

The Texas Natural Resource Conservation Commission (commission) proposes new §114.460, Definitions; §114.462, Control Requirements; §114.466, Reporting and Recordkeeping Requirements; and §114.469, Affected Counties and Compliance Schedules. The commission proposes these new sections in Chapter 114, Control of Air Pollution from Motor Vehicles; Subchapter I, Non-Road Engines; new Division 7, Houston/Galveston Airport Ground Support Equipment; and corresponding revisions to the state implementation plan (SIP) in order to control ground-level ozone in the Houston/Galveston (HGA) ozone nonattainment area through the reduction of nitrogen oxide (NO<sub>x</sub>) emissions from airport ground support equipment (GSE).

#### BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE PROPOSED RULES

The HGA ozone nonattainment area is classified as Severe-17 under the Federal Clean Air Act (FCAA) Amendments of 1990 (42 United States Code (USC), §§7401 et seq.), and therefore is required to attain the one-hour ozone standard of 0.12 parts per million (ppm) by November 15, 2007. The HGA area, defined by Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties, has been working to develop a demonstration of attainment in accordance with 42 USC, §7410. On January 4, 1995, the state submitted the first of its Post-1996 SIP revisions for HGA.

The January 1995 SIP consisted of urban airshed model (UAM) modeling for 1988 and 1990 base-case episodes, adopted rules to achieve a 9% rate-of-progress (ROP) reduction in volatile organic compounds (VOC), and a commitment schedule for the remaining ROP and attainment demonstration elements. At the same time, but in a separate action, the State of Texas filed for the temporary NO<sub>x</sub> waiver allowed by 42 USC, §7511a(f). The January 1995 SIP and the NO<sub>x</sub> waiver were based on early

base-case episodes which marginally exhibited model performance in accordance with the United States Environmental Protection Agency (EPA) modeling performance standards, but which had a limited data set as inputs to the model. In 1993 and 1994, the commission was engaged in an intensive data-gathering exercise known as the COAST study. The state believed that the enhanced emissions inventory, expanded ambient air quality and meteorological monitoring, and other elements would provide a more robust data set for modeling and other analysis, which would lead to modeling results that the commission could use to better understand the nature of the ozone air quality problem in the HGA area.

Around the same time as the 1995 submittal, EPA policy regarding SIP elements and timelines went through changes. Two national programs in particular resulted in changing deadlines and requirements. The first of these programs was the Ozone Transport Assessment Group. This group grew out of a March 2, 1995 memo from Mary Nichols, former EPA Assistant Administrator for Air and Radiation, that allowed states to postpone completion of their attainment demonstrations until an assessment of the role of transported ozone and precursors had been completed for the eastern half of the nation, including the eastern portion of Texas. Texas participated in this study, and it has been concluded that Texas does not significantly contribute to ozone exceedances in the Northeastern United States. The other major national initiative that has impacted the SIP planning process is the revisions to the national ambient air quality standard (NAAQS) for ozone. The EPA promulgated a final rule on July 18, 1997 changing the ozone standard to an eight-hour standard of 0.08 ppm. In November 1996, concurrent with the proposal of the standards, the EPA proposed an interim implementation plan (IIP) that it believed would help areas like HGA transition from the old to the new standard. In an attempt to avoid

a significant delay in planning activities, Texas began to follow this guidance, and readjusted its modeling and SIP development timelines accordingly. When the new standard was published, the EPA decided not to publish the IIP, and instead stated that, for areas currently exceeding the one-hour ozone standard, that standard would continue to apply until it is attained. The FCAA requires that HGA attain the standard by November 15, 2007.

The EPA issued revised draft guidance for areas such as HGA that do not attain the one-hour ozone standard. The commission adopted on May 6, 1998 and submitted to the EPA on May 19, 1998 a revision to the HGA SIP which contained the following elements in response to the EPA's guidance: UAM modeling based on emissions projected from a 1993 baseline out to the 2007 attainment date; an estimate of the level of VOC and NO<sub>x</sub> reductions necessary to achieve the one-hour ozone standard by 2007; a list of control strategies that the state could implement to attain the one-hour ozone standard; a schedule for completing the other required elements of the attainment demonstration; a revision to the Post-1996 9% ROP SIP that remedied a deficiency that the EPA believed made the previous version of that SIP unapprovable; and evidence that all measures and regulations required by Subpart 2 of Title I of the FCAA to control ozone and its precursors have been adopted and implemented, or are on an expeditious schedule to be adopted and implemented.

In November 1998, the SIP revision submitted to the EPA in May 1998 became complete by operation of law. However, the EPA stated that it could not approve the SIP until specific control strategies were modeled in the attainment demonstration. The EPA specified a submittal date of November 15, 1999

for this modeling. In a letter to the EPA dated January 5, 1999, the state committed to model two strategies showing attainment.

As the HGA modeling protocol evolved, the state eventually selected and modeled seven basic modeling scenarios. As part of this process, a group of HGA stakeholders worked closely with commission staff to identify local control strategies for the modeling. Some of the scenarios for which the stakeholders requested evaluation included options such as California-type fuel and vehicle programs as well as an acceleration simulation mode equivalent motor vehicle inspection and maintenance program. Other scenarios incorporated the estimated reductions in emissions that were expected to be achieved throughout the modeling domain as a result of the implementation of several voluntary and mandatory statewide programs adopted or planned independently of the SIP. It should be made clear that the commission did not propose that any of these strategies be included in the ultimate control strategy submitted to the EPA in 2000. The need for and effectiveness of any controls which may be implemented outside the HGA eight-county area will be evaluated on a county-by-county basis.

The SIP revision was adopted by the commission on October 27, 1999, submitted to the EPA by November 15, 1999, and contained the following elements: photochemical modeling of potential specific control strategies for attainment of the one-hour ozone standard in the HGA area by the attainment date of November 15, 2007; an analysis of seven specific modeling scenarios reflecting various combinations of federal, state, and local controls in HGA (additional scenarios H1 and H2 build upon Scenario VI(f)); identification of the level of reductions of VOC and NO<sub>x</sub> necessary to attain the one-hour ozone standard by 2007; a 2007 mobile source budget for transportation conformity;

identification of specific source categories which, if controlled, could result in sufficient VOC and/or NO<sub>x</sub> reductions to attain the standard; a schedule committing to submit by April 2000 an enforceable commitment to conduct a mid-course review; and a schedule committing to submit modeling and adopted rules in support of the attainment demonstration by December 2000.

