inability to conduct all test procedures shall constitute a failure of the test. Inspectors shall be required to take refresher courses every two years, when technology changes (such as the upcoming on-board diagnostics procedures), as a condition of resolving a Notice of Violation, or as otherwise specified by the TACB.

The TACB shall approve instructional materials for the inspector training program, a description of the written and hands-on test, and the licensing or certification process prior to initiation of training and testing. Changes to the instructional material, written test, hands-on test, and the licensing or certification process will be approved in writing by the TACB before implementation of the program or any subsequent change. The TACB will determine a minimum passing score for the test.

C. AREA SPECIFIC I/M REQUIREMENTS

1. Houston/Galveston Nonattainment Area

a. All eight counties in the Houston-Galveston nonattainment area will be included in the I/M program. The eight counties include Harris, Brazoria, Fort Bend, Waller, Chambers, Liberty, Galveston, and Montgomery.

b. A loaded mode, two-speed test will be conducted on 1968 to 1989 model year vehicles in the Houston-Galveston I/M program. All 1990 and newer model year vehicles will be subject to a high-tech test. The only high-tech test currently recognized by EPA is the transient emission test with pressure and purge testing. The TACB may initiate testing with less stringent cutpoints in 1994 than will be required in 1996. In 1996, the more stringent cutpoints necessary to satisfy the EPA enhanced I/M performance standard will be implemented. Prior to 1996, motorists with vehicles passing the emission test will be informed of whether or not their vehicle would have passed the emissions test under the more stringent cutpoints. This information will serve as a notice to the motorist that, although the vehicle passed utilizing a less stringent cutpoint, emission-related repairs may be necessary to pass under the more stringent standard proposed for future emission tests. In 1997, high-tech testing will be expanded to include 1986 and newer model year

vehicles if the TACB determines transient emission testing and other high-tech testing are successful in reducing emissions.

A three-point tampering check of the fuel inlet restrictor, catalytic converter, and exhaust gas recirculation (EGR) valve will be conducted on all model year vehicles.

c. The pass/fail determination for the emissions test is made based on a comparison of the HC, CO, and NO_x readings to emission standards selected for the particular vehicle.

d. The TACB will provide biennial reports regarding Houston's I/M program to EPA as required in Section 182(c)(3)(C) of the FCAA. The report shall assess the emission reductions achieved by the program based on the data collection during the inspection and repair of vehicles. The methods used to assess the emission reductions shall be established by EPA. The reports may address any changes made in program design, funding, personnel levels, procedures, regulations, and legal authority, as outlined in the proposed rulemaking. The TACB may use methods such as remote sensing to develop both baseline numbers and as a later measurement of the program's effectiveness.

2. El Paso Nonattainment Area

a. El Paso County will be included in an enhanced I/M program subject to the special provisions defined by the EPA.

b. Model Year 1990 or newer vehicles will be subject to a "high-tech" test, including transient emission testing and pressure and purge tests of the evaporative system in a contractor-operated system. The contractor-operated system will encourage private, local ownership and management of high-volume, test-only facilities. The TACB will be responsible for providing oversight and administration of this portion of the program. A visual inspection will be conducted on the catalytic converter, EGR valve and the fuel inlet restrictor.

Until 1996, the 1968 to 1989 model year vehicles will be tested in the existing inspection system using vehicle exhaust gas analyzers approved in accordance with specifications adopted by the TACB on August 22, 1986 and September 15, 1989. Upgraded software will be required to address future program modifications. The DPS will continue to oversee the decentralized program. A visual inspection will be conducted to verify the presence of the catalytic converter, gas cap, fuel inlet restrictor, oxygen sensor, EGR valve, and air pump. The test for lead residue in the tail pipe will not be required. Motorists with 1968 to 1989 model year vehicles have the option of having

their vehicle tested in a decentralized testing facility or a contractor operated facility.

In 1996, all vehicles will be inspected in facilities established by a managing contractor selected by the TACB. The contractor selected in the initial phase of the emission testing program will manage the new facilities that will be opened. All 1968 to 1989 model year vehicles will be subject to a two-speed loaded mode test, including a pressure test of the evaporative system and a visual inspection of the catalytic converter, fuel inlet restrictor, and EGR valve.

c. The TACB will monitor and evaluate the program by analysis of summary statistics and effectiveness evaluations of the enforcement mechanism, the quality assurance system, and the quality control program. The initial report will provide separate summary statistics for the contractor operated and the decentralized test networks.

d. The previous sections also contained specifications for equipment for the two-speed, loaded-mode test. BAR84 and BAR90 analyzer specifications are available from the TACB and were included in previous submittals to EPA.

e. The existing network of inspection and/or repair facilities will continue inspecting vehicles using either a BAR84

or BAR90 analyzers. The TACB is exploring the use of a two-speed loaded mode test; however, it appears that due to the limited memory capability of the BAR84 analyzers the use of the two-speed test may be prohibited. The TACB will implement Test Type 5 of the Recommended I/M Short Test Procedures For the 1990's: Six Alternatives (EPA-AA-TSS-I/M-90-3, issued March 1990). Test Type 5 is a preconditioned two-speed idle test. The test shall include a preconditioning mode to purge vehicles that may be affected by being parked immediately before the test. The preconditioned version of the test preconditions all vehicles briefly before the first testing mode to help reduce the number of vehicles that fail and requires more extended preconditioning prior to the second chance testing mode. If it is not technically feasible to implement a preconditioned two-speed test, a preconditioned idle test shall be conducted.

