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Status Report: Low-Emission Vehicles and Alternative Fuel Use

Prepared by
Technical Analysis Division

SFR-049/02
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1. Executive Summary

The Texas Commission on Environmental Quality (TCEQ) is required by Section 382.141 of the Texas Health and Safety Code (HSC) to report biennially on the use of low-emission vehicles (LEVs). Section 2158.005 of the Texas Government Code (TGC) requires the TCEQ to report on alternative fuel use in Texas.

This report was prepared for submission to the Governor, the Speaker of the House, and the chairs of the following committees: House Environmental Regulation, Senate Natural Resources, House Natural Resources, House Transportation, Senate State Affairs, House Appropriations, and Senate Finance. Additional copies are also provided to the Legislative Budget Board and the Legislative Reference Library. This report is published as TCEQ publication SFR-049/02.

1.1 The Texas Clean Fleet Program

Though the TCEQ is required to report on the use of LEVs and alternative fuels, the agency is only responsible for implementing the requirements of the HSC that relate to LEVs. Under these requirements the TCEQ is responsible for implementing the Texas Clean Fleet (TCF) Program in the Dallas–Fort Worth (DFW), the Houston-Galveston (HG), and El Paso (EP) ozone nonattainment areas. The TCF Program currently affects the following fleets:

- C private fleets with more than 25 fleet vehicles;
- C local government fleets with more than 15 vehicles; and
- C transit authority fleets.

Under the TCF Program, affected fleet owners—local government, private, and transit fleets—must acquire fleet vehicles certified by the U.S. Environmental Protection Agency (EPA) to meet the LEV standards.

Fleet Compliance

Milestone 1

Under the TCF Program, September 1, 2000, was the first milestone for private and local government fleets. They were required to demonstrate that 30 percent of their fleet vehicle purchases between September 1, 1998, and August 31, 2000, were LEVs. Reports filed with the TCEQ indicate that a total of 8,637 vehicles were purchased during that period. Of this total, 3,449 vehicles (40 percent) met the LEV standards.

Table 3 provides a breakdown of private and local government fleet

purchases by weight class for Milestone 1. For more information on the milestone requirements, see page 18.

Milestone 2

By September 1, 2002, private and local government fleets were required to demonstrate that 50 percent of their fleet purchases between September 1, 2000, and August 31, 2002, were LEVs. The raw data from these reports can be found in Tables 4 through 10 in Chapter 5, “Status of Affected Fleets.” A summary of this data follows for both private and local government fleets. This data is reported exactly as provided by the fleet owners. The TCEQ is in the process of evaluating this data.

Note: The data on private and local government fleets represents those fleets that have registered with the TCEQ. As of October 25, 2002, 231 out of 269 registered private and local government fleets (86 percent) have reported their fleet purchases to the TCEQ. There may be a large number of fleets in the nonattainment areas that are not required to be registered due to their fleet size or vehicle exemptions.

Private Fleet Compliance

As of October 25, 2002, 179 private fleets were registered for the TCF Program, and 154 (86 percent) of these fleets have submitted fleet reports for this reporting period. Of the 154 private fleets, 6 submitted reports that they are no longer affected by the TCF Program, leaving 173 private fleets remaining in the program (see Tables 4 and 7). The other 148 private fleets reported a total of 5,083 vehicle purchases, of which 3,970 vehicles (78 percent) are LEV certified or cleaner (see Table 4).

Of the 148 private fleets reporting, 121 (82 percent) have 3,183 surplus Program Compliance Credits (PCCs), as listed in Table 5. For more information on PCCs, see page 18. No additional PCCs were purchased to achieve compliance (see Table 5). Three private fleets (2 percent) requested an exception (see Table 6).

Of the 173 private fleets remaining in the TCF Program, 140 fleets (81 percent) are compliant. Of the 33 noncompliant fleets, 25 fleets have failed to submit a report, and 8 fleets submitted a report that did not demonstrate compliance (see Table 4).

Of 154 private fleets reporting, 6 (4 percent) were able to drop out of the TCF Program because the number of fleet vehicles in their fleet dropped to less than 25 after an increase in the number of vehicles being reported as exempt. Table 7 shows the four categories of “exempt” vehicles. Exempt vehicles are not considered fleet vehicles and therefore are not affected by the requirements of the TCF Program. These 6 fleets had 116

exempt vehicles. The other 148 private fleets reported 9,211 exempt vehicles, which is 25 percent of their total of 36,280 vehicles. For more information on the definition of a fleet vehicle, see Appendix A-4.

Local Government Fleet Compliance

As of October 25, 2002, 90 local government fleets were in the TCF Program, and 77 (86 percent) of these fleets had submitted fleet reports for this reporting period. These 77 local government fleets reported a total of 2,403 vehicle purchases, of which 1,521 vehicles (63 percent) are LEV certified or cleaner (see Table 8).

Of the 77 local government fleets reporting, 69 (90 percent) have a total of 4,399 surplus PCCs. No additional PCCs were purchased to achieve compliance (see Table 9). No local government fleet requested an exception from the TCF Program.

Of the 90 local government fleets in the TCF Program, 76 fleets (84 percent) are compliant (see Table 8), and 14 fleets are noncompliant. Of the 14 noncompliant fleets, 13 have failed to submit a report, and one submitted a report that did not demonstrate compliance.

The 77 local government fleets reporting had a total of 13,548 exempt vehicles, which is 63 percent of their total of 21,667 vehicles. Table 10 shows the four categories of “exempt” vehicles. Exempt vehicles are not considered fleet vehicles and therefore are not affected by the requirements of the TCF Program. For more information on the definition of a fleet vehicle, see Appendix A-4. Vehicle exemptions did not enable any local government fleet to drop out of the TCF Program.

Transit Fleet Compliance

Under the TCF Program, transit authority fleets must ensure that 50 percent of their fleet vehicles are LEV certified. As of December 1, 2001, the 4 transit authority fleets in the TCF Program (transits in the DFW, HG, and EP nonattainment areas) submitted reports that demonstrated that they had met this requirement, and that 661 of 956 fleet vehicles (69 percent) were LEVs (see Table 12). These fleets also grandfathered 192 vehicles that are capable of running on alternative fuels, which may be used to achieve compliance with the LEV requirement.

1.2 Other Transit Fleet Requirements

Transit authority fleets established under Chapters 451–453 of the Texas Transportation Code (TTC) are required to implement a 100 percent LEV purchase requirement, in addition to ensuring that 50 percent of their total fleet vehicles are LEV certified. Currently, 8 transit authorities are impacted by these requirements (see Table 13). These 8 fleets are also

required to submit an annual report to the TCEQ on their LEV fleet and LEV purchases. (Four of these fleets are also covered under the TCF Program.)

As of December 1, 2001, the 8 transit authority fleets submitted reports that demonstrated that they have met these requirements, and reported that 752 of 1,484 fleet vehicles (51 percent) were LEVs. These fleets also grandfathered a total of 501 vehicles that are capable of running on alternative fuels, which may be used to achieve compliance with the LEV requirement. Of the 8 transit fleets, 2 used grandfathered vehicles to meet their TTC total fleet percentage requirements (see Table 13). Due to the normal 12-year life of transit buses, transit fleets that have grandfathered vehicles may not have needed to purchase any new vehicles, and therefore they were not required to purchase LEVs to meet this requirement.

1.3 State Fleet Program

The Buildings and Procurement Commission (BPC), formerly the General Services Commission (GSC), is responsible for implementing the alternative fuel vehicle purchase requirements for state fleets.

Under TGC Chapter 2158, state fleets with more than 15 vehicles are required to have 50 percent of their total fleet capable of operating on one of these specified alternative fuels: electricity, liquefied petroleum gas (LPG), natural gas, ethanol, ethanol/gasoline blends of 85 percent or more ethanol (E85), methanol, and methanol/gasoline blends of 85 percent or more methanol (M85). In addition, 100 percent of new vehicle purchases must be capable of operating on one of these specified fuels, unless the agency seeks, and is granted, a waiver from the BPC. State fleets are not required to have vehicles certified to the LEV standards.

Table 20 lists the 30 state agencies that are subject to the alternative fuel requirements under TGC Chapter 2158. Of those agencies, 9 (30 percent) are compliant without waivers. With waivers, 14 agencies (47 percent) are compliant. The number of state fleets affected by these requirements has decreased from 66 to 30, mainly due to House Bill (HB) 1545 (77th Texas Legislature), which exempted Texas universities and institutions of higher education from having to comply with TGC Chapter 2158. The percentage of fleets in compliance for the 1998–2000 reporting period was 18 percent without waivers, and 30 percent with waivers.

Table 21 lists an additional 73 state agencies that voluntarily reported to the BPC the number of their vehicles that are capable of using alternative fuel. These 73 state agency fleets are exempt from the alternative fuel vehicle purchase requirements of TGC Chapter 2158 because of either HB 1545, or their fleet contains 15 or fewer vehicles.

The 103 state fleets reporting to the BPC (Tables 20 and 21 combined) include a total of 8,869 vehicles capable of operating on alternative fuels, which is a decrease of 650 vehicles (a 7 percent decrease) from the 9,519 vehicles reported to the BPC (then the GSC) two years ago.

1.4 Evaluation

When evaluating the effectiveness of the TCF Program, as required under Chapter 382 of the HSC, certain facts are pertinent:

- The Federal Clean Air Act (FCAA) Amendments of 1990 required states to implement the Federal Clean Fuel Fleet (FCFF) Program in nonattainment areas rated serious and above for ozone and carbon monoxide (CO). Texas substituted what is now known as the TCF Program in place of this federal program. The Legislature codified the requirements for the TCF program in Chapter 382, Subchapter F, of the HSC. The TCF Program is required to achieve emission reductions equivalent to the federal program.

Current Emission Standards

- Beginning with model year (MY) 2001, the National Low Emission Vehicle Program (NLEV Program) requires that the following new light-duty vehicles (LDVs) meet the LEV standards (on average): "passenger cars"; and light-duty trucks (LDTs) with a gross vehicle weight rating (GVWR) under 6,000 lb, including minivans and the smaller pickup trucks and sport utility vehicles. Currently for MY 2002, approximately 82 percent of new LDVs and LDTs met the LEV standards, or were cleaner (see Table 1).
- Approximately 17 percent of MY 2002 heavy-duty trucks (HDTs) met the LEV standards, or were cleaner (see Table 2). These are vehicles with a GVWR over 8,500 lb.

New Emission Standards

The new Tier 2 emission standards will be implemented beginning with MY 2004 (September 1, 2003) for LDVs, LDTs, and medium-duty passenger vehicles (MDPVs) with a GVWR up to 10,000 lb. MDPVs include the largest sport utility vehicles (SUVs), passenger vans, and pickup trucks. New heavy-duty (HD) emission standards for HDTs will also be implemented, starting with MY 2004. As a result, all new onroad motor vehicles being sold in the United States will meet emission standards that are equivalent to, or cleaner than, the LEV standards (see Tables 15, 16, and 17).

- Beginning with MY 2004, auto manufacturers must ensure that 25 percent of all their U.S. sales of LDVs and light LDTs (up to 6,000 lb GVWR), comply with the Tier 2 corporate fleet average NO_x standard of 0.07 grams per mile (g/mile). (This is 76 percent cleaner than the LEV standard for LDVs of 0.3 g/mile NO_x as required in the TCF program.) The remaining 75 percent of LDVs and light LDTs must comply with the interim corporate fleet average NO_x standard of 0.3 g/mile (same as the LDV LEV standard).