The April 19, 2000 SIP revision for HGA contained the following enforceable commitments by the state: to quantify the shortfall of NO<sub>x</sub> reductions needed for attainment; to list and quantify potential control measures to meet the shortfall of NO<sub>x</sub> reductions needed for attainment; to adopt the majority of the necessary rules for the HGA attainment demonstration by December 31, 2000, and to adopt the rest of the shortfall rules as expeditiously as practical, but no later than July 31, 2001; to submit a Post-99 ROP plan by December 31, 2000; to perform a mid-course review by May 1, 2004; and to perform modeling of mobile source emissions using the EPA mobile source emissions model (MOBILE6), to revise the on-road mobile source budget as needed, and to submit the revised budget within 24 months of the model's release. In addition, if a conformity analysis is to be performed between 12 months and 24 months after the MOBILE6 release, the state will revise the motor vehicle emissions budget (MVEB) so that the conformity analysis and the SIP MVEB are calculated on the same basis.

In order for the state to have an approvable attainment demonstration, EPA has indicated that the state must adopt those strategies modeled in the November submittal and then adopt sufficient controls to close the remaining gap in NO<sub>x</sub> emissions. The modeling included in this proposal indicates a gap of an additional 77.98 tons per day (tpd) of NO<sub>x</sub> reductions is necessary for an approvable attainment demonstration. The commission estimates that this measure will achieve a minimum of 5.09 tpd of

NO<sub>x</sub> equivalent reductions and is therefore a necessary measure to consider for closing the gap and successfully demonstrating attainment.

The emission reduction requirements included as part of this SIP revision represent substantial, intensive efforts on the part of stakeholder coalitions in the HGA area. These coalitions, involving local governmental entities, elected officials, environmental groups, industry, consultants, and the public, as well as the commission and the EPA, have worked diligently to identify and quantify potential control strategy measures for the HGA attainment demonstration. Local officials from the HGA area have formally submitted a resolution to the commission, requesting the inclusion of many specific emission reduction strategies.

The current SIP revision contains rules, enforceable commitments, and photochemical modeling analyses in support of the HGA ozone attainment demonstration. In addition, this SIP contains Post-1999 ROP plans for the milestone years 2002 and 2005, and for the attainment year 2007. The SIP also contains enforceable commitments to implement further measures, if needed, in support of the HGA attainment demonstration, as well as a commitment to perform and submit a mid-course review.

The HGA ozone nonattainment area will need to ultimately reduce NO<sub>x</sub> more than 750 tpd to reach attainment with the one-hour standard. In addition, a VOC reduction of about 25% will have to be achieved. Adoption of these airport GSE rules will contribute to the attainment and maintenance of the one-hour ozone standard in the HGA area. An airport GSE program should also contribute to a successful demonstration of transportation conformity in the HGA area.

Airport GSE rules were adopted by the commission for the Dallas/Fort Worth (DFW) nonattainment area on April 19, 2000. This rulemaking action proposes identical requirements applied to the eight-county HGA ozone nonattainment area and are necessary for the area to be able to demonstrate attainment with the ozone NAAQS.

Airport GSE is used from the moment an aircraft lands, until the aircraft takes off. Airport GSE is comprised of a variety of vehicles and equipment necessary to service aircraft during ground-based operations, including cargo loading and unloading, passenger loading and unloading, potable water storage, lavatory waste tank drainage, aircraft refueling, engine and fuselage examination and maintenance, and food and beverage catering. Airlines employ specially designed GSE to support all these operations. Moreover, electrical power and conditioned air are generally required during aircraft operations at the terminal gate to provide comfort and safety for the passengers and crew. These services are often provided by the terminal facility, however many times these services are provided by GSE. Airport GSE includes, but is not limited to, aircraft pushback tugs, baggage and cargo tugs, carts, forklifts, lifts, ground power units, air conditioning units, air start units, and belt loaders. Electric-powered versions of baggage tugs and belt loaders, which represent about a third of all GSE, are available and in use. Electric-powered versions of aircraft pushback tugs, air start units, air conditioning units, forklifts, lifts, ground power units, and other specialty GSE are also available in the marketplace.

The initial purchase cost of electric-powered GSE is typically higher than diesel-powered and gasoline-powered GSE. A recent report by the EPA, *Technical Support for Development of Airport Ground*

*Support Equipment Emission Reductions* (EPA 420-R-99-007, May 1999), estimated that the cost of an electric baggage tractor would be \$30,000, while the gasoline-powered version would be \$17,000, and the diesel-powered version would be \$22,000. However, electricity is such a less expensive power source than fossil fuels, that the savings in the cost of fuel will offset the increased electric GSE purchase price in two to three years. Additionally, the existing rules allow the GSE owner or operator to reduce emissions from the GSE fleet or in the nonattainment area by any means available. The owners and operators may also use the commission emission banking program to meet their emission reduction requirements. That is, an owner or operator may meet emission control requirements of this chapter, in whole or in part, by obtaining emission reduction credits (ERCs), mobile emission reduction credits (MERCs), discrete emission reduction credit (DERCs), or mobile discrete emission reduction credit (MDERCs) in accordance with this section and 30 TAC Chapter 101 (General Air Rules), §101.29 (Emission Credit Banking and Trading). In a concurrent rulemaking (rule log number 1998-089-101-AI), the emission credit banking and trading rules are being moved to Chapter 101, Subchapter H (Emissions Banking and Trading), Division 1 (Emission Credit Banking and Trading) and Division 4 (Discrete Emission Credit Banking and Trading).

The majority of GSE engines are “uncontrolled” from an emission perspective, because they have not been designed for low emissions. Therefore, GSE emits significant amounts of VOC and NO<sub>x</sub>. The EPA report (420-R-99-007) states that GSE is responsible for 15% - 20% of airport-related NO<sub>x</sub> and 10% - 15% of airport-related VOC. The replacement of internal combustion engine-powered GSE with low- or zero-emission GSE at the airports where this equipment is used will reduce the VOC and NO<sub>x</sub>

emissions from this source category. These NO<sub>x</sub> emissions will be reduced by at least 90%, thus leading to 5.09 tpd of NO<sub>x</sub> emission reductions.

The commission solicits comment on additional flexibilities relating to rule content and implementation which have not been addressed in this or other concurrent rulemakings. These flexibilities may be available for both mobile and stationary sources. Additional flexibilities may also be achieved through innovative and/or emerging technology which may become available in the future. Additional sources of funds for incentive programs may become available to substitute for some of the measures considered here.