The installation of the new software is anticipated to be completed by December 31, 1993.

f. Beginning on July 1, 1994, the program must be enforced through the use of denial of vehicle registration rather than by windshield sticker. Beginning on that date, all inspection facilities must initiate the use of secured certificates. Purchase of the documents will be made through the DPS.

g. The DPS will continue to license inspectors performing inspections on 1989 and older model year vehicles, until that portion of the program is phased-out in 1996. The manager shall provide training to inspectors at contractor-operated facilities in accordance with Sections 5(a), 7, and 10.

3. Beaumont/Port Arthur

a. The Beaumont/Port Arthur area will remain a basic I/M program according to the 1990 FCAA amendments and interpretations tying the type of I/M program to the urban area population. The Beaumont/Port Arthur urbanized population is less than 200,000 according to the 1980 U.S. Census, thus, the area is not required to implement an enhanced I/M Program even though they are classified as serious. Both Jefferson and Orange Counties will be included in the I/M program area. Hardin County will not be included in the program at this time.

b. The test type to be conducted in the Beaumont/Port Arthur area at a contractor-operated facility will be a loaded-mode, two-speed test. A three-point tampering check of the fuel inlet restrictor, catalytic converter, and EGR valve will be conducted.

c. The TACB will monitor and evaluate the Beaumont/Port Arthur program by analysis of information provided regarding program activities performed and their final outcomes, including summary statistics and effectiveness evaluations of the enforcement mechanism, the quality assurance system, the quality control program, and the testing element.

4. Dallas and Fort Worth Nonattainment Area

a. The Dallas-Fort Worth program must include Dallas, Tarrant, Denton, and Collin Counties. The other counties in the Consolidated Metropolitan Statistical Area, Ellis, Kaufman, Rockwall, Johnson, and Parker, are not part of the nonattainment area. Consequently, they are not required to implement an I/M program. In order for the adjacent counties to be included in an I/M program, the county and largest municipality must request to opt in to the program.

b. The TACB commits to the development of an effective I/M program for the Dallas/Fort Worth nonattainment area which satisfies the basic I/M performance standard and contributes significant emission reductions toward the attainment of the ozone standard and the satisfaction of annual reduction targets. The program will be implemented as expeditiously as practicable, but no later than July 1, 1994. The TACB is continuing to

negotiate the network design and type of test with local government officials.

D. RELATED ADMINISTRATIVE PROGRAMS

1. Enforcement

a. Enforcement in a contractor managed/privately operated system is through financial penalties and/or, ultimately, the loss of the contract. The manager will enter into a contract with the TACB to provide services within a program area. As part of the contract, each manager will have outlined methods and procedures for involving local and/or Texas businesses. Those arrangements will also be contracted services. Managers will be prohibited from taking any enforcement actions against operators without the written concurrence of the TACB. The TACB will act as the arbitrator in disputes between the manager and the operator.

b. Penalties will be established in the contract negotiated with the manager. The TACB is not a party to contracts between the manager and the operator; however, because of the potential impact to the consumer, the TACB will retain the right to require that contracts be dissolved based on findings of fraud or abuse or other findings that would jeopardize the integrity of the program.

Inspectors in a contractor managed facility shall be subject to substantial penalties for intentionally, improperly passing a vehicle through any portion of the test. At a minimum, contractor employed inspectors shall be removed from inspection duty for six months. If an inspector is removed, that person may not engage in performing inspections in any contracted program in the State of Texas. The TACB will maintain a listing of all suspended inspectors in the host computer. Managing contractors shall be required to verify the status of all inspector applicants prior to providing training or allowing an inspector to move from one facility to another.

c. Lost, stolen, or otherwise missing emissions certificates shall be the responsibility of the inspection facility. Penalties shall be assessed for each missing or unaccounted form.

Motorist compliance shall be through denial of vehicle registration (license plates). The TACB will compare the number of subject vehicles registered in a program area and compare the number of inspections performed in a program area. The resulting number is the compliance rate. The compliance rate will be provided to EPA as required in subsequent rulemaking.

The TACB will also conduct parking lot surveys, road-side pull-overs, or other in-use vehicle measurements to determine motorist compliance.

The TACB will initiate a computer program to match vehicles that fail an initial test and do not reappear in the system later as a retest or a waiver, and are later registered in an attainment county. These motorists will be contacted to determine the appropriate status of the vehicle.

2. On-Road Testing

The 1990 FCAA requires on-road testing for enhanced I/M programs. The proposed rulemaking requires an evaluation of 0.5% of the subject fleet each year. The on-road survey will provide information about the emission performance of in-use vehicles, by measuring on-road emissions through the use of remote sensing devices or roadside pullovers including tail pipe emissions testing. The program shall collect, analyze, and report the results of on-road testing data. The TACB is proposing that a portion of the fleet be subject to remote sensing with a limited number of vehicles (approximately 500) annually involved in a voluntary road-side pullover. The information collected from this study shall be categorized by vehicles that are registered in the program area versus those that are not and shall compare the results of the inspection versus the on-road findings.