All LDVs and light LDTs must meet the Tier 2 corporate fleet average NO_x standard of 0.07 NO_x g/mile by MY 2007 and thereafter.

- Beginning with MY 2004, auto manufacturers must ensure that 25 percent of all their U.S. sales of heavy LDTs (6,001 to 8,500 lb GVWR) and MDPVs (8,501 to 10,000 lb GVWR) must meet the interim corporate fleet average NO_x standard of 0.2 g/mile. (This is 86 percent cleaner than the LEV NO_x standard of 1.5 g/mile for heavy LDTs which is required for the TCF program.) The remaining 75 percent of heavy LDTs and MDPVs can comply with any of the Tier 2 NO_x standards.

All heavy LDTs and MDPVs must meet the interim corporate fleet average NO_x standard of 0.2 g/mile by MY 2007.

- Beginning with MY 2008, auto manufacturers must ensure that 50 percent of their U.S. sales of heavy LDTs and MDPVs comply with the Tier 2 corporate fleet average NO_x standard of 0.07 g/mile. The remaining 50 percent of heavy LDTs and MDPVs must meet the interim corporate fleet average NO_x standard of 0.2 g/mile.

All heavy LDTs and MDPVs must meet the Tier 2 corporate fleet average NO_x standard of 0.07 g/mile by MY 2009 and thereafter.

- New HDT (over 8,500 lb GVWR) standards will also be implemented, beginning with MY 2004. The 2004 HD emission standards will require all new HDTs to be certified to meet a combined emission standard for NO_x and nonmethane hydrocarbons (NMHC) of 2.5 grams per brake horsepower-hour (g/bhp-hr). The 2004 HD emission standard is equivalent to the current HD ultralow-emission vehicle (ULEV) standard, and is 34 percent cleaner than the LEV standard of 3.8 g/bhp-hr for HDTs.

In addition, by MY 2007 (September 1, 2006), the federal HD emission standards will become even cleaner with standards for NO_x at 0.2 g/bhp-hr and 0.14 g/bhp-hr for NMHC.

See Appendix B for detailed information on each emission standard previously mentioned.

Certification

The EPA has indicated that it will not certify vehicles to the LEV standards after September 1, 2003, given that both the Tier 2 emissions standards and the 2004 HD standards are equivalent to or cleaner than the current LEV standards. Therefore, without revisions to Chapter 382 of the HSC and Chapters 451, 452, and 453 of the TTC, the state of Texas will be requiring the purchase of vehicles certified to a standard that no longer exists.

Conclusion

As a result of the circumstances outlined in the preceding section, requiring fleets to meet a LEV percent-of-purchase requirement (as in the TCF Program) is rapidly becoming a less effective means to reduce emissions from fleet vehicles. After September 1, 2003, the current TCF Program will become obsolete.

It is important to note that the EPA is aware that the FCFF Program faces a similar reduction in effectiveness and is currently considering how the FCFF Program requirements might be repealed.

1.5 Recommendations

TCF Program

Given that the LEV standards have been surpassed by the federal Tier II standards and the 2004 heavy-duty engine standards, and the fact that the EPA has indicated that it will not certify any more LEV vehicles, the TCEQ recommends that the LEV program as it applies to private, local government, and transit fleets be repealed. The following statutes would be repealed:

- HSC, §§382.131–382.143, which provide for the Texas Clean Fleet program and the LEV percent of purchase requirements for light-duty and heavy-duty vehicles for private, local government, and transit fleets; and
- TTC, §§451.301–451.305, §§452.251–452.255, and §§453.251–453.255, which provide for the LEV purchase requirements for transit fleets.

In its place, the state should actively encourage private, local government (including school districts), and transit fleets to **voluntarily** purchase the cleanest vehicles possible that meet their operational needs. The vehicles should be certified to the lowest emission standards available for their weight class, and should be the most fuel efficient as well. This can be accomplished with increased outreach, and through a variety of current and future incentives and programs. Further, a voluntary approach will give fleets the flexibility to craft a program that best suits their needs, as opposed to a one-size-fits-all mandatory program that may not consider all of the concerns of fleet operators.

There are both short-term and long-term strategies that can be employed to encourage fleets to voluntarily purchase and operate cleaner vehicles. The following programs are already in place, or will begin shortly:

- **The Adopt-A-School Bus Program.** This innovative program will help school districts purchase new, or retrofit old, school buses. The program is a public-private partnership involving the EPA, the TCEQ, the American Lung Association, and local elected officials, which focuses on bringing forward corporate leaders to sponsor acquiring clean buses. School districts in the Dallas-Fort Worth area are already participating in the program, and other school districts (including those in the Houston area) are exploring it as a way to help them put cleaner buses on the road.

- **The SmartWay Transport Program.** This EPA-initiated program will encourage the ground freight industry to voluntarily incorporate various strategies and technologies to reduce fuel consumption and emissions. The program is primarily focused on establishing voluntary performance goals for the three main components of the transport supply chain: companies that haul freight (road and rail carriers); retailers and manufacturers of goods that require shipping; and manufacturers of vehicles, engines, and equipment used by carriers. The program is designed as a public-private partnership between the EPA and stakeholder members, with the EPA providing incentives for achieving the voluntary performance goals, such as an official EPA designation of the company as an exceptional, environmentally efficient freight transport service, and allowing the company to display or refer to that recognition on its corporate letterhead, Web site, and advertising.
- **The CLEAN TEXAS Program.** The TCEQ will use its CLEAN TEXAS program to actively encourage fleets to purchase cleaner vehicles. CLEAN TEXAS is a voluntary environmental leadership program that encourages industries, small businesses, local governments, and academic institutions to protect the environment through benefits and incentives. The program offers three membership levels, with all participants receiving additional technical assistance from the TCEQ, as well as increased networking opportunities. Entities that join at the highest membership level also receive regulatory and administrative flexibility, and priority for site assistance visits. CLEAN TEXAS is strategically directed to focus on the environmental needs of specific regions in Texas, thus providing an opportunity to encourage fleet programs where air quality is the greatest concern.

The TCEQ will continue to explore other opportunities for outreach, including partnerships with other state agencies and the EPA.

The future also holds great promise for encouraging entities to operate cleaner fleets through incentives.

- **The Light-Duty Motor Vehicle Purchase or Lease Incentive Program.** This program is part of the Texas Emissions Reduction Plan (TERP) created by Senate Bill 5. It provides monetary incentives for the purchase of light-duty vehicles that are certified by the EPA to meet the federal Tier 2 emission standard of Bin 4 or less, with incentives ranging from \$1,250 to \$5,000, depending on the Bin number. The program is administered by the Comptroller, but because of limited funding it has not yet been fully implemented. With full

funding restored to the TERP, fleets could use this program for light-duty vehicles.

- **The Heavy-Duty Motor Vehicle Purchase or Lease Incentive Program.** This program is also part of the TERP. It provides monetary incentives of up to \$25,000 for the reimbursement of incremental costs for the purchase of heavy-duty motor vehicles with engines that are certified to a NO_x standard of 1.5 grams per brake horsepower-hour or cleaner. The program is administered by the TCEQ, but because of limited funding it has not yet been fully implemented. With full funding restored to TERP, fleets could use this program for heavy-duty vehicles.
- **Strategically Directed Regulatory Structure (SDRS).** The TCEQ is also developing its Strategically Directed Regulatory Structure, or SDRS, as required by its Sunset bill. The TCEQ will focus more on environmental performance instead of process. It will provide incentives for enhanced environmental performance, and those incentives will be based, in part, on any voluntary measures undertaken by an entity to improve environmental quality. Any voluntary measures a fleet takes to purchase and use cleaner vehicles could be considered for incentives under this program. The TCEQ must adopt interim incentives by September 1, 2003, and complete all rules for SDRS by September 1, 2005. The TCEQ anticipates that by that time more vehicles certified to the lower Bin numbers will be available, thus providing an opportunity for fleets to develop their own programs and be potentially eligible for incentives under the program.
- **The Voluntary Mobile Source Emissions Reductions Programs (VMEP).** These programs, which are part of the Houston-Galveston and Dallas-Fort Worth State Implementation Plans (SIPs), provide future opportunities to reduce emissions from fleets. Administered locally, VMEP will provide emissions reductions from clean vehicle purchases and retrofits of both light-duty and heavy-duty vehicles. The TCEQ will verify that the control strategies are operating effectively and are properly maintained through periodic testing and reporting requirements.

State Agency Fleets

With regard to state agency fleets, the TCEQ recommends retaining the current alternative fuels requirement.

State Agency fleets present a real opportunity to obtain emissions reductions, and efforts are already under way. In June 2002, the Governor

directed the **Texas Department of Transportation** (TxDOT) to begin using cleaner diesel fuel in 75 percent of its Houston district fleet. This directive was one of a series of moves outlined by the Governor to reduce emissions from fleets.

TxDOT was also directed to do the following: develop a plan to convert as much of its fleet as is practical to lower emissions systems, such as gas-electric hybrid vehicles and compressed natural gas; urge cities, counties, school districts, and transit authorities to adopt the new guidelines set out for TxDOT; and develop a financial assistance package to help local governments start using cleaner diesel fuels, convert to more efficient engines, and purchase emissions efficient equipment. TxDOT will use federal Congestion Mitigation Air Quality funds to pay for the program. Maximum emissions reductions could be achieved by all state agencies adopting TxDOT's approach.

2. Glossary of Acronyms

AACOG	Alamo Area Council of Governments
AFV	Alternatively fueled vehicle
BPC	Buildings and Procurement Commission
CI	Compression ignition
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CMSA	Consolidated metropolitan statistical area
CNG	Compressed natural gas
CO	Carbon monoxide
CTCC	Central Texas Clean Cities Program
DFW	Dallas–Fort Worth
DOE	U.S. Department of Energy
E85	Ethanol blend of 85 percent ethanol and 15 percent gasoline
EP	El Paso
EPA	U.S. Environmental Protection Agency
EPAct	1992 Energy Policy Act
FCAA	Federal Clean Air Act
FCFF	Federal Clean Fuel Fleet Program
G/BHP-HR	Grams per brake horsepower hour
G/Mile	Grams per mile
GVWR	Gross vehicle weight rating
HB	House Bill

HC	Hydrocarbons
HCHO	Formaldehyde
HD	Heavy-duty
HDT	Heavy-duty truck
HDV	Heavy-duty vehicle
HG	Houston Galveston
HGAC	Houston-Galveston Area Council
HLDT	Heavy light-duty truck
HSC	Texas Health and Safety Code
ILEV	Inherently low-emission vehicle
LDT	Light-duty truck
LDV	Light-duty vehicle
LEV	Low-emission vehicle
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas, commonly referred to as “propane”
M85	Methanol blend of 85 percent methanol and 15 percent gasoline
MDERC	Mobile Discrete Emission Reduction Credits
MDPV	Medium duty passenger vehicles
MERC	Mobile Emission Reduction Credit
MSA	Metropolitan statistical area
MY	Model year

NLEV	National low-emission vehicle
NMHC	Nonmethane hydrocarbons
NMOG	Nonmethane organic gas
NO_x	Nitrogen oxides
PCC	Program Compliance Credit
PM	Particulate Matter
SB	Senate Bill
SI	Spark ignition
SIP	State Implementation Plan
STCCC	South Texas Clean Cities Coalition
SULEV	Super low-emission vehicle
SUV	Sport utility vehicle
TACB	Texas Air Control Board
TAFF	Texas Alternative Fuel Fleet Program
TCF	Texas Clean Fleet Program
Tier 0	The vehicle emission standards in effect before 1994.
Tier 1	The federal baseline vehicle emission standard in effect after Tier 0
Tier 2	New federal vehicle emissions standards that will be phased in starting with model year (MY) 2004
TGC	Texas Government Code
TLEV	Transitional low-emission vehicle
TCEQ	Texas Commission on Environmental Quality
TTC	Texas Transportation Code

ULEV	Ultralow-emission vehicle
VOC	Volatile organic compound
ZEV	Zero-emission vehicle

3. TCF Program Overview

3.1 Legislation

A detailed history of state legislation and rules affecting the use of alternative fuels and LEVs in Texas can be found in Appendix A.