#### SECTION-BY-SECTION DISCUSSION

Rules regarding airport GSE were adopted for the DFW ozone nonattainment area on April 19, 2000. These rules were adopted in Chapter 114, Subchapter I, Division 1, §114.400, Definitions; §114.402, Control Requirements; §114.406, Reporting and Recordkeeping Requirements; and §114.409, Affected Counties. This rulemaking action proposes identical requirements in Subchapter I, Division 7 which would apply to the eight-county HGA ozone nonattainment area.

The proposed new §114.460 includes definitions for air carrier, air carrier operations, ground support equipment, ground support equipment fleet, GSE average emission factor, and subject airport.

The proposed new §114.462(a), explains that affected owners and operators of GSE must demonstrate a NO<sub>x</sub> emissions reduction which is equal to or greater than the percentages of NO<sub>x</sub> emissions attributable

to the GSE fleet during the 1996 calendar year. These reductions must be made in accordance with the following schedule: 20% reduction by December 31, 2003; 50% reduction by December 31, 2004; and 90% reduction by December 31, 2005. Subsection (b) pertains to those fleets which were not in operation in 1996. Using the emission factors from §114.460(6), the owner and/or operator of the fleet must demonstrate the following NO<sub>x</sub> emission reductions: 20% reduction by December 31, 2003 or December 31 of the first year of operation, whichever is later; 50% reduction by December 31, 2004 or December 31 of the third year of operation, whichever is later; and 90% reduction by December 31, 2005 or December 31 of the third year of operation, whichever is later instead of electrifying the fleet. This demonstration will be accomplished by multiplying the appropriate emission factor by the number of non-electric GSE units on hand at the end of one year of operation. The new §114.462(c) applies to airports which become subject to the rule after the effective date. Owners or operators of GSE at these airports must comply with the emission reduction requirements of §114.462(a) or (b), whichever is applicable. However, the owner or operator of GSE may comply with the 20% reduction on December 31, 2003, or December 31 of the year an airport becomes a subject airport; with the 50% reduction on December 31, 2004, or the year after the airport becomes a subject airport; and with the 90% reduction on 2005, or the second year after the airport becomes a subject airport. Because it takes a three-year average to become a subject airport, these fleet operators will have at least a three-year lead time before reductions are required. The commission required 90% instead of 100% reduction for these alternative compliance measures, because availability of electric equipment cannot be considered as it can in subsection (g) of this section. The commission anticipates that fleets complying with subsection (g) will be able to demonstrate that some of their equipment is not available in electric power and so they would

not actually achieve a 100% reduction in emissions. The 90% is intended to approximate this difference.

The proposed new §114.462(d) allows the commission to better enforce the rule by providing that each entity that chooses not to fully electrify its fleet shall submit a plan to the commission by May 1, 2003, or the first May 1st following operation at a subject airport. This plan shall list each GSE unit, its horsepower rating, its emission factor, the total actual annual emissions for each unit in existence in 1996, and provide for the implementation of emission reduction measures to achieve NO<sub>x</sub> emissions in the amount required by §114.462(a), (b), (c), and (e). To provide alternate means of compliance while still achieving emission reductions, the plan may include emission reductions measures which are applied to the GSE fleet itself, and measures which have been achieved elsewhere in the nonattainment area if those measures would be creditable under the commission emissions banking program as defined in 30 TAC §101.29. This plan must be approved by the executive director and the EPA, and should be revised as needed to accurately reflect the compliance plan. New subsection (e) ensures emission reductions for growth after 1996, specifying that beginning December 31, 2004, owners and operators of GSE subject to §114.462(a), (b), or (c) must demonstrate that their non-electric GSE units added to the fleet after December 31, 1996, or after the first year of being subject to the rule, are offset by 90%. Subsection (f) states that the requirements of any enforceable agreement between the EPA, the United States Department of Transportation, and the GSE owners/operators may be included in a plan submitted under §114.462(d).

The proposed new §114.462(g) states that in lieu of compliance with §114.462(a) - (e) an owner or operator of GSE at a subject airport may ensure that the fleet is 100% electric powered by May 1, 2005, or three years after the airport becomes a subject airport. Additionally, §114.462(g) states that for any GSE unit not available for purchase or conversion to electric power, an owner or operator of GSE may meet the requirements of this subsection if it can be shown that the lowest emitting equipment is being used, subject to approval by the executive director and the EPA.

The proposed new §114.466(a) requires that owners or operators subject to §114.462 submit annual GSE fleet reports to be submitted to the executive director. Subsection (b) requires them to maintain copies of the submitted reports for a minimum of three years. For convenience, the commission will permit these reports to be kept in hard-copy or electronic form.

The proposed new §114.469 identifies the counties subject to these rules as being Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties. These counties make up the HGA ozone nonattainment area.

#### FISCAL NOTE: COSTS TO STATE AND LOCAL GOVERNMENT

John Davis, Technical Specialist with Strategic Planning and Appropriations, determined that for the first five-year period these proposed rules are in effect, there will be no significant fiscal implications for units of state and local government as a result of administration or enforcement of the rules. The airlines and businesses that serve the George Bush Intercontinental, William P. Hobby, and Ellington Airports in Harris County will probably incur relatively high costs for the first five-year period of the

proposed rules due to the purchase/lease of cleaner operating GSE needed to meet reduced emission requirements at subject airports; however, those initial costs will be offset by reduced maintenance and fuel costs over time (especially in the case of electric-powered GSE).

The proposed rules will require airports in the eight-county HGA nonattainment area to comply with requirements identical to the existing GSE emission reduction requirements operated at airports in the DFW area. Affected airports are those with 100 or greater air carrier operations per year (excluding general aviation operations, non-fixed wing operations, and military operations), averaged over a three-year period. Owners or operators of GSE subject to this section at the time of the effective date must demonstrate the following emission reductions based on 1996 NO<sub>x</sub> emissions levels: 20% reduction by December 31, 2003; 50% reduction by December 31, 2004; and 90% reduction by December 31, 2005. Owners or operators of GSE not in operation in 1996 at an airport which is a subject airport by the effective date of this rule must demonstrate a reduction of NO<sub>x</sub> emissions which is equal to or greater than the following percentages: 20% reduction by December 31, 2003, or December 31 of the first year of operation, whichever is later; 50% reduction by December 31, 2004, or December 31 of the second year of operation, whichever is later; and 90% reduction by December 31, 2005, or December 31 of the third year of operation, whichever is later. Owners and operators of affected GSE will also be required to submit annual GSE fleet reports to the commission. The reporting is designed to demonstrate compliance with the implementation schedule. This air pollution control program is part of the strategy to reduce NO<sub>x</sub> emissions necessary for the counties included in the HGA nonattainment area to be able to demonstrate attainment with the ozone NAAQS.