3. Repair Technicians Training

One of the most important aspects of improving air quality is to ensure that repairs made to vehicles failing the test result in an improvement to air quality. The TACB is working to implement an aggressive program to certify repair technicians and to provide information to repair technicians regarding failures, possible repairs, and advances in technology.

a. The TACB is proposing a voluntary technician certification program. Certification will require passing a test for emission diagnosis and system repairs. The TACB will maintain a listing of those technicians that are certified. If a vehicle fails the inspection, the motorist will be provided a listing of certified technicians. Information concerning inspection results will be provided to the certified technician through access to the contractor's host computer system.

b. Only repairs performed by a certified technician would be credited toward a waiver qualification. The certified technician would be entitled to a free retest, in a designated commercial lane, after repairing a vehicle. This mechanism would minimize the trips motorists would take in order to obtain an inspection certificate.

c. At regular intervals, certified technicians will be provided feedback that will include statistical information regarding the success of repairs performed by the technician. Certified technicians will be afforded the opportunity to observe and participate in inspector training classes in the manager's facilities.

d. In addition to certifying technicians, facilities must be certified. A certified facility must have, on-site, the necessary tools to diagnose and repair emission systems failures or malfunctions.

e. All costs associated with certifying technicians and repair facilities will be paid by either the technician or the repair facility. All payments will be made directly to the training facility.

f. The TACB plans to initiate a pilot program in the Houston area in December 1993 that will provide access to a TACB sponsored bulletin board. This program would enable technicians to share information with each other and to communicate concerns or questions to the TACB in a timely manner. After a trial period, an evaluation of the effectiveness of the system will be made. At that time, the program will either be discontinued or will be implemented statewide.

g. The TACB will provide certified technicians information regarding changes in the inspection program, common problems being found with particular engine families, recall information, and other information to enhance knowledge of the inspection program and repair of vehicles. The information shall be provided through the TACB's host computer system. The TACB is also committed to providing a job-bank service for the repair industry. The TACB bulletin board could be used for such purposes.

4. Public Involvement

a. Each managing contractor shall be responsible for coordinating a public information campaign with the TACB and local elected officials. The managing contractor's public information program shall begin immediately after the contract is awarded and will include the program requirements.

Motorists that fail the I/M test shall be given a list of certified mechanics in the area. Motorists that fail the I/M test shall be provided with copies of the test result.

b. Each managing contract will provide challenge facilities. Motorists that fail a test at an inspection facility can challenge the findings at the manager-operated facility. If the vehicle does, in fact, fail the second test, the motorist will pay for the test. However, if the vehicle passes the test,

the test is performed at no charge. The managing contractor must track the number and result of all challenge tests conducted by initial operating contractor.

c. The TACB will investigate each complaint by the public against either the managing or operating contractor.

d. The TACB will participate with the managing contractor and other interested organizations in Clean Air Week, Car Care Month, and other occasions to present information concerning the importance of properly maintaining vehicles.

5. Benefits

The program being proposed by the TACB will reduce HC emissions, which include volatile organic compounds (VOCs), that react with NO_x to form ground level ozone. Ground level ozone is an irritant to the lungs and is especially dangerous to children, older citizens, and others that may have decreased lung capacity. Ozone contributes to lower crop yield. Some HC emissions include VOCs such as benzene, formaldehyde, and 1,3-butadiene, which are air toxics. They cause cancer and other adverse health effects.

CO 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.

NO_x, including nitrogen dioxide (NO₂) and nitrogen oxide, irritate the lungs, lower resistance to respiratory infections, and contribute to the development of emphysema, bronchitis, and pneumonia. NO_x contributes to ozone formation (ground level) and can also react chemically in the air to form nitric acid.

EPA estimates that the "model" program for enhanced I/M areas will reduce VOC emissions by 28%, CO emissions by 31% and NO_x emissions by 9% in the year 2000 when compared to what the highway mobile source inventory would be without an I/M program.

EPA estimates that the "basic" I/M performance standard can achieve about a 5% reduction in highway mobile source VOC emissions.

6. Resources

In areas with contractor-operated facilities, there will be no state funding required for the administration or enforcement activities. Those costs will be provided for through the test fee assessed directly to the motorist.

In areas maintaining a decentralized test network, substantial funding will be required for the additional administrative and enforcement staff required to oversee the large number of facilities involved in testing vehicles.

7. Schedule

The TACB will meet the following schedule and will work to implement a program that address all final rule requirements in a timely manner.

Activity	Completion Date
Passage of enabling statutory authority	Completed
Issuance of final requests for proposals	February 28, 1993
Adoption of supplemental SIP revisions	November 15, 1993
Operating facilities certified	June 15, 1994
Mandatory testing begins	July 1, 1994
Full-stringency cutpoints	July 1, 1996