In 1995, the 74th Texas Legislature passed Senate Bill (SB) 200, which modified an alternative fuel program it had already enacted (HSC, Chapter 382, Subchapter F). This legislation redefined the meaning of alternative fuel from meaning one of the specified alternative fuels (see page 4, 31 for the complete list) to any vehicle/fuel combination that is certified to the federal LEV standards. SB 200 required affected fleets to acquire a percentage of LEVs when replacing or adding fleet vehicles. The TCEQ adopted regulations that established what is now called the TCF Program.

In 1997, the 75th Texas Legislature passed SB 681, which gave the TCF Program additional flexibility. For example, only fleets in serious, severe, or extreme nonattainment areas are required to participate. Currently, there are three affected areas in Texas: the DFW, EP and HG areas.

3.2 Affected Fleets

The TCF Program affects the following fleets:

- local government fleets with more than 15 vehicles in their fleet;
- private fleets with more than 25 fleet vehicles in their fleet;
- mass transit fleets established under Chapter 141, 63rd Legislature, 1973, as defined in the TTC, Chapters 451–453.

3.3 TCF Program Requirements

The TCF Program is “fuel neutral;” therefore, fleets affected by its requirements may comply by using any vehicle/fuel combination that has been certified by EPA to meet or exceed the federal LEV standards

The TCF Program requires affected local governments and private fleets to acquire certain percentages of EPA-certified LEVs by specified dates. The LEV percent-of-purchase requirements can be met by acquiring any combination of LEVs, inherently low-emission vehicles (ILEVs), ULEVs, zero-emission vehicles (ZEVs) and credits (see Tables 14 and 16 in Appendix B for more information on the emission standards for LEVs, ILEVs, ULEVs and ZEVs).

Credits

Once the percent-of-purchase requirement has been met, surplus LEVs earn credits under the TCF Program. Vehicles certified to emissions levels cleaner than LEV (i.e., ILEV, ULEV, and ZEV) earn more credits than LEVs. Two types of credits are available: Mobile Emission Reduction Credits (MERCs) and PCCs. These credits can be banked, traded, transferred, or sold under the guidelines found in TCEQ publication *Guidelines for Vehicle Emission Credits* (RG-322).

Compliance Schedule

At the end of every two-year compliance period, private and local government fleets must submit biennial reports that demonstrate their compliance with the LEV percent-of-purchase requirements according to the following schedule:

Milestone 1

This milestone has now passed. There were two options for achieving it in the compliance schedule:

- a) At least 10% of the fleet was LEV certified **as of** September 1, 1998.; **OR**
- b) 30% of fleet vehicle purchases or leases were LEV certified after September 1, 1998, through August 31, 2000.

Milestone 2

This is the milestone just completed: 50% of fleet vehicle purchases or leases had to be LEV certified after September 1, 2000, through August 31, 2002.

Milestone 3

This is the current milestone for all affected fleets.

- a) 70% of light-duty fleet vehicle purchases or leases must be LEV certified after September 1, 2002; **AND**
- b) 50% of heavy-duty fleet vehicle purchases or leases must be LEV certified after September 1, 2002.

Exempt Vehicles

When calculating compliance, fleets do not have to include the following vehicles:

- a vehicle that, when not in use, is normally parked at the residence of the individual who normally operates it;

- a vehicle that has a GVWR over 26,000 lb;
- a vehicle used in the maintenance or repair of underground mass transit facilities that is required by federal law or regulation to operate on diesel fuel; and
- a law enforcement or emergency vehicle, as defined by the TTC.

4. Other Federal Mobile Source Programs

There are several Federal programs that are enhancing environmental quality by promoting improved vehicle emissions technology or alternative fuel usage.

4.1 The National Low Emission Vehicle Program

Beginning with MY 2001, the NLEV Program requires that new LDVs and LDTs with a GVWR under 6,000 lb meet the LEV standards (on average). Currently for MY 2002, approximately 82 percent of new LDVs and LDTs met the LEV standards or were cleaner (see Table 1). Approximately 17 percent of MY 2002 HDTs met the LEV standards or were cleaner (see Table 2).

For more information on the LEV emission standards, see Tables 14 and 16 in Appendix B.

Table 1. Number of 2002 Light-Duty LEV Models*

Model Year	LEVs	ULEVs	ZEVs	Tier 2	Total LEVs (or Cleaner)	Total 2002 Models	% LEV (or Cleaner)
2002	199	53	2	6	260	316	82 %

*As of October 28, 2002

Table 2. Number of 2002 Heavy-Duty LEV Models*

Model Year	LEVs	ULEVs	ILEV	Total LEVs (or cleaner)	Total 2002 models	% LEV (or cleaner)
2002	14	9	1	24	140	17 %

*As of October 28, 2002.

4.2 Tier 2 Vehicle Standards

In December 1999, the EPA announced that new tailpipe emissions standards (Tier 2 standards) for all passenger vehicles less than 10,000 lb GVWR, including SUVs, minivans, vans and pick-up trucks, will be implemented starting with MY 2004. This will be the first time that SUVs and other light-duty trucks--even the largest passenger vehicles--are subject to the same national pollution standards as cars. Simultaneously, EPA also announced lower standards for sulfur in gasoline, to help ensure the effectiveness of low emission-control technologies.

For a comparison of the Tier 1, Tier 2, LEV and heavy-duty emission standards see Appendix B.

4.3 Energy Policy Act (EPAAct)

The Energy Policy Act of 1992 was passed by Congress to reduce our nation's dependence on imported petroleum by requiring certain fleets to acquire alternatively fueled vehicles (AFVs), which are capable of operating on nonpetroleum fuels. EPAAct authorized fuels are:

- Methanol, ethanol, and other alcohols
- Blends of 85% or more of alcohol with gasoline
- Natural gas and liquid fuels domestically produced from natural gas
- Liquefied petroleum gas (propane)
- Coal-derived liquid fuels
- Hydrogen and electricity
- Biodiesel
- P-series -- Since EPAAct was drafted, only one company, Pure Energy, has had its product recognized as an alternative fuel (other than the above). The company's P-series fuel was added to the list of alternative fuels in 1999.

EPAAct Requirements

Fleets currently affected by EPAAct, must acquire AFVs according to the following percentages:

- State and Federal fleets: 75 percent of LDV acquisitions must be AFVs. Federal fleets are also required to decrease their annual petroleum consumption by 20% by 2005 compared to 1999 consumption.
- Alternative Fuel Providers: 90 percent of LDV acquisitions must be AFVs.

Affected Fleets

EPAAct currently affects:

- Federal fleets of 20 or more LDVs that are centrally fueled, or capable of being centrally fueled, and are primarily operated in a Metropolitan Statistical Area (MSA)/Consolidated Metropolitan Statistical Area (CMSA) with a 1980 population of 250,000 or more; and
- Alternative fuel providers that control 50 or more LDVs within the United States, at least 20 of which must be used primarily within a single MSA/CMSA with a 1980 population of 250,000 or more.

Those same 20 LDVs must be centrally fueled or capable of being centrally fueled.

- State fleets of 50 or more LDVs within the United States, at least 20 of which must be used primarily within a single MSA/CMSA with a 1980 population of 250,000 or more. Those same 20 LDVs must be centrally fueled or capable of being centrally fueled.

In Texas, the following MSAs and CMSAs are affected: Austin-San Marcos, Beaumont-Port Arthur, Corpus Christi, DFW, EP, HG, McAllen-Edinburg-Mission, and San Antonio.

In April 1998, the Department of Energy (DOE) published an Advanced Notice of Proposed Rulemaking regarding the addition of local government and private fleets to the EPAct requirements. In March 2000, DOE announced its plans to delay this Rulemaking to allow more time to receive additional public comment and to evaluate alternative approaches.

EPAct's Impact on Texas fleets

Certain Texas state fleets must comply with the AFV purchase requirements of both EPAct and Chapter 2158 of the TGC. For a comparison of the TCF, FCFE and EPAct programs see Appendix C.

Texas AFV requirements are more stringent for State fleets than EPAct's requirements. Under EPAct, State fleets must ensure that 75 percent of vehicle purchases are capable of operating on alternative fuels. This is less stringent than Section 2158.004 of the TGC which requires Texas state fleets with more than 15 vehicles to purchase vehicles capable of operating on AFVs exclusively (a 100 percent purchase requirement). Furthermore, 50 percent of an affected State fleet must be capable of operating on an alternative fuel under Section 2158.005 of the TGC.

Alternative fuel providers are not covered by Chapter 2158 of the TGC so EPAct does represent an additional regulatory requirement for these fleets.

4.4 The Clean Cities Program

The Clean Cities Program, also sponsored by DOE, supports public-private partnerships that deploy vehicles capable of operating on alternative fuels and build supporting infrastructure. By encouraging alternative fuel use, the Clean Cities Program helps enhance energy security and environmental quality at both the national and local levels.

In the first decade, Clean Cities coalitions have been formed in approximately 80 communities in 41 states. DOE's goal is for at least 75 percent of all coalitions to be "self-sustaining" by 2005, with no reliance on federal financial support.

Six areas in Texas have established Clean Cities programs: Austin, Corpus Christi, DFW, EP, HG and San Antonio. Many fleets in these areas have reported their vehicle purchases to the Clean Cities' coordinators. This data follows. Four regions in Texas are currently pursuing Clean Cities designation, they are: Beaumont–Port Arthur, East Texas, Laredo and the Lower Rio Grande Valley.

Austin

Austin became the first city in Texas to be designated as a U.S. DOE Clean Cities program. The Austin Clean Cities program was inaugurated in April of 1995. It is also the first city in Texas to achieve Redesignation (after five years of existence); this occurred in February 2000. Austin Clean Cities was "redesignated" as the expanded Central Texas Clean Cities (CTCC). With redesignation, CTCC intends to reach out to surrounding counties and get their participation as stakeholders and to expand programs to the five county near nonattainment area.

The mission of the CTCC Coalition is to support and sustain an expanded market for alternative fuels and vehicles in Central Texas throughout 2005. Programs include adding vehicles capable of operating on alternative fuels, increasing alternative fuel refueling infrastructure, and building awareness about the relationship between alternative fuels and clean air.

According to fleet reports received by the Clean Cities Coordinator, Austin-area fleets contain 3,121 vehicles capable of operating on alternative fuels in 2002. Of these vehicles, there are 347 vehicles capable of operating on compressed natural gas (CNG) vehicles, 27 on liquefied natural gas (LNG), 1,239 on LPG, nine on ethanol, seven on electric, six on methanol, and 1,486 on biodiesel.