The City of Houston, which owns and operates the three affected airports, will be affected if they own or operate GSE. Additionally, there may be costs to the city related to the possible addition or retrofitting of infrastructure which accommodate alternative-fueled GSE at the affected airports. Infrastructure costs for full electrification of GSE at the four affected airports in the DFW area have been estimated by the Air Transport Association to be approximately \$70 million. Presumably estimates for Houston could be similar. Actual infrastructure costs are expected to be lower depending upon the compliance options chosen. The City of Houston could pass some or all of these costs on to its tenants at the airports. The local air pollution control agency having jurisdiction in the area may request reports relating to §114.406 as well. There are no significant fiscal implications anticipated for the City of Houston or other units of state and local government as a result of administration of the proposed rules, except as mentioned in the previous paragraphs.

#### PUBLIC BENEFIT AND COSTS

Mr. Davis also determined that for each year of the first five years the proposed rules are in effect, the public benefit anticipated from enforcement of and compliance with the proposed rules will be the potential reduction in NO<sub>x</sub> emissions from affected airports, potentially improved air quality, and contribution toward demonstration of attainment with the ozone NAAQS within the HGA nonattainment area.

Although GSE owners and operators have a number of options to reduce NO<sub>x</sub> emission levels, because 100% electrification of the GSE fleets provides the greatest degree of emissions reductions and long-term cost effectiveness, this portion of the preamble analyzes the potential cost of GSE electrification at

the George Bush Intercontinental, William P. Hobby, and Ellington Airports. The commission anticipates that GSE owners or operators subject to the proposed rules will incur relatively significant costs in the short term to purchase or lease electric-powered GSE due to the fact that electric-powered GSE is more expensive to purchase relative to fossil-fueled GSE. However, with electric-powered GSE the avoided cost of purchasing fossil fuels and lower maintenance costs are expected to offset the additional purchase/lease costs over time. The commission estimates that the savings achieved from the avoided cost for fossil fuels over the life cycle of the equipment will offset the incremental purchase cost of the electric-powered GSE.

At George Bush Intercontinental Airport, the following airlines will be affected: AeroMexico, American, America West, British Airways, Canadian Airlines, Continental, Delta, Northwest, TWA, United, US Airways, Atlantic Southeast, Lufthansa, Sun Country, KLM Royal Dutch, Comair, Air France, Air Canada, TACA, Federal Express, BAX Global, Aeromexpress, American International, and Trans World Airlines. At William P. Hobby Airport, AirTran, American, Atlantic Southeast, Continental, Delta, Northwest, and Comair will be affected. At Ellington Airport, United Postal Service will be affected. Other businesses at the three affected airports that support airline operations and use GSE will also be required to adhere to the GSE NO<sub>x</sub> emission reduction requirements found in these rules. Tenant entities at the affected airports could be affected by infrastructure costs detailed in the Fiscal Note: Cost to State and Local Government section of this preamble.

The EPA report (420-R-99-007), indicates the cost savings for electric-powered GSE, initial purchase costs for electric GSE are high relative to their fossil-fueled counterparts. The cost premium is almost entirely associated with the required battery pack and recharger. Table I, Life Cycle Costs for Baggage Tractors, presents a comparison of electric baggage tractor initial costs relative to those of fossil-fueled GSE. As indicated, the cost premium ranges from about \$8,000 relative to a diesel-powered tractor, to about \$13,000 relative to a gasoline-powered tractor. These purchase price premiums are augmented by periodic battery replacement requirements (at about \$4,500 every five to six years) that are two to four times higher on a life cycle basis than corresponding fossil fuel engine rebuild or replacement costs. However, these cost premiums are counterbalanced by a substantial reduction in fuel costs. Electric GSE use no fuel during idle periods and such periods can comprise as much as 50% of typical GSE operation. Using an estimated electricity cost of \$.045 per kilowatt-hour, the overall fuel savings associated with high-use GSE operations, such as baggage tractors, can range from \$2,500 per year relative to diesel equipment to over \$6,000 per year relative to gasoline and compressed natural gas equipment. While lower-use GSE fuel cost savings will be smaller, it is clear that fuel savings alone can offset the entire electric GSE purchase price premium in two to three years. Moreover, electric GSE fuel cost savings will increase as more efficient electric motors and motor controllers continue to evolve.

In addition to reduced fuel costs, the latest generation of electric GSE have demonstrated significantly reduced maintenance requirements. Costs have been estimated to be reduced by as much as two-thirds relative to gasoline- and diesel-powered GSE. The table presents the results of a life cycle cost comparison for a baggage tractor under a high-use operating scenario (i.e., generally used to service

aircraft continuously throughout an operating day such as occurs at high traffic airports). The tabulated costs represent the net present value of the various expenditures required over the 16-year useful life of the tractor. Regardless of whether maintenance costs are assumed to be reduced, the electric-powered tractor consistently exhibits the lowest life cycle costs. Life cycle costs for the electric baggage tractor are estimated to be over 40% lower than the next lowest cost diesel option under a reduced maintenance scenario, and still 10% lower even if maintenance costs are assumed to be identical to conventional gasoline- and diesel-powered GSE maintenance costs.

Precise cost effectiveness estimates for electric GSE are difficult to quantify because the impact of such equipment varies across the pollutants examined and relative to the fossil fuel equipment being replaced, and the emissions performance of local utilities. However, it is clear from the data presented in the table that electric GSE represent the lowest cost option relative to all fossil fuel GSE. Therefore, if an appropriate battery recharging schedule and infrastructure can be established, all derived emission reductions accrue for free. Assuming local utility emissions performance is not too different from average United States utility emission levels, electric GSE are cost effective from an economic standpoint alone.