Dallas–Fort Worth

In the early 1990s, the Regional Transportation Council made a commitment to encourage the use of alternative fuels. Funds from the Congestion Mitigation and Air Quality (CMAQ) Improvement Program were provided to public sector fleets interested in transitioning to vehicles capable of operating on alternative fuels. Since its designation in 1995, DFW Clean Cities has grown from 45 stakeholders to more than one hundred active users.

According to fleet reports received by the Clean Cities Coordinator, DFW fleets estimate 9,257 vehicles capable of operating on alternative fuels in 2002. Of these vehicles, 5,364 are capable of operating on CNG, 478 on LNG, 2,381 on propane, 1,000 on ethanol, 32 on electric, and two on methanol.

Houston-Galveston

The Greater Houston Regional Clean Cities program, organized and staffed by the HGAC, was officially designated as a Clean City on September 4, 1997.

The HGAC provides developmental assistance to this program through its Alternative Fuel Vehicle Program, funded through the Department of Transportation's CMAQ funds. These funds are available to government entities and public/private partnerships purchasing or converting vehicles to be fueled by a recognized alternative fuel, or constructing and operating publicly owned alternative fuel infrastructure.

According to fleet reports received by HGAC, HG fleets estimate 2,016 vehicles capable of operating on alternative fuels in 2002. Of these vehicles, 1,273 are capable of operating on CNG, 601 on LNG, 734 on propane, one on ethanol, four on electric, and three other vehicles capable of operating on an unspecified alternative fuel.

Paso del Norte (El Paso area)

Due to staffing issues, EP has not filed a recent report to the DOE. In 1999, the Clean Cities Coordinator reported 1,628 vehicles capable of operating on AFVs. Of these vehicles, there were 810 vehicles capable of operating on CNG, 75 on LNG, 641 on LPG, 101 on ethanol, and one on electricity.

San Antonio

The Alamo Area Clean Cities program was initiated in 1996 by the Alamo Area Council of Governments (AACOG). In 1994, the AACOG staff completed an emission inventory which indicated that vehicle emissions comprised a large percentage of the region's overall air pollution and ozone problems. After this inventory was completed, the AACOG decided to pursue a Clean Cities Designation as a way to increase the use of alternative fuels and reduce mobile source pollution in the region. The Alamo Area was formally designated a Clean City on November 10, 1999.

According to fleet reports received by the AACOG, San Antonio-area fleets estimate 2,227 vehicles capable of operating on alternative fuels in

2002. Of these vehicles, 275 are capable of operating on CNG, 1,750 on LPG, 190 on ethanol, four on biodiesel, and eight on electricity.

South Texas Clean Cities Coalition (Corpus Christi area)

Corpus Christi became the 61st Clean City in the nation on March 31, 1998. Since that time, it has changed its name to the South Texas Clean Cities Coalition (STCCC). On August 31, 2000 it was incorporated as a nonprofit organization. Once a Memorandum of Understanding has been finalized, the STCCC hopes to expand into the Lower Rio Grande Valley and Monterrey, Mexico.

Due to staffing issues, Corpus Christi has not filed a recent AFV report to the DOE. In 1999, the Clean Cities Coordinator reported 718 vehicles capable of operating on alternative fuels. Of these vehicles, there were 106 capable of operating on CNG, 68 on LNG, 536 on LPG, and eight on electricity.

5. Status of Affected Fleets

5.1 Private and Local Government Fleets

Milestone 1

Under the TCF Program, September 1, 2000, was the first milestone for private and local government fleets. They were required to demonstrate that 30 percent of their fleet vehicle purchases between September 1, 1998, and August 31, 2000, were LEVs. Reports filed with the TCEQ indicate that a total of 8,637 vehicles were purchased during that period. Of this total, 3,449 vehicles (40 percent) met the LEV standards.

Table 3 provides a breakdown of private and local government fleet purchases by weight class for Milestone 1. For more information on the milestone requirements, see page 18.

Table 3. LEV Purchases by Weight Class for 1998–2000

Vehicle Weight Class	0 - 6,000 lb		6,001 - 8,500 lb		8,501 - 10,000 lb		10,001 - 19,500 lb		19,501 - 26,000 lb		Total
	PV ¹	LT ²	PV	LT ²	HT ³	Bus	HT	Bus	HT	Bus	
Non LEV	691	1,107	3	1,057	1,333	1	769	4	222	1	5,188
LEV	672	435	1	938	874	0	305	0	224	0	3,449
Totals	1,363	1,542	4	1,995	2,207	1	1,074	4	446	1	8,637
% LEV	8 %	5 %	0 %	11 %	10 %	0 %	4 %	0 %	3 %	0 %	40 %

¹PV = Passenger vehicles

²LT = Light-duty truck

³HT = Heavy-duty truck

Milestone 2

By September 1, 2002, private and local government fleets were required to demonstrate that 50 percent of their fleet purchases between September 1, 2000, and August 31, 2002, were LEVs. The raw data from these reports can be found in Tables 4 through 10. A summary of this data follows for both private and local government fleets. This data is reported exactly as provided by the fleet owners. The TCEQ is in the process of evaluating this data.

Note: The data on private and local government fleets represents those fleets that have registered with the TCEQ. As of October 25, 2002, 231 out of 269 registered private and local government fleets (86 percent)

have reported their fleet purchases to the TCEQ. There may be a large number of fleets in the nonattainment areas that are not required to be registered due to their fleet size or vehicle exemptions.

Private Fleet Compliance

As of October 25, 2002, 179 private fleets were registered for the TCF Program, and 154 (86 percent) of these fleets have submitted fleet reports for this reporting period. Of the 154 private fleets, 6 submitted reports that they are no longer affected by the TCF Program, leaving 173 private fleets remaining in the program (see Tables 4 and 7). The other 148 private fleets reported a total of 5,083 vehicle purchases, of which 3,970 vehicles (78 percent) are LEV certified or cleaner (see Table 4).

Of the 148 private fleets reporting, 121 (82 percent) have 3,183 surplus PCCs, as listed in Table 5. No additional PCCs were purchased to achieve compliance (see Table 5). Three private fleets (2 percent) requested an exception (see Table 6).

Of the 173 private fleets remaining in the TCF Program, 140 fleets (81 percent) are compliant. Of the 33 noncompliant fleets, 25 fleets have failed to submit a report, and 8 fleets submitted a report that did not demonstrate compliance (see Table 4).

Of 154 private fleets reporting, 6 (4 percent) were able to drop out of the TCF Program because the number of fleet vehicles in their fleet dropped to less than 25 after an increase in the number of vehicles being reported as exempt. Table 7 shows the four categories of “exempt” vehicles. Exempt vehicles are not considered fleet vehicles and therefore are not affected by the requirements of the TCF Program. These 6 fleets had 116 exempt vehicles. The other 148 private fleets reported 9,211 exempt vehicles, which is 25 percent of their total of 36,280 vehicles. For more information on the definition of a fleet vehicle, see Appendix A-4.

Table 4. LEV Purchases by Private Fleets

Area	Total Fleets In TCF Program	Fleets Reporting	Fleets Compliant	Percentage Compliant	Total Vehicle Purchases	Total LEV Purchases	Percentage LEV certified (or cleaner)
DFW	55	47	45	82 %	1,837	1,427	78 %
EP	13	12	12	92 %	193	154	80 %
HG	105	89	83	79 %	3,053	2,389	78 %
All Areas	173	148*	140	81 %	5,083	3,970	78 %

*154 private fleets submitted fleet reports to the TCEQ. Exemptions allowed 6 private fleets (see Table 7) to drop out of the program. Since these 6 fleets are not required to participate in the TCF Program, Table 4 does not include their LEV purchases or compliance data.

Table 5. Private Fleets Purchasing PCCs

Private Fleets Purchasing PCCs	PCCs Purchased	Private Fleets with Surplus PCCs	Percentage with Surplus	Surplus PCCs
0	0	121	82 %	3,183

Table 6. Exception Requests by Private Fleets

Area	Exception Requests	Percent of Private Fleets	Exception Types				
			Fixed-Price Contract	Fuel not Available	Financing for Refueling not Available	Cost of Fueling	LEVS not Available
DFW	2	4 %					2
EP	0						
HG	1	1 %					1
All Areas	3	2 %					3

Table 7. Impact of Exemptions on Private Fleets

Type Fleet	Total Reporting	Total Vehicles	Total Exempted Vehicles	Exempted Vehicles			
				Emergency or Law Vehicles	Leased/Rented Vehicles	Garaged at Home Vehicles	Greater than 26,000 lb GVWR
In TCF	148	36,280	9,211	363	2	4,830	4,016
Out TCF	6	232	116	6	0	95	15
Total Private Fleets Reporting	154	36,512	9,327	369	2	4,925	4,031

Local Government Fleet Compliance

As of October 25, 2002, 90 local government fleets were in the TCF Program, and 77 (86 percent) of these fleets had submitted fleet reports for this reporting period. These 77 local government fleets reported a total of 2,403 vehicle purchases, of which 1,521 vehicles (63 percent) are LEV certified or cleaner (see Table 8).

Of the 77 local government fleets reporting, 69 (90 percent) have a total of 4,399 surplus PCCs. No additional PCCs were purchased to achieve compliance (see Table 9). No local government fleet requested an exception from the TCF Program.

Of the 90 local government fleets in the TCF Program, 76 fleets (84 percent) are compliant (see Table 8), and 14 fleets are noncompliant. Of the 14 noncompliant fleets, 13 have failed to submit a report, and one submitted a report that did not demonstrate compliance.

The 77 local government fleets reporting had a total of 13,548 exempt vehicles, which is 63 percent of their total of 21,667 vehicles. Table 10 shows the four categories of “exempt” vehicles. Exempt vehicles are not considered fleet vehicles and therefore are not affected by the requirements of the TCF Program. For more information on the definition of a fleet vehicle, see Appendix A-4. Vehicle exemptions did not enable any local government fleet to drop out of the TCF Program.

Table 8. LEV Purchases by Local Government Fleets

Area	Total Fleets In TCF Program	Fleets Reporting	Fleets Compliant	Percentage Compliant	Total Vehicle Purchases	Total LEV Purchases	Percentage LEV certified (or cleaner)
DFW	46	41	41	89 %	1,473	991	67 %
ELP	1	1	1	100 %	99	44	44 %
HG	43	35	34	79 %	831	486	58 %
All Areas	90	77	76	84 %	2,403	1,521	63 %

Table 9. Local Government Fleets with Surplus or Purchased PCCs

Local Governments Purchasing PCCs	PCCs Purchased	Local Governments with Surplus PCCs	Percentage with Surplus	Surplus PCCs
0	0	69	90 %	4,399

Table 10. Impact of Exemptions on Local Government Fleets

Type Fleet	Total Reporting	Total Vehicles	Total Exempted Vehicles	Exempted Vehicles			
				Emergency or Law Vehicles	Leased/ Rented Vehicles	Garaged at Home Vehicles	Greater than 26,000 lb GVWR
In TCF	77	21,667	13,548	10,202	3	1,036	2,307
Out TCF	0	0	0	0	0	0	0
Total Registered Local Govt. Fleets	77	21,667	13,548	10,202	3	1,036	2,307

5.2 State Fleets

State Fleet Compliance

The BPC, formerly the GSC, is responsible for implementing the alternative fuel vehicle purchase requirements for state fleets.

Under TGC Chapter 2158, state fleets with more than 15 vehicles are required to have 50 percent of their total fleet capable of operating on one of these specified alternative fuels: electricity, liquefied petroleum gas (LPG), natural gas, ethanol, ethanol/gasoline blends of 85 percent or more ethanol (E85), methanol, and methanol/gasoline blends of 85 percent or more methanol (M85). In addition, 100 percent of new vehicle purchases must be capable of operating on one of these specified fuels,

unless the agency seeks, and is granted, a waiver from the BPC. State fleets are not required to have vehicles certified to the LEV standards.

Table 20 in Appendix D lists the 30 state agencies that are subject to the alternative fuel requirements under TGC Chapter 2158. Of those agencies, 9 (30 percent) are compliant without waivers. With waivers, 14 agencies (47 percent) are compliant. The number of state fleets affected by these requirements has decreased from 66 to 30, mainly due to House Bill (HB) 1545 (77th Texas Legislature), which exempted Texas universities and institutions of higher education from having to comply with TGC Chapter 2158. The percentage of fleets in compliance for the 1998–2000 reporting period was 18 percent without waivers, and 30 percent with waivers.

Table 21 in Appendix D lists an additional 73 state agencies that voluntarily reported to the BPC the number of their vehicles that are capable of using alternative fuel. These 73 state agency fleets are exempt from the alternative fuel vehicle purchase requirements of TGC Chapter 2158 because of either HB 1545, or their fleet contains 15 or fewer vehicles.

The 103 state fleets reporting to the BPC (Tables 20 and 21 combined) include a total of 8,869 vehicles capable of operating on alternative fuels, which is a decrease of 650 vehicles (a 7 percent decrease) from the 9,519 vehicles reported to the BPC (then the GSC) two years ago.

The availability of alternative fuels affects state agencies. Table 11 shows the number of public refueling sites for these fuels.

Table 11. Number of Public Refueling Sites

Fuel Type	Statewide Fueling Sites Available to the Public
Compressed Natural Gas	66
Electric	7
BioDiesel	1
Liquified Natural Gas (LNG)	7
Ethanol 85% (E85)	0
Liquid Petroleum Gas (LPG)	1,034

This information was compiled from data provided by the Department of Energy and the Railroad Commission of Texas.

5.3 Transit Authority Fleets

Transit Fleet Compliance

Transit authority fleets operating vehicles in the DFW, HG, and EP nonattainment areas (see Table 12) are covered by Section 382.133 of the HSC, and are therefore under the enforcement authority of the TCEQ. These fleets are required to have 50 percent of their fleet vehicles LEV certified.

Similar requirements (Chapters 451–453 of the TTC) cover all eight transits listed in Table 13. These transit fleets are required to have 50 percent of their fleet vehicles LEV certified. In addition, these transits can only purchase or lease LEVs, (a 100 percent LEV purchase requirement), unless the vehicle is a law enforcement or emergency vehicle. However, the TTC allows the governing body of a transit fleet to make exceptions to the 100 percent LEV purchase requirement.

The TCEQ has no authority over transit fleets outside of the nonattainment areas with the exception of Capital Metro in Austin (Section 451.302 of the TTC gives the TCEQ the authority to waive or adjust the 100 percent LEV purchase requirement at the request of Capitol Metro).

The eight transit authorities in Table 13 are required to submit annual fleet reports to the TCEQ in accordance with the data collection provisions of Section 382.137 of the HSC or the reporting requirements under Chapters 451–453 of the TTC. The TCEQ is required by Section 382.141 of the HSC to report the status of these fleets to the Texas Legislature. Table 13 summarizes the transit authority fleet data tabulated from the 2001 fleet reports.

Table 12. Transit Authority Fleets Affected by the TCF Program (December 2001)

Transit Authorities	Total Vehicles	Total Fleet Vehicles¹	Total LEVS	PCC Value of LEVS	Grand-fathered Vehicles	In Compliance² (50%)
Metro Transit of Harris County	2,370	432	165	463	0	Yes
Dallas Area Rapid Transit	1,158	299	362	691	61	Yes
Fort Worth Transit Authority	250	143	72	92	43	Yes
Sun Metro, City of El Paso	247	82	62	67	88	Yes
Totals	4,025	956	661	1,313	192	All

¹ For the definition of a fleet vehicle see page B-4.

² The TCF Program requires transit fleets to have 50 percent of their fleet vehicles LEV certified. These fleets are under the enforcement authority of the TCEQ.

Table 13. Transit Authority Fleets Affected by the TTC Requirements (December 2001)

Transit Authorities	Total Vehicles	Total Fleet Vehicles¹	Total LEVS	PCC Value of LEVS	Grand-fathered Vehicles	In Compliance² (50%)
Metro Transit of Harris County ³	2,370	432	165	463	0	Yes
Dallas Area Rapid Transit ³	1,158	299	362	691	61	Yes
Fort Worth Transit Authority ³	250	143	72	92	43	Yes
Sun Metro, City of El Paso ³	247	82	62	67	88	Yes
Corpus Christi Regional Transportation Authority	157	80	37	44	23	Yes
Laredo Municipal Transit System, El Metro	81	37	0	0	41	Yes
VIA Metropolitan Transit-San Antonio	738	252	0	0	173	Yes
Capital Metro Transportation Authority-Austin	517	159	54	54	72	Yes
Totals	5,518	1,484	752	1,411	501	ALL

¹ For the definition of a fleet vehicle see page B-4.

² Under the TTC, transit fleets are required to have 50 percent of their fleet vehicles LEV certified.

³ These fleets fall under both the TTC and the HSC (TCF Program) LEV purchase requirements.

Grandfathering Vehicles

Grandfathering allows mass transits to count vehicles capable of running on alternative fuels towards compliance with the TCF Program, even though the vehicles are not LEVs. To be grandfathered, a vehicle must have been converted, purchased, leased, or otherwise acquired before September 1, 1999 and capable of operating on one of the specified alternative fuels (see page 4, 31 for the complete list).

Only transit fleets could grandfather vehicles up to September 1, 1999. Also for transits only, a grandfathered vehicle counts toward compliance with the 50 percent-of-fleet requirement as long as it is still operating in the fleet. Two out of the eight transit fleets used grandfathered vehicles to meet their TTC total fleet percentage requirements (see Table 13). Due to the normal 12 year life of transit buses, transit fleets that have grandfathered vehicles may not have needed to purchase any new vehicles and therefore they were not required to purchase LEVs to meet this requirement.

It should be noted that mass transits have a 100 percent, LEV-purchase requirement for fleet vehicles. That is, they can only purchase LEV fleet vehicles, unless they claim the need for an exception. For the definition of fleet vehicle see page B-4.

5.4 School District Fleets

SB 740, Acts of the 71st Texas Legislature 1989, required school districts with more than 50 vehicles used for transporting children to purchase vehicles capable of running on alternative fuels and maintain certain percentages of these vehicles in their fleets by specified milestone dates.

SB 7, Acts of the 73rd Texas Legislature 1993, delayed compliance with the alternative fuel use mandates for school district fleets until September 1, 1997.

SB 1, Acts of the 74th Texas Legislature 1995, modified the Texas Education Code, which removed all alternative fuel requirements from school district fleets.

SB 681, Acts of the 75th Texas Legislature 1997, changed the definition of fleet vehicle to exclude school buses from the requirements of the TCF Program. Previously, school buses had been excluded from the program by policy, to adhere to the intent of SB 1, Acts of the 74th Legislature.

Because of the passage of SB 1, and the new definition of a fleet vehicle in Section 382.131 of the HSC as amended by SB 681, the TCEQ has imposed no alternative fuel or LEV requirements on school district fleets.

Appendix A — Legislative History

1989

SB 740, Acts of the 71st Texas Legislature, 1989, modified Vernon's Texas Civil Statutes to require transit authorities chartered under Articles 1118x, 1118y, or 1118z of Vernon's Texas Civil Statutes to purchase only vehicles capable of operating on alternative fuels. In addition, it required these transit authority fleets to have certain percentages of vehicles capable of running on alternative fuels according to the following schedule:

- 30 percent by September 1, 1994;
- 50 percent by September 1, 1996; and
- 90 percent by September 1, 1998, pending a determination by the Texas Air Control Board (TACB).

Alternative fuels were initially defined as electricity, LPG, and natural gas. The TACB approved methanol as an alternative fuel in March of 1992, and ethanol as an alternative fuel in February of 1993. SB 740 also modified the State Purchasing and General Services Act requiring state agency and school district fleets to use alternative fuels following the same implementation schedule as transit authority fleets. State agency and school district alternative fuel use was also subject to a determination for the 90 percent alternative fuel use requirement.

SB 769, Acts of the 71st Texas Legislature, 1989 modified the Texas Clean Air Act (Chapter 382 of the HSC) to require the TACB to implement rules requiring transit authorities chartered under Articles 1118x, 1118y, or 1118z of Vernon's Texas Civil Statutes, and located within a nonattainment area, to have certain percentages of alternatively fueled vehicles in their fleets as follows:

- 30 percent by September 1, 1994;
- 50 percent by September 1, 1996; and
- 90 percent by September 1, 1998, pending a determination by the TACB.

SB 769 also required the TACB to make a determination by September 1, 1996 whether or not to include local governments and private fleets in the alternative fuel mandates starting in 1998.

1990

The FCAA Amendments required states with serious and above ozone and CO nonattainment areas to implement a LEV program for centrally fueled fleets, otherwise known as the FCFF Program. The FCAA Amendments also included an opt-out provision which allowed states to implement a different program, if the program was projected to achieve equivalent emission reductions to the FCFF Program.

1991

HB 734, Acts of the 72nd Texas Legislature, 1991, required the TACB to implement rules under Article 1118x of Vernon's Texas Civil Statutes requiring certain transit authorities (identified as applying to Capital Metro in Austin) to apply for exceptions from Article 1118x of Vernon's Texas Civil Statute's alternative fuel requirements through the TACB.

SB 2, Acts of the 72nd Texas Legislature, First Called Session, 1991, created the TCEQ from the Texas Water Commission, parts of the Texas Department of Health, and the TACB.

1992

In 1992, the TACB opted out of the FCFF through a committal SIP. The TACB made its decision to opt-out because Texas already had an alternative fuels program covering certain fleets (SB 740 and 769). The TACB did not feel it was appropriate to develop different fleet programs covering the same fleets and intended to rely on as much legislative direction as possible in the opt-out program.

1993

SB 7, Acts of the 73rd Texas Legislature, 1993, modified the Education Code by removing the 30 percent alternative fuel use requirement from school districts and delaying the 50 percent alternative fuel use requirement until September 1, 1997. In addition, SB 7 removed the determination required of the TACB for school districts and required these fleets to have 90 percent alternative fuel use by September 1, 2001.

On September 1, 1993, the TCEQ was formed as a result of SB 2, Acts of the 72nd Texas Legislature, First Called Session.

1994

In 1994, the TCEQ formally adopted the Texas Alternative Fuel Fleet (TAFF) Program rule and SIP opt-out. This program required specified alternative fuel use for those entities required at that time to use alternative fuels by the Texas Legislature; transit authorities, school districts, and state agencies. It also required these entities to meet the federal LEV requirements beginning in September 1998 using an approved alternative fuel in order to achieve equivalency with the FCFF Program. In addition, the TAFF required local government and private fleets to meet the LEV standards, but on their fuel of choice.