Figure: 30 TAC Chapter 114 - Preamble

**Table 1**  
**Life Cycle Costs for Baggage Tractors**

<b>Fuel Type</b>	<b>Purchase Cost</b>	<b>Rebuild or Replacement Costs</b>	<b>Fuel Costs</b>	<b>Reduced Maintenance Costs</b>	<b>Total Costs If Reduced Maintenance</b>	<b>Total Costs If Same Maintenance</b>
Gasoline	\$17,000	\$2,568	\$59,481	\$47,089	\$126,139	\$126,139
Diesel	\$22,000	\$1,351	\$27,386	\$47,089	\$97,826	\$97,826
LPG	\$19,000	\$2,568	\$49,072	\$37,176	\$107,816	\$117,729
CNG	\$21,000	\$2,568	\$65,058	\$37,176	\$125,802	\$135,715
Electric	\$30,000	\$5,147	\$5,574	\$15,696	\$56,418	\$87,810

**Assumptions:**

1. 16 year equipment life;
2. 6 year engine replacement interval for gasoline, liquified petroleum gas (LPG), and compressed natural gas (CNG);
3. 8 year engine rebuild interval for diesel;
4. 5 year battery life for electric;
5. \$2,500 unit cost for all rebuilds;
6. \$4,500 unit cost for all battery replacements, equipment used 8 hours per day for 350 days per year;
7. idle is 40% of operating day;
8. gasoline use is 3.2 gallons per hour at \$0.75 (after tax credits) per gallon;
9. diesel use is 1.7 gallons per hour at \$0.65 (after tax credits) per gallon;
10. LNG use is 3.3 gallons per hour at \$0.60 per gallon;
11. CNG use is 3.5 gallons per hour at \$0.75 per gallon (including the cost of refueling facility operation and amortization);
12. electric use is 8.33 kilowatts per operating hour;
13. maintenance costs are \$1.90 per hour for gasoline and diesel;
14. maintenance costs are \$1.50 per hour for LPG and CNG under a reduced maintenance scenario or \$1.90 per hour under a "same maintenance" scenario;
15. maintenance costs are \$0.63 per hour for electric under a reduced maintenance scenario or \$1.90 per hour under a "same maintenance" scenario.

*Technical Support for Development of Airport Ground Support Equipment Emission Reductions (EPA 420-R-99-007, May 1999)*

The EPA report also stated that “. . . generally, there are no technical limitations to the size or type of GSE that can be converted to or replaced with electrically powered equipment. Electrically powered versions of baggage tugs and belt loaders, which together account for over a third of all GSE, are available and in use (although current usage constitutes only a minor fraction of total activity). Additionally, electric powered versions of aircraft pushback tractors, air start units, conditioned air units, forklifts, ground power units, lifts, general purpose vehicles (cars, trucks, and vans), and other specialty GSE are currently available in the marketplace. Electric carts are already fulfilling about half of overall GSE cart demand.”

The following is an excerpt from a study titled *Assessment of Airport Ground Support Equipment Using Electric Power or Low-Emitting Fuels* (Arcadis, Geraghty and Miller, July 20, 1999) that indicates the costs for electric-powered GSE. The study estimated the purchase cost for an electric baggage tractor to be \$24,250; an electric belt loader to be \$30,000; and an electric aircraft tug to be \$85,000. Their gasoline-powered equivalents are \$16,000, \$27,000, and \$72,000, respectively. The diesel-powered equivalents are \$19,000, \$29,000, and \$72,000, respectively. The study also estimated the GSE population in California. If airport GSE population within the HGA area is similar, then the baggage tractors make up 44%; belt loaders make up 20%; and aircraft tugs make up 6% of the total GSE. If the estimated 3,154 pieces of GSE at the affected airports are equally proportioned and assuming none of the current GSE is electric-powered, the commission estimates that there are 1,388 baggage tractors, 631 belt loaders, and 189 aircraft tugs. Applying the cost from the Geraghty and Miller study, the estimated total cost for 70% of the equipment at the affected airports is \$68.6 million. Assuming that the remaining 30% of the equipment, or 946 units, are lower cost equipment in the \$10,000 to \$20,000

range, the total cost should not be in excess of \$87.5 million less trade-in, transfer, or sale of current equipment. As stated previously, the commission also anticipates that additional costs associated with replacing current GSE with electric-powered GSE will be offset with fuel and maintenance savings over time. The commission estimates that the cost of the reporting requirements in the proposed rules will not be significant.

#### SMALL BUSINESS AND MICRO-BUSINESS IMPACT ANALYSES

The commission anticipates no adverse fiscal implications to small businesses and micro-businesses as a result of implementing the proposed rules, because there are no known small or micro-businesses that own and operate GSE at the George Bush Intercontinental, William P. Hobby, or Ellington Airports. If there are small or micro-businesses that own GSE for the purpose of delivering their products to the aircraft; providing maintenance support for aircraft at affected airports; or renting/leasing GSE to airlines or related companies which provide services to the airlines; their costs will be similar to those specified for businesses in general in the PUBLIC BENEFITS AND COSTS section of this preamble.

The Geraghty and Miller study estimated the costs for electric-powered GSE. The study estimated the purchase cost for an electric baggage tractor to be \$24,250; an electric belt loader to be \$30,000; and an electric aircraft tug to be \$85,000. The commission anticipates that some of the equipment used by affected small or micro-businesses may be lower cost units in the \$10,000 to \$30,000 range. Actual total costs would be dependent on the amount and types of GSE used by the business. The commission also anticipates that costs will be mitigated by the trade-in, transfer, or sale of current equipment. As stated previously, the commission anticipates that additional costs associated with replacing current GSE

with electric-powered GSE will be offset with fuel and maintenance savings over time, and that the cost of the reporting requirements in the proposed rules will not be significant.

#### DRAFT REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking meets the definition of a “major environmental rule” as defined in that statute. “Major environmental rule” means a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The proposed rules are intended to protect the environment or reduce risks to human health from environmental exposure to ozone and could affect in a material way, a sector of the economy, competition, and the environment. The proposed rules regarding airports operating in the HGA ozone nonattainment area, impose requirements to reduce the NO<sub>x</sub> emission levels at the airports through the conversion of fossil-fueled GSE to electric-powered GSE, or equivalent conversion measures which meet the required emission reduction levels, over a three- to four-year period. This air pollution control program is part of the strategy to reduce NO<sub>x</sub> emissions necessary for the counties included in the HGA ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. Although the proposed rulemaking meets the definition of a “major environmental rule” as defined in the Texas Government Code, and is considered a major environmental rule, §2001.0225 only applies to a major environmental rule, the result of which is to: 1. exceed a standard set by federal law, unless the rule is specifically required by state law; 2. exceed an express requirement of state law,

unless the rule is specifically required by federal law; 3. exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4. adopt a rule solely under the general powers of the agency instead of under a specific state law.