Exceptions were allowed under Articles 1118x, 1118y, and 1118z of Vernon's Texas Civil Statutes, the TGC, and the HSC. Transit authorities were allowed to self-certify the need for an exception from the requirements of Articles 1118x, 1118y, or 1118z but were required to have the TCEQ grant an exception from the identical requirements under the HSC. State agency fleets and school district fleets were originally allowed to apply for exceptions from the BPC. SB 7 changed the exception requirements for school districts to allow the individual school boards to self-certify the need for an exception.

1995

SB 200, Acts of the 74th Texas Legislature, 1995, modified Articles 1118x, 1118y, and 1118z of Vernon's Texas Civil Statutes (re-codified in the TTC by SB 971, Acts of the 74th Texas Legislature, 1995 as Chapters 451, 452, and 453), Chapter 382 of the HSC, and Chapter 2158 of the TGC. SB 200 redefined the meaning of alternative fuel from meaning one of the specified alternative fuels (see page 4, 31 for the complete list) to any vehicle/fuel combination that is certified to the federal LEV standards. This modification required the TCEQ to implement the LEV standards provisions under the HSC in the state's four nonattainment areas (DFW, Beaumont–Port Arthur, EP and HG). Therefore, all transit authorities (chartered under Chapters 451, 452, and 453 of the TTC), local governments, and private fleets located in the state's nonattainment areas now had to purchase and maintain certain percentages of LEV-certified vehicles. SB 200 did not alter the fuel use requirements for state fleets nor did it impose any emission standard for state fleets. SB 1, Acts of the 74th Texas Legislature, 1995, removed all alternative fuel use requirements from school district fleets.

SB 200 also modified the TTC requiring all transit authorities chartered under Chapters 451, 452, or 453 of the TTC statewide, regardless of an area's attainment status, to meet the LEV standards (transit authority fleets covered by the LEV use requirements in attainment areas include:

Laredo, Corpus Christi, Austin, and San Antonio). Requirements in the HSC and TTC are identical except that the TTC allows transit authorities to self-certify the need for an exception.

1997

SB 681, Acts of the 75th Texas Legislature, 1997, modified Sections 382.131, 382.132, 382.133, 382.134, 382.136, 382.142, and 382.143 of the HSC. It also modified Sections 451.301, 451.302, 452.251, 452.252, 453.251, 453.252 of the TTC.

Section 382.132 of the HSC as amended by SB 681 redefined the metropolitan areas affected by rules adopted by TCEQ under Sections 382.133–136 of the HSC. Under this new language, TCF rules apply only to serious, severe, or extreme nonattainment areas with a population of 350,000 or more currently DFW, EP and HG). Section 382.131 (7) of the HSC as amended by SB 681 changed the definition of fleet vehicle to the following:

“Fleet vehicle” means a vehicle required to be registered under Chapter 502, Transportation Code, except a motor bus used to transport pre-primary, primary, or secondary students to or from school or for approved extracurricular activities or a vehicle registered under Section 502.006(c), Transportation Code, and that is centrally fueled, capable of being centrally fueled, or fueled at facilities serving both business customers and the general public. The term does not include:

- a vehicle that, when not in use, is normally parked at the residence of the individual who normally operates it; [This change to the definition had no affect on the program, as these vehicles were already excluded previously under Section 382.131 of the HSC as amended by SB 200.]
- a vehicle that has a GVWR of greater than 26,000 lb; [This change to the definition affected only mass transit fleets, as these vehicles were already excluded from private and local government fleets by the TAFF Program as developed using the original 1989 senate bills (SB 740 and SB 769) as a guide. Transit authorities had been required to include vehicles over 26,000 lb GVWR in Section 382.131 of the HSC as amended by SB 200.]
- a vehicle used in the maintenance or repair of underground mass transit facilities which is required by federal law or regulation to operate on diesel fuel; [This was a new change for all fleets.] or

- a law enforcement or emergency vehicle. [In Section 382.134 of the HSC under SB 200, these vehicles had been exempted for local government fleets, while private fleets were only able to exempt emergency vehicles.]

In addition, this new definition of fleet vehicle in Section 382.131 (7) of the HSC as amended by SB 681 changed the definition of fleet vehicle to exclude school buses from the requirements of the TCF Program. Previously, school buses had been excluded from the program by policy, to adhere to the intent of SB 1, Acts of the 74th Legislature.

Section 382.134 of the HSC as amended by SB 681 required local government and private fleets to have a gradually increasing percentage of LEVS among their total fleet purchases. The new percent-of-purchase requirements became less stringent than they had been under Section 382.134 of the HSC as amended by SB 200. Under SB 200, the percent-of-purchase requirements had been 90 percent of new light- and HDVs after September 1, 2002.

Once a fleet reaches 70 percent, and maintains it, Section 382.134 of the HSC as amended by SB 681 stipulated that it could not be required to purchase more vehicles. Under SB 200, this maximum had previously been set at 90 percent.

Under Chapters 451–453 of the TTC as amended by SB 681, law enforcement and emergency vehicles were excluded from the 100 percent LEV purchase requirement for mass transit fleets.

Section 382.134 of the HSC as amended by SB 681 removed the percent-of-total-fleet requirements so that local government and private fleets only have to meet the percent-of-purchase requirements mentioned earlier.

Sections 382.131 and 382.133 of the HSC as amended by SB 681 made it easier for mass transits to meet program requirements through three changes to the grandfathering provisions:

- The exemption of vehicles over 26,000 lb GVWR;
- The elimination of the 30 percent-of-fleet cap on grandfathering; and
- The extension of the grandfathering deadline to September 1, 1999. Although Section 382.133 of the HSC as amended by SB 681 gave mass transit fleets an additional year to grandfather vehicles, Section 382.142 of the HSC as amended by SB 681 took away three years from the

grandfathering provisions for private and local government fleets. Like mass transits, private and local government fleets were able to take advantage of the elimination of the 30 percent-of-fleet grandfathering cap. And unlike the mass transits, private and local government fleets had always been allowed to exclude vehicles greater than 26,000 lb GVWR.

Section 382.136 of the HSC as amended by SB 681 added one new exception to the TCF Program. This new exception allowed any affected fleet to be excluded from the LEV purchase requirements if it could demonstrate that it was unable to purchase LEVs from a manufacturer or it is unable to convert vehicles to LEV standards that meet the normal requirements of its fleet.

2001

HB 1545, Acts of the 77th Texas Legislature, 2001, modified Chapter 2158 of the TGC “so that an institution of higher education may, but is not required to, acquire goods or services as provided by Chapter 2158 Government Code.” This exempted institutions of higher education from the alternative fuel requirements for state fleets found in Chapter 2158 of the TGC.

Appendix B — Emission Standards

LEV Standards

The FCAA Amendments established the clean fuel fleet vehicle emission standards, the LEV standards. The LEV standards were originally adopted by the state of California in September 1990 prior to the signing of the FCAA Amendments in November 1990. The FCAA Amendments adopted these California LEV standards for the FCFF Program. Table 14 shows the current federal emissions standards for LDVs, including the LEV emission standards.

Note: There are several ways to measure hydrocarbons from vehicles: total hydrocarbons; NMHC, which removes methane from the mass of emissions; VOCs, which is the measurement used for most SIP calculations; and nonmethane organic gas (NMOG), which includes all organic gases except methane. For the purposes of this discussion NMHC, NMOG, and VOCs are treated as equivalent.

Table 14. Current Light-Duty Vehicle Exhaust Emission Standards

10Year / 100,000 Mile Light-Duty Vehicle and Light-Duty Truck 1 Exhaust Emission Standards ¹ in grams per mile:						
Category	NMOG	CO	NO _x	Particulate Matter (PM)	Evaporative	Formaldehyde (HCHO)
Tier 0 (LDT1 only)	0.67	10	1.2 / 1.7	0.26	-	-
Tier 1	0.31 ²	4.2	0.6	0.10	2	-
TLEV	0.156	4.2	0.6	0.08	2	0.018
LEV	0.090	4.2	0.3	0.08	2	0.018
ILEV	0.090	4.2	0.3	0.08	5 ³	0.018
ULEV	0.055	2.1	0.3	0.04	2	0.011
ZEV	0.0	0.0	0.0	0.0	0.0	0.0

¹ Source: US EPA, Exhaust Emission Certification Standards, EPA420-B-98-001.

² Measured in NMHC.

³ Per test with the vapor recovery system disconnected.

Light and Medium Duty Vehicle Emission Standards

The FCAA Amendments established Tier 1 standards, which were stricter emission standards for LDVs and than those in place at that time (TIER 0 standards). The TIER 1 emission standards started phasing in during MY 1994 for LDVs and LDTs up to 6,000 lb GVWR (automobiles and small pickups), and for MY 1998 for LDTs between 6,001 and 8,500 lb GVWR (in general, ½ ton pickups and vans). All new vehicles offered for sale in the United States must be certified, at a minimum, to these conventional standards. The EPA was tasked to propose cleaner standards, Tier 2, by the FCAA Amendments for the 2003 model year.

The NLEV standards came into effect as an interim standard between the Tier 1 and Tier 2 standards. By September 2000 (model year 2001), the NLEV Program required automobile manufacturers to ensure that their new cars and trucks, with less than 6,000 lb GVWR, meet the LEV standards (on average) in all U.S. states.

The new Tier 2 emission standards will be implemented beginning with MY 2004 (September 1, 2003) for LDVs, LDTs, and MDPVs with a GVWR up to 10,000 lb. MDPVs include the largest SUVs, passenger vans, and pickup trucks. New HD emission standards for HDTs will also be implemented, starting with MY 2004. As a result, all new onroad motor vehicles being sold in the United States will meet emission standards that are equivalent to, or cleaner than, the LEV standards (see Tables 15, 16, and 17).

Beginning with MY 2004, auto manufacturers must ensure that 25 percent of all their U.S. sales of LDVs and light LDTs (up to 6,000 lb GVWR), comply with the Tier 2 corporate fleet average NO_x standard of 0.07 grams per mile (g/mile). (This is 76 percent cleaner than the LEV standard for LDVs of 0.3 g/mile NO_x as required in the TCF program.) The remaining 75 percent of LDVs and light LDTs must comply with the interim corporate fleet average NO_x standard of 0.3 g/mile (same as the LDV LEV standard).

All LDVs and light LDTs must meet the Tier 2 corporate fleet average NO_x standard of 0.07 NO_x g/mile by MY 2007 and thereafter.

Beginning with MY 2004, auto manufacturers must ensure that 25 percent of all their U.S. sales of heavy LDTs (6,001 to 8,500 lb GVWR) and MDPVs (8,501 to 10,000 lb GVWR) must meet the interim corporate fleet average NO_x standard of 0.2 g/mile. (This is 86 percent cleaner than the LEV NO_x standard of 1.5 g/mile for heavy LDTs which is required for the TCF program.) The remaining 75 percent of heavy LDTs and MDPVs can comply with any of the Tier 2 NO_x standards.

All heavy LDTs and MDPVs must meet the interim corporate fleet average NO_x standard of 0.2 g/mile by MY 2007.

Beginning with MY 2008, auto manufacturers must ensure that 50 percent of their U.S. sales of heavy LDTs and MDPVs comply with the Tier 2 corporate fleet average NO_x standard of 0.07 g/mile. The remaining 50 percent of heavy LDTs and MDPVs must meet the interim corporate fleet average NO_x standard of 0.2 g/mile.

All heavy LDTs and MDPVs must meet the Tier 2 corporate fleet average NO_x standard of 0.07 g/mile by MY 2009 and thereafter.