This rulemaking does not meet any of these four applicability requirements of a “major environmental rule.” Specifically, the proposed rules regarding airports operating in the HGA ozone nonattainment area, impose requirements to reduce the NO<sub>x</sub> emission levels at the airports through the conversion of fossil-fueled GSE to electric-powered GSE, or equivalent conversion measures which meet the required emission reduction levels. These requirements are necessary to meet the ozone NAAQS set by the EPA under 42 USC, §7409, and therefore meet a federal requirement. Provisions of 42 USC, §7410, require states to adopt a SIP which provides for “implementation, maintenance, and enforcement” of the primary NAAQS in each air quality control region of the state. While §7410 does not require specific programs, methods, or reductions in order to meet the standard, state SIPs must include “enforceable emission limitations and other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance as may be necessary or appropriate to meet the applicable requirements of this chapter,” (meaning Chapter 85, Air Pollution Prevention and Control). It is true that 42 USC does require some specific measures for SIP purposes, like the inspection and maintenance program, but those programs are the exception, not the rule, in the SIP structure of 42 USC. The provisions of 42 USC recognize that states are in the best position to determine what programs and controls are necessary or appropriate in order to meet the NAAQS. This flexibility allows states, affected industry,

and the public, to collaborate on the best methods for attaining the NAAQS for the specific regions in the state. Even though 42 USC allows states to develop their own programs, this flexibility does not relieve a state from developing a program that meets the requirements of §7410. Thus, while specific measures are not generally required, the emission reductions are required. States are not free to ignore the requirements of §7410 and must develop programs to assure that the nonattainment areas of the state will be brought into attainment on schedule.

The requirement to provide a fiscal analysis of proposed regulations in the Texas Government Code was amended by Senate Bill 633 (SB 633) during the 75th Legislative Session, 1999. The intent of SB 633 was to require agencies to conduct a regulatory impact analysis (RIA) of extraordinary rules. These are identified in the statutory language as major environmental rules that will have a material adverse impact and will exceed a requirement of state law, federal law, or a delegated federal program, or are adopted solely under the general powers of the agency. With the understanding that this requirement would seldom apply, the commission provided a cost estimate for SB 633 that concluded “based on an assessment of rules adopted by the agency in the past, it is not anticipated that the bill will have significant fiscal implications for the agency due to its limited application.” The commission also noted that the number of rules that would require assessment under the provisions of the bill was not large. This conclusion was based, in part, on the criteria set forth in the bill that exempted proposed rules from the full analysis unless the rule was a major environmental rule that exceeds a federal law. As previously discussed, 42 USC does not require specific programs, methods, or reductions in order to meet the NAAQS; thus, states must develop programs for each nonattainment area to ensure that area will meet the attainment deadlines. Because of the ongoing need to address nonattainment issues, the

commission routinely proposes and adopts SIP rules. The legislature is presumed to understand this federal scheme. If each rule proposed for inclusion in the SIP was considered to be a major environmental rule that exceeds federal law, then every SIP rule would require the full RIA contemplated by SB 633. This conclusion is inconsistent with the conclusions reached by the commission in its cost estimate and by the Legislative Budget Board (LBB) in its fiscal notes. Since the legislature is presumed to understand the fiscal impacts of the bills it passes, and that presumption is based on information provided by state agencies and the LBB, the commission believes that the intent of SB 633 was only to require the full RIA for rules that are extraordinary in nature. While the SIP rules will have a broad impact, that impact is no greater than is necessary or appropriate to meet the requirements of the FCAA. For these reasons, rules proposed for inclusion in the SIP fall under the exception in Texas Government Code, §2001.0225(a), because they are required by federal law. The commission performed photochemical grid modeling which predicts that NO<sub>x</sub> emission reductions, such as those required by these rules, will result in reductions in ozone formation in the HGA ozone nonattainment area. This rulemaking does not exceed an express requirement of state law. This rulemaking is intended to obtain NO<sub>x</sub> emission reductions which will result in reductions in ozone formation in the HGA ozone nonattainment area and help bring HGA into compliance with the air quality standards established under federal law as NAAQS for ozone. The rulemaking does not exceed a standard set by federal law, exceed an express requirement of state law (unless specifically required by federal law), or exceed a requirement of a delegation agreement. The rulemaking was not developed solely under the general powers of the agency, but was specifically developed to meet the NAAQS established under federal law and authorized under Texas Clean Air Act (TCAA), §§382.011, 382.012, 382.017, 382.019, and 382.039.

The commission invites public comment on the draft regulatory impact analysis determination.

#### TAKINGS IMPACT ASSESSMENT

The commission prepared a takings impact assessment for this rulemaking action in accordance with Texas Government Code, §2007.043. The following is a summary of that assessment. The specific purpose of the rulemaking is to require airport GSE to be electric-powered or to lower emissions by any means available which will act as an air pollution control strategy to reduce NO<sub>x</sub> emissions necessary for the eight counties included in the HGA ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. The proposed affected area consists of the eight-county HGA ozone nonattainment area, which includes Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties. Promulgation and enforcement of the rules may burden private real property, because this proposed rulemaking action may result in investment in the permanent installation of supplied utilities at the major airports in the HGA area. Although the proposed rules do not directly prevent a nuisance or prevent an immediate threat to life or property, they do prevent a real and substantial threat to public health and safety and partially fulfill a federal mandate under 42 USC, §7410. Specifically, the emission limitations and control requirements within this proposal were developed in order to meet the ozone NAAQS set by the EPA under 42 USC, §7409. States are primarily responsible for ensuring attainment and maintenance of the NAAQS once the EPA has established them. Under 42 USC, §7410 and related provisions, states must submit, for approval by the EPA, SIPs that provide for the attainment and maintenance of NAAQS through control programs directed to sources of the pollutants involved. Therefore, the purpose of the rule proposal is to implement a GSE emissions reduction program in the HGA ozone nonattainment area which is

necessary for the area to meet the air quality standards established under federal law as NAAQS.

Consequently, the exemption which applies to this rulemaking action is that of an action reasonably taken to fulfill an obligation mandated by federal law; therefore, these proposed rules will not constitute a takings under the Texas Government Code, Chapter 2007.

#### CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission determined that the proposed rulemaking relates to an action or actions subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act of 1991, as amended (Texas Natural Resource Code, §§33.201 et seq.), and the commission rules in 30 TAC Chapter 281, Subchapter B, concerning Consistency with the Texas Coastal Management Program. As required by 31 TAC §505.11(b)(2) and 30 TAC §281.45(a)(3), relating to actions and rules subject to the CMP, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission reviewed this action for consistency with the CMP goals and policies in accordance with the rules of the Coastal Coordination Council, and determined that the action is consistent with the applicable CMP goals and policies. The CMP goal applicable to this rulemaking action is the goal to protect, preserve, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas (31 TAC §501.12(1)). No new sources of air contaminants will be authorized and NO<sub>x</sub> air emissions will be reduced as a result of these rules. The CMP policy applicable to this rulemaking action is the policy that commission rules comply with regulations in 40 Code of Federal Regulations (CFR), to protect and enhance air quality in the coastal area (31 TAC §501.14(q)). This rulemaking action complies with 40 CFR 50, National Primary and Secondary Ambient Air Quality Standards, and 40 CFR 51, Requirements for Preparation, Adoption,

and Submittal Of Implementation Plans. Therefore, in compliance with 31 TAC §505.22(e), this rulemaking action is consistent with CMP goals and policies.

Interested persons may submit comments on the consistency of the proposed rules with the CMP during the public comment period.

#### ANNOUNCEMENT OF HEARINGS

The commission will hold public hearings on this proposal at the following times and locations:

September 18, 2000, 10:00 a.m., Lone Star Convention Center, 9055 Airport Road (FM 1484), Conroe; September 18, 2000, 7:00 p.m., Lake Jackson Civic Center, 333 Highway 332 East, Lake Jackson; September 19, 2000, 10:00 a.m. and 7:00 p.m., George Brown Convention Center, 1001 Avenida de Las Americas, Houston; September 20, 2000, 9:00 a.m., VFW Hall, 6202 George Bush Drive, Katy; September 20, 2000, 6:00 p.m., East Harris County Community Center, 7340 Spencer, Pasadena; September 21, 2000, 10:00 a.m., Southeast Texas Regional Airport Media Room, 6000 Airline Drive, Beaumont; September 21, 2000, 2:00 p.m., Amarillo City Commission Chambers, City Hall, 509 East 7th Avenue, Amarillo; September 21, 2000, 6:00 p.m., Charles T. Doyle Convention Center, 21st Street at Phoenix Lane, Texas City; September 22, 2000, 10:00 a.m., Dayton High School, 2nd Floor Lecture Room, 3200 North Cleveland Street, Dayton; El Paso City Council Chambers, 2 Civic Center Plaza, 2nd Floor, El Paso; September 22, 2000, 2:00 p.m., North Central Texas Council of Governments, 2nd Floor Board Room, 616 Six Flags Drive, Suite 200, Arlington; and September 25, 2000, 10:00 a.m., Texas Natural Resource Conservation Commission, 12100 North I-35, Building E, Room 201S, Austin. The hearings are structured for the receipt of oral or written

comments by interested persons. Registration will begin one hour prior to each hearing. Individuals may present oral statements when called upon in order of registration. A four-minute time limit will be established at each hearing to assure that enough time is allowed for every interested person to speak. Open discussion will not occur during each hearing; however, agency staff members will be available to discuss the proposal one hour before each hearing, and will answer questions before and after each hearing.

Persons with disabilities who have special communication or other accommodation needs, who are planning to attend a hearing, should contact the Office of Environmental Policy, Analysis, and Assessment at (512) 239-4900. Requests should be made as far in advance as possible.

#### SUBMITTAL OF COMMENTS

Written comments may be submitted to Heather Evans, Office of Environmental Policy, Analysis, and Assessment, MC 206, P.O. Box 13087, Austin, Texas 78711-3087, faxed to (512) 239-4808, or emailed to [siprules@tnrcc.state.tx.us](mailto:siprules@tnrcc.state.tx.us). All comments should reference Rule Log Number 2000-011E-114-AI. Comments must be received by 5:00 p.m., September 25, 2000. For further information, please contact Roland Castaneda at (512) 239-0774, or Alan Henderson at (512) 239-1510.

#### STATUTORY AUTHORITY

The new sections are proposed under the Texas Water Code (TWC), §5.103, which authorizes the commission to adopt rules necessary to carry out its powers and duties under the TWC, and under the Texas Health and Safety Code, TCAA, §382.017, which provides the commission the authority to

adopt rules consistent with the policy and purposes of the TCAA. The new sections are also proposed under TCAA, §382.011, which authorizes the commission to control the quality of the state's air; §382.012, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air; §382.019, which authorizes the commission to adopt rules to control and reduce emissions from engines used to propel land vehicles; and §382.039, which authorizes the commission to develop and implement transportation programs and other measures necessary to demonstrate attainment and protect the public from exposure to hazardous air contaminants from motor vehicles.

The proposed new sections implement TCAA, §382.002, relating to Policy and Purpose; §382.011, relating to General Powers and Duties; §382.012, relating to State Air Control Plan; §382.019, relating to Methods Used to Control and Reduce Emissions from Land Vehicles; and §382.039, relating to Attainment Program.

**CHAPTER 114 : CONTROL OF AIR POLLUTION FROM MOTOR VEHICLES**

**SUBCHAPTER I : NON-ROAD ENGINES**

**DIVISION 7 : HOUSTON/GALVESTON AIRPORT GROUND SUPPORT EQUIPMENT**

**§§114.460, 114.462, 114.466, 114.469**

**§114.460. Definitions.**

Unless specifically defined in the TCAA or in the rules of the commission, the terms used by the commission have the meanings commonly ascribed to them in the field of air pollution control. In addition to the terms which are defined by the TCAA, the following words and terms, when used in this division, shall have the following meanings, unless the context clearly indicates otherwise.

**(1) Air carrier** – An entity providing air transportation of persons or goods for remuneration.

**(2) Air carrier operations** – Landings and takeoffs of air carriers (excluding general aviation, non-fixed wing aircraft operations, and military operations) at airports for the purpose of transportation of persons and/or goods, or for the purpose of maintenance.

**(3) Ground support equipment (GSE)** – Equipment that is used to service aircraft during passenger and/or cargo loading and unloading, maintenance, and other ground-based operations (excluding the servicing of general aviation aircraft, non-fixed wing aircraft, and military aircraft).