Table 15. New Tier 2 Emission Standards

Full Useful Life (120,000 Mile) Emission Standards for New MY 2004 and Subsequent Models: Passenger Car, Light-Duty Truck, and Medium-Duty Vehicle Classes¹								
Vehicle Type	Vehicle Emission Category	NO _x (g/mi)	NMOG (g/mi)	CO (g/mi)	HCHO	Particulates from Diesel Vehicles (g/mi)	Notes	
All PCs, LDTs, MDVs 0-10,000 lb GVWR	Bin 11	0.9	0.280	7.3	0.032	0.12	a, c	
	Bin 10	0.6	0.156/0.230	4.2/6.4	0.018/0.027	0.08	a, b, d	
	Bin 9	0.3	0.090/0.180	4.2	0.018	0.06	a, b, e	
	The above temporary bins expire in 2006 for passenger cars and LDTs, and in 2008 for medium duty vehicles.							
	Bin 8	0.20	0.125/0.156	4.2	0.018	0.02	b, f	
	Bin 7	0.15	0.090	4.2	0.018	0.02		
	Bin 6	0.10	0.090	4.2	0.018	0.01	g	
	Bin 5	0.07	0.090	4.2	0.018	0.01	h	
	Bin 4	0.04	0.070	2.1	0.011	0.01		
	Bin 3	0.03	0.055	2.1	0.011	0.01	i	
	Bin 2	0.02	0.010	2.1	0.004	0.01	j	
	Bin 1	0.0	0.000	0.000	0.000	0.00	k	

Notes:

- a. This bin and its corresponding intermediate life bin are deleted at end of 2006 model year (end of 2008 model year for heavy LDTs (HLDTs) and medium duty passenger vehicles (MDPVs)).
- b. Higher NMOG, CO and HCHO values apply for HLDTs and MDPVs only.
- c. This bin is only for MDPVs.
- d. Optional NMOG standard of 0.280 g/mi applies for qualifying HLDTs greater than 5750 lbs adjusted loaded vehicle weight and qualifying MDPVs only.
- e. Optional NMOG standard of 0.130 g/mi applies for qualifying LDTs greater than 3750 lbs loaded vehicle weight only.
- f. Higher NMOG standard deleted at end of 2008 model year.
- g. Bin 6 similar to California LEV standard Option 1 (vehicles <8500 lb GVWR)
- h. Bin 5 similar to California LEV standard (vehicles <8500 lb GVWR)
- i. Bin 3 similar to California ULEV standard (vehicles <8500 lb GVWR)
- j. Bin 2 similar to California SULEV standard (vehicles <8500 lb GVWR)
- k. Bin 1 similar to California ZEV standard

HDV Standards

Table 16 shows the current federal emissions standards for HDVs, including the LEV emission standards.

Table 16. Current Heavy-Duty Vehicle Exhaust Emission Standards²

Category	Hydrocarbons (HC)	CO	NO _x	NMHC+NO _x	PM
Conventional 1998+	1.3 - Ci ³ 1.1 - Si ⁴	5.5 - Ci 14.4 - Si	4.0		0.10
LEV		15.5 - Ci 14.4 - Si		3.8	0.10
ILEV		14.4		2.5	0.10
ULEV		7.2		2.5	0.05
ZEV	0.0	0.0	0.0	0.0	0.0

¹ Source: US EPA, Emission Standards Reference Guide for heavy-duty and Nonroad Engines, EPA420-F-97-014.

² Compression Ignition (Ci) standard, i.e. Diesel powered engines.

³ Spark Ignition (Si) standard, i.e. Gasoline powered engines.

New HDT (over 8,500 lb GVWR) standards will also be implemented, beginning with MY 2004. The 2004 HD emission standards will require all new HDTs to be certified to meet a combined emission standard for NO_x and nonmethane hydrocarbons (NMHC) of 2.5 grams per brake horsepower-hour (g/bhp-hr). The 2004 HD emission standard is equivalent to the current HD ultralow-emission vehicle (ULEV) standard, and is 34 percent cleaner than the LEV standard of 3.8 g/bhp-hr for HDTs. See Table 17 for the 2004 HDV emission standards.

In addition, by MY 2007 (September 1, 2006), the federal HD emission standards will become even cleaner with standards for NO_x at 0.2 g/bhp-hr and 0.14 g/bhp-hr for NMHC. See Table 18 for the 2007 HDV emission standards.

Table 17. 2004 Heavy-Duty Engine Exhaust Emission Standards*

Category	CO	NMHC+NO _x	PM
2004+	15.5 - Ci 14.4 - Si	2.4 or 2.5 with 0.5 NMHC max	0.10

*In grams per brake horse-power hour

Table 18. 2007 Heavy-Duty Engine Exhaust Emission Standards and Phase-Ins*

Engine Type	Standard	Standard (g/bhp-hr)	Phase-In by Model Year Sales			
			2007	2008	2009	2010
Diesel	NO _x	0.20	50% each year			100%
	NMHC	0.14				
Gasoline	NO _x	0.20	-	50%	100%	
	NMHC	0.14				
Diesel & Gasoline	PM	0.01	100%			
Diesel & Gasoline	CO	15.5 / 14.5	100%			

* includes complete diesel vehicles over 8,500 lbs GVWR.

Appendix C — TCF, FCFF and EPAct

Table 19 compares the fleet requirements under federal and state legislation.

Table 19. TCF, FCFF, EPAct Comparison

Items	TCF Program (substitute for federal program)	FCFF Program (does not apply to Texas)	EPAct
Fuel type	Private, Local government and Transit: Any fuel or power source which allows the vehicle to meet LEV standards.	Any fuel or power source which allows the vehicle to meet LEV standards.	<u>Must be capable of operating on:</u> CNG, LNG, LPG, methanol, ethanol, electricity, hydrogen, coal derived liquids, and fuels derived from biological materials. Note: Fuel providers must use alternative fuel unless not available.
Emission standard	Private, Local government and Transit: LEV required. ULEV, ILEV & ZEV earn credit.	LEV required. ULEV, ILEV & ZEV earn credit.	Must only meet conventional emission standards.
Covered fleets	Private: more than 25 fleet vehicles Local government: more than 15 vehicles Transit: all vehicles < 26,000 lb GVWR Federal, State, School districts: not covered	All Fleets: of 10 or more centrally fueled, or capable of being centrally fueled, fleet vehicles. Note: includes federal, state, transits, school districts, local government, and private fleets.	Federal, state & alternative fuel provider fleets: “Persons” who own, operate, lease or control at least 50 vehicles in the United States (centrally fueled, or capable of being centrally fueled), of which at least 20 are primarily operated in a Consolidated Metropolitan Statistical Area (CMSA) with a 1980 population of ~ 250,000. Note: Rules not adopted for private & local government fleets as of this date.
Vehicle class	Private, Local government and Transit: vehicles < 26,000 lb GVWR	All Fleets: vehicles < 26,000 lb GVWR	LDV, LDT <8,500 lb GVWR

Items	TCF Program (substitute for federal program)	FCFF Program (does not apply to Texas)	EPA Act
Exempt vehicles	<p><u>For determining participation:</u> Private and Transit: Emergency, law enforcement, nonroad, garaged at residence, vehicles >26,000 lb GVWR, school buses, vehicles used in the maintenance or repair of underground mass transit facilities that are required by federal law or regulation to operate on diesel fuel. A rental/leasing company may exempt vehicles rented/leased to the general public. An organization that rents/leases vehicles may have to include rented/leased vehicles depending on the duration of the lease.</p> <p>Local government: Emergency, law enforcement*</p> <p>*garaged at residence, vehicles >26,000 lb, school buses are also exempt from purchase percentage requirements.</p>	<p>Emergency, law enforcement, nonroad, public leased/rented, dealer, test, national security, garaged at residence, and vehicles >26,000 lb GVWR.</p>	<p>Public leased or rented vehicles; vehicles for sale by dealers; law enforcement vehicles; emergency vehicles; research vehicles; deployable military vehicles; non-road vehicles; and vehicles garaged at personal residences.</p>
Covered Areas	<p>Any serious, severe, or extreme ozone and/or CO NAA with a metropolitan statistical area of ~ 350,000</p>	<p>Any serious, severe, or extreme ozone and/or CO NAA with a metropolitan statistical area of ~ 250,000</p>	<p>Metropolitan areas with a 1980 population of ~ 250,000. (Austin-San Marcos, Beaumont-Port Arthur, Corpus Christi, Dallas-Fort Worth, El Paso, Houston-Galveston- Brazoria, McAllen-Edinburg-Mission, San Antonio.)</p>

Items	TCF Program (substitute for federal program)	FCFF Program (does not apply to Texas)	EPAct																																																																																
Phase-in Schedule	<p>Private and Local Government: 10% of total fleet vehicles by 9/1/98 or 30% of fleet vehicle purchases* after 9/1/98 50% of fleet vehicle purchases* after 9/1/00 70% of light-duty fleet vehicle purchases* after 9/1/02 50% of heavy-duty fleet vehicle purchases* after 9/1/02</p> <p>Transits: 50% of total fleet vehicles under HSC. (100% purchase required under TTC) (Acquisitions by transit fleets prior to 9/1/99 for transit fleets may be used for compliance if they: operate on a fuel required by any state fuel or fleet program prior to 9/1/95 and meet or exceed the Tier 1 standards if under 8500 lb GVWR) *To meet the percent-of-purchase requirement, vehicle purchases must be LEV or better.</p>	<p>LDVs, LDTs: 30% of covered fleet vehicle purchases* in MY 1999 50% of covered fleet vehicle purchases* in MY 2000 70% of covered fleet vehicle purchases* in MY 2001+</p> <p>HDVs: 50% of covered fleet vehicle purchases* in MY 1999+</p> <p>*To meet the percent-of-purchase requirement, vehicle purchases must be LEV or better.</p>	<table border="1"> <thead> <tr> <th>Year</th> <th>Federal</th> <th>State</th> <th>Fuel Provider</th> <th>Private & Municipal</th> </tr> </thead> <tbody> <tr><td>1993</td><td>5,000</td><td>-</td><td>-</td><td>*</td></tr> <tr><td>1994</td><td>7,500</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>1995</td><td>10,000</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>1996</td><td>25%</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>1997</td><td>33%</td><td>10%</td><td>30%</td><td>-</td></tr> <tr><td>1998</td><td>50%</td><td>15%</td><td>50%</td><td>-</td></tr> <tr><td>1999</td><td>75%</td><td>25%</td><td>70%</td><td>-</td></tr> <tr><td>2000</td><td>75%</td><td>50%</td><td>90%</td><td>-</td></tr> <tr><td>2001</td><td>75%</td><td>75%</td><td>90%</td><td>-</td></tr> <tr><td>2002</td><td>75%</td><td>75%</td><td>90%</td><td>-</td></tr> <tr><td>2003</td><td>75%</td><td>75%</td><td>90%</td><td>20%</td></tr> <tr><td>2004</td><td>75%</td><td>75%</td><td>90%</td><td>40%</td></tr> <tr><td>2005</td><td>75%</td><td>75%</td><td>90%</td><td>60%</td></tr> <tr><td>2006</td><td>75%</td><td>75%</td><td>90%</td><td>70%</td></tr> <tr><td>+</td><td></td><td></td><td></td><td>70%</td></tr> </tbody> </table> <p>* May be required by regulations if DOE deems necessary</p>	Year	Federal	State	Fuel Provider	Private & Municipal	1993	5,000	-	-	*	1994	7,500	-	-	-	1995	10,000	-	-	-	1996	25%	-	-	-	1997	33%	10%	30%	-	1998	50%	15%	50%	-	1999	75%	25%	70%	-	2000	75%	50%	90%	-	2001	75%	75%	90%	-	2002	75%	75%	90%	-	2003	75%	75%	90%	20%	2004	75%	75%	90%	40%	2005	75%	75%	90%	60%	2006	75%	75%	90%	70%	+				70%
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Items	TCF Program (substitute for federal program)	FCFF Program (does not apply to Texas)	EPAct
Exceptions	Lack of refueling, insufficient financing, contractual harm, not cost-effective over the life of the vehicle, LEVS not available from original equipment manufacturers (OEMs) or conversions.	None, however, EPA is currently considering exceptions for: 1. vehicle cost differential that would include a threshold percentage and cap. 2. exemptions due to fuel availability.	Yes, if alternative fuels or AFVs are not available. (Fuel is determined “available” if an alternative refueling or recharging station is within five miles of the fleet's operating range or base of operations. AFVs are deemed “unavailable” if OEM AFVs that meet the normal requirements and practices of a covered fleet are not sold or leased anywhere in the United States.) Note: For state fleets only - if requirements impose unreasonable financial hardship.
Credit trading	Yes - MERCs and PCCs.	Yes - MERCs	Yes - Program credits can be earned if AFVs are acquired in excess of minimum requirement or in advance of the requirement date at the rate of one credit per vehicle. Credit is transferable from one area to another. Credit may be counted towards compliance for one year only.

Items	TCF Program (substitute for federal program)	FCFF Program (does not apply to Texas)	EPAct
Program incentives	MERCs & PCCs	MERCs. Certain vehicles exempted from HOV lane restrictions.	<p>Grants and low interest loans, tax incentives for AFVs; EVs, infrastructure and R&D; & refueling facilities.</p> <p>Maximum tax deductions are provided as follows for the incremental costs of AFVs (including retrofits) and refueling facilities placed in service after June 30, 1993:</p> <p>AFVs below 10,000 lb GVWR: \$2,000 AFVs 10,000 - 26,000 lb GVWR: \$5,000 Trucks/Vans (more than 26,000 lb. GVWR): \$50,000 Buses with seating capacity of 20 or more adults: \$50,000 EVs: 10% tax credit up to \$4,000/vehicle AFV Refueling Facility: \$100,000</p>

Appendix D — State Fleet Data

Methodology Changes

There are many more state agencies on this list (103) than on the previous report for December 2000 (77). BPC provided data for all the agencies on its database, not just those affected by the Texas alternative fuels program, which is contained in TGC Chapter 2158.

The Texas Department of Public Safety (DPS) is also new to this Legislative Report. DPS should have been on the previous report, but BPC was not aware that DPS had 297 administrative vehicles that were subject to the alternative fuel requirements (law enforcement vehicles are exempt from TGC Chapter 2158).

There are three agencies, however, whose fleets no longer appear in this Legislative Report. These agencies are either exempted from TGC Chapter 2158, or they no longer own vehicles. They are: the House of Representatives, the State Auditor and the Board of Public Accountancy.

Table 20 lists the 30 state agencies that are subject to the alternative fuel requirements under TGC Chapter 2158. Of those agencies, 9 (30 percent) are compliant without waivers. With waivers, 14 agencies (47 percent) are compliant. The number of state fleets affected by these requirements has decreased from 66 to 30, mainly due to House Bill (HB) 1545 (77th Texas Legislature), which exempted Texas universities and institutions of higher education from having to comply with TGC Chapter 2158. The percentage of fleets in compliance for the 1998–2000 reporting period was 18 percent without waivers, and 30 percent with waivers.

Table 21 lists an additional 73 state agencies that voluntarily reported to the BPC the number of their vehicles that are capable of using alternative fuel. These 73 state agency fleets are exempt from the alternative fuel vehicle purchase requirements of TGC Chapter 2158 because of either HB 1545, or their fleet contains 15 or fewer vehicles.

The 103 state fleets reporting to the BPC (Tables 20 and 21 combined) include a total of 8,869 vehicles capable of operating on alternative fuels, which is a decrease of 650 vehicles (a 7 percent decrease) from the 9,519 vehicles reported to the BPC (then the GSC) two years ago.

Waiver Methodology

The BPC is authorized under Chapter 2158 of the TGC to grant waivers from the specified fuel use percentages to state vehicle fleets on the basis

of excessive cost or the lack of fuel or equipment. The manner in which BPC grants waivers affects how each state fleet determines compliance with the requirement that 50 percent of state fleets must be capable of using specified alternative fuels. The BPC subtracts the number of waived vehicles from a fleet's total vehicle population and then recalculates the percentage of vehicles capable of running on alternative fuels based on this new total. The number of waived vehicles can be found in Table 20 under the column headed *Total Vehicles Waived*.

For example: The Department of Human Services (DHS) reported that it has 58 vehicles of which 31 (53 percent) are capable of operating on a specified alternative fuel. However, DHS has received one vehicle waiver from the BPC. BPC subtracts this waved vehicle from the DHS's total fleet of 58 vehicles, reducing the affected vehicle fleet to 57 vehicles. The percentage of vehicles capable of operating on alternative fuels is then based on this reduced total fleet number, resulting in a compliance percentage of 54 percent.

Table 20. State Fleet Compliance

Agency No.	Agency Name	Total Vehicles	Vehicles Capable of Running on Alternative Fuels	Vehicles Waived	Compliance Percentage
302	Attorney General	37	27	0	73
303	Texas Building & Procurement Commission	108	22	89	100
304	Comptroller of Public Accounts	13	5	0	38
305	General Land Office	68	14	45	61
318	Texas Comm. For Blind	18	9	0	50
320	Texas Workforce Commission	19	11	0	58
324	Department of Human Services	58	31	1	54
401	Adjutant General	30	4	0	13
405	Dept. of Public Safety	297	86	0	29
406	Texas Military Facilities Commission	16	0	0	0
454	Texas Dept. of Insurance	49	0	0	0
455	Railroad Commission	252	175	2	69
458	Alcoholic Beverage Commission	237	0	0	0
501	Texas Dept. of Health	153	81	5	55
551	Dept. of Agriculture	214	95	29	51
555	Texas Agricultural Extension Services	290	39	154	13
556	Texas Ag. Experiment Station	556	95	349	46
577	Texas Animal Damage Control	40	15	24	94
580	Texas Water Dev. Board	54	39	2	75
582	TCEQ	409	327	35	87

Agency No.	Agency Name	Total Vehicles	Vehicles Capable of Running on Alternative Fuels	Vehicles Waived	Compliance Percentage
592	Soil & Water Conservation Board	16	0	0	0
601	Texas Dept. of Transportation	9,229	5,077	2,500	75
655	Texas Dept. of MHMR	2,048	742	133	39
694	Texas Youth Commission	410	12	0	3
696	Texas Dept. of Criminal Justice	2,038	533	794	43
712	Texas Engineering Exp. Station	26	2	0	0
716	Texas Engineering Ext. Service	172	19	0	11
771	Texas School for the Blind	28	12	6	55
772	Texas School for the Deaf	34	10	2	31
802	Parks & Wildlife	2452	472	232	21
Totals		19371	7954	4402	41.46
Organizations Compliant with waivers		14			
Organizations Compliant without Waivers		9			

Table 21. Vehicles Capable of Using Alternative Fuels among Exempt State Fleets

Agency No.	Agency Name	Total Vehicles	Vehicles Capable of Running on Alternative Fuels	Total Vehicles Waived
301	Governor's Office - Exec	1	0	0
306	Library & Archives Commission	6	0	0
307	Secretary of State	1	1	0
313	Dept. of Information Resources	10	1	0
323	Teacher Retirement System	5	0	0
327	Employees Retirement System	3	0	0
330	Texas Rehabilitation Comm.	9	1	0
335	Texas Commission for Deaf & Hard of Hearing	1	0	0
411	Texas Commission on Fire Protection	2	0	0
362	Texas Lottery Commission	5	1	0
452	Texas Department of Licensing & Regulation	3	0	0
453	Texas Workers Compensation	4	1	0
456	Board of Plumbing Examiners	10	0	0
473	Public Utility Commission	1	0	0
506	UT M.D. Anderson Cancer Cen.	132	21	3
515	Board of Pharmacy	13	0	0
529	Health & Human Services Comm.	1	0	0
530	Dept. of Protective & Reg. Services	11	8	0
554	Texas. Animal Health Commission	8	0	0
557	Texas Vet. Medical Diag. Laboratory	8	0	0
576	Texas Forest Service (emergency vehicle exemption)	544	1	0
665	Texas Juvenile Probation Commission	1	0	0

Agency No.	Agency Name	Total Vehicles	Vehicles Capable of Running on Alternative Fuels	Total Vehicles Waived
701	Texas Education Agency	3	0	0
711	Texas A&M University	945	43	521
713	Tarleton State University	69	2	1
714	UT Arlington	180	22	133
715	Prairie View A&M University	35	20	0
717	Texas Southern University	42	0	0
718	Texas A&M - Galveston	26	11	0
719-1	Texas State Tech. College - Waco	133	34	0
719-2	Texas State Tech. College - Harlingen	61	0	3
719-4	Texas State Tech. College - Sweetwater	30	3	0
719-5	Texas State Tech. College - Marshall	10	1	0
721	UT - Austin	667	91	0
723	UT Medical Branch - Galveston	190	48	0
724	UT - El Paso	141	24	0
727	Texas Transportation Institute	15	0	0
729	UT Southwestern Medical Center	113	22	0
730	University of Houston	136	7	114
731	Texas Woman's University	82	21	0
732	Texas A&M - Kingsville	104	7	0
733	Texas Tech University	345	116	106
734	Lamar University -Beaumont	78	19	0
735	Midwestern University	62	22	0
736	UT - Pan American	87	14	0
737	Angelo State University	74	35	1
738	UT - Dallas	71	7	56
739	Texas Tech - Health Science	63	24	1
742	UT - Permian Basin	20	0	16
743	UT - San Antonio	88	17	61
744	UT Health Science Center Houston	79	23	1
745	UT Health Science Cerner SA	70	3	15
747	UT - Brownsville	53	16	0
750	UT - Tyler	14	1	0
751	Texas A&M - Commerce	81	28	37
752	University of North Texas	228	8	17
753	Sam Houston State University	121	33	0
754	Southwest Texas State	197	33	0
755	Stephen F. Austin University	210	16	1
756	Sul Ross State University	56	19	0
757	West Texas A&M University	118	39	64
759	UH - Clear Lake	39	19	0
760	Corpus Christi State University	42	6	0
761	Texas A&M International	8	0	0
763	U. of North Texas HSC - Ft. Worth	30	9	0

Agency No.	Agency Name	Total Vehicles	Vehicles Capable of Running on Alternative Fuels	Total Vehicles Waived
764	Texas A&M University - Texarkana	5	0	0
765	University of Houston - Victoria	3	0	0
784	University of Houston - Downtown	9	0	0
785	UT HSC - Tyler	54	16	0
787	Lamar University -Orange	4	0	0
788	Lamar University - Port Arthur	11	0	0
789	Lamar Institute of Technology	14	1	0
808	Texas Historical Commission	11	0	0
Totals		6106	915	1151