This includes, but is not limited to, aircraft pushback tugs, baggage and cargo tugs, carts, forklifts, lifts, ground power units, air conditioning units, air start units, and belt loaders. Equipment that is used during freezing weather only is excluded from this definition (including, but not limited to, ground heaters and deicing vehicles).

**(4) Ground support equipment fleet** - A group of ground support equipment controlled by the owner or operator at the same location. For purposes of compliance with the requirements of this division, a unit of GSE which is leased on a long-term basis (12 months or more) shall be considered part of the fleet of the lessee while a unit of GSE which is leased on a short-term basis (less than 12 months) shall be considered part of the fleet of the lessor.

**(5) GSE average emission factor** - For purposes of calculating emission reductions needed for compliance with §114.462(b) of this title (relating to Control Requirements), the following factor should be used depending on engine size.

Figure: 30 TAC §114.460(5)

<u>≥50 horsepower (hp) -</u>	<u>0.0581 tons/year per GSE unit</u>
<u>&gt; 50 hp and ≤300 hp -</u>	<u>0.5279 tons/year per GSE unit</u>
<u>&gt; 300 hp and ≤750 hp -</u>	<u>2.1803 tons/year per GSE unit</u>

(6) Subject airport - For purposes of compliance with this division, airports which have more than or equal to 100 air carrier operations per year, averaged over a three-year period. For airports which do not meet this average operating level on the effective date of this rule, the date which the airport becomes a subject airport is the January 1st following three years at or above that average operating level.

**§114.462. Control Requirements.**

(a) In the counties listed in §114.469 of this title (relating to Affected Counties and Compliance Schedules), owners or operators of a ground support equipment (GSE) fleet at an airport which was a subject airport by the effective date of this rule must demonstrate a reduction of oxides of nitrogen (NO<sub>x</sub>) emissions which is equal to or greater than the following percentage of NO<sub>x</sub> emissions attributable to the GSE fleet during the 1996 calendar year in accordance with the following schedule:

(1) 20% reduction by December 31, 2003;

(2) 50% reduction by December 31, 2004; and

(3) 90% reduction by December 31, 2005.

(b) For a GSE fleet which was not in operation in 1996, owners or operators of the GSE fleet at an airport which was a subject airport by the effective date of this rule must demonstrate a reduction

of NO<sub>x</sub> emissions which is equal to or greater than the following percentages of the amount obtained by multiplying the number of non-electric GSE units at the end of one year of operation by the GSE average emission factor as defined in §114.460 of this title (relating to Definitions) in accordance with the following schedule:

(1) 20% reduction by December 31, 2003 or December 31 of the first year of operation, whichever is later;

(2) 50% reduction by December 31, 2004 or December 31 of the second year of operation, whichever is later; and

(3) 90% reduction by December 31, 2005 or December 31 of the third year of operation, whichever is later.

(c) At an airport which becomes a subject airport after the effective date of this rule, owners or operators of a GSE fleet shall meet the emission reduction requirements of subsection (a) or (b) of this section in accordance with the following schedule:

(1) 20% reduction by December 31, 2003 or December 31 of the year the airport becomes a subject airport, whichever is later;

(2) 50% reduction by December 31, 2004 or December 31 of the year after the airport becomes a subject airport, whichever is later; and

(3) 90% reduction by December 31, 2005 or December 31 of the second year after the airport becomes a subject airport, whichever is later.

(d) Each GSE fleet subject to this subsection shall submit a plan to the executive director by May 1, 2003, or the first May 1st following operation at a subject airport, which lists each GSE unit, an emission factor for each unit, and the total actual annual emissions for each unit in existence in calendar year 1996. The plan shall provide for the implementation of emission reduction measures to achieve NO<sub>x</sub> emissions in the amount required by subsections (a), (b), or (c) of this section. The plan may include emission reductions measures which are applied to the GSE fleet itself and measures which have been achieved elsewhere within the nonattainment area as long as those measures would be creditable in accordance with the commission's emissions banking program as defined in §101.29 of this title (relating to Emission Credit Banking and Trading). The plan shall be revised as necessary and is subject to the approval of the executive director and the EPA.

(e) Beginning in December 31, 2004, all owners or operators of GSE fleets subject to subsections (a), (b), or (c) of this section must demonstrate that emissions from any non-electric GSE added to the GSE fleet after December 31, 1996, or after the first year of operation at a subject airport, is offset by 90%. This subsection does not apply to GSE which is added to the fleet to replace existing GSE.

(f) In the event that the EPA, the United States Department of Transportation, and the GSE owners/operators adopt an enforceable agreement, the measures defined within that agreement may be used in a plan submitted in accordance with subsection (d) of this section.

(g) In lieu of compliance with subsections (a) - (e) of this section, an owner or operator of a GSE fleet at a subject airport may ensure that the fleet is 100% electric powered by May 1, 2005, or three years after the airport became a subject airport, whichever is later. For any GSE unit which is not available for purchase or conversion to electric power, an owner or operator may meet the requirement of this subsection if the owner or operator demonstrates that the lowest emitting equipment is used, subject to the approval of the executive director and the EPA.

**§114.466. Reporting and Recordkeeping Requirements.**

(a) Owners or operators affected by §114.462 of this title (relating to Control Requirements) must submit annual ground support equipment (GSE) fleet reports for the previous year starting on February 1, 2004, and every February 1 thereafter. The report shall be submitted to the executive director and must contain, at a minimum:

(1) the GSE fleet identification number when assigned by the commission;

(2) area in which the affected GSE primarily operate;

(3) the purchase date, make, model, model year, horsepower rating, and fuel type for each unit of GSE;

(4) a demonstration of compliance with the applicable control requirements under §114.462 of this title; and

(5) any other information requested in writing by the executive director necessary to demonstrate compliance with this division.

(b) The owner or operator of GSE shall maintain copies of submitted reports required by subsection (a) of this section on-site either in hard copy or electronically at the reported fleet address for a minimum of three years, and upon request shall make such reports immediately available to the executive director or local air pollution control agencies having jurisdiction in the area.

**§114.469. Affected Counties and Compliance Schedules.**

Owners or operators of ground equipment at subject airports in Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties shall be in compliance with §114.462 of this title (relating to Control Requirements) and §114.466 of this title (relating to Reporting and Recordkeeping Requirements) no later than the dates specified therein.