

The Texas Natural Resource Conservation Commission (commission or TNRCC) adopts new §114.400 (Definitions), §114.402 (Control Requirements), §114.406 Reporting and Recordkeeping Requirements), and §114.409 (Affected Counties and Compliance Schedules). The commission adopts these revisions in new Subchapter I (Non-Road Engines), new Division 1 (Airport Ground Support Equipment) of Chapter 114 (Control of Air Pollution from Motor Vehicles) and to the State Implementation Plan (SIP) in order to control ground-level ozone in the Dallas/Fort Worth (DFW) ozone nonattainment area through the electrification of airport ground support equipment (GSE), or the use of alternative emission reduction measures. The new sections are adopted with changes to the proposed text as published in the December 31, 1999 issue of the *Texas Register* (24 TexReg 11938).

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

The DFW ozone nonattainment area, an area defined by Collin, Dallas, Denton, and Tarrant Counties, was originally designated “moderate” under the Federal Clean Air Act (FCAA) Amendments of 1990 (42 United States Code (USC)) and thus was required to attain the one-hour national ambient air quality standard (NAAQS) for ozone by November 15, 1996. As required by the FCAA, the state submitted an attainment demonstration plan in 1994 which projected attainment of the ozone NAAQS by 1996. This plan was based on a volatile organic compound (VOC) reduction strategy. DFW did not attain the ozone NAAQS in 1996. The United States Environmental Protection Agency (EPA) is authorized to redesignate an area to the next higher classification (“bump up”) if the area fails to attain by the required date. In March 1998, in accordance with 42 USC, §7511(b)(2), the EPA reclassified the DFW area from moderate to serious, based on monitored exceedances of the ozone NAAQS between 1994 and 1996. The reclassification required the state to submit a revised SIP that demonstrates that the

ozone NAAQS will be met in DFW by November 15, 1999. Because the DFW area continued to exceed the ozone NAAQS in 1999, the EPA may bump up the area to the severe classification. Regardless, the EPA and 42 USC, §7410 and §7502(a)(2), require the state to submit a revised SIP which demonstrates that the area will attain the ozone NAAQS as expeditiously as practicable. The rules adopted for DFW in this notice are one element of the ozone attainment demonstration SIP for DFW being adopted concurrently in this issue of the *Texas Register*. The commission plans to submit this SIP to the EPA in April 2000.

In 1996, the commission began to develop new modeling for the DFW area and now is using newer air quality models with improved meteorological and emission inputs. The newer modeling since 1996 shows that reductions of oxides of nitrogen (NO_x) in the DFW area and regionally will be necessary to attain the ozone NAAQS. The current modeling also shows that achieving the ozone NAAQS in the DFW area will require strenuous effort because the area's rapid growth has resulted in increasing amounts of emissions due to increased levels of activity in the area. The emissions from increased activity are offsetting the emission reductions being achieved from new emission standards applicable to the on-road and non-road engine source categories which dominate the emissions inventory in the DFW area.

The emission reduction requirements adopted as part of this SIP package are the outcome of a development process which involved the EPA, the commission, local elected officials, citizens, industrial stakeholders, air quality researchers, and hired consultants. Local officials from the DFW

area have formally submitted a resolution to the commission requesting the inclusion of many specific emission reduction strategies, including the one contained in these rules.

The NO_x reductions required for the area to attain the ozone NAAQS have been estimated by extensive use of sophisticated air quality grid modeling which, because of its scientific and statutory grounding, is the chief policy tool for designing emission reductions. Title 42 USC, §7511a(c)(2), requires the use of photochemical grid modeling for ozone nonattainment areas designated serious, severe, or extreme.

The modeling has been conducted with input from a technical advisory committee. Hundreds of emission control strategies were considered in developing the modeling. Varying degrees of reductions from point sources and mobile sources were analyzed in at least 50 modeling iterations, to test the effectiveness of different NO_x reductions. The attainment demonstration modeling submitted for public hearing and comment concurrently with these rules shows that, in order for DFW to achieve the ozone NAAQS by 2007, almost all of the practicably achievable NO_x reductions are necessary from each emission source category, including reductions from counties surrounding the DFW nonattainment area. Therefore, each strategy, including the reductions required by this rulemaking, is crucial to meet federal requirements for the DFW nonattainment area.

The North Texas Clean Air Steering Committee (steering committee) representing the DFW ozone nonattainment area counties requested an ozone pollution control strategy to limit the use of airport GSE to electric-powered GSE to reduce NO_x emissions necessary for the counties included in the DFW ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. At the request of the steering committee, the commission developed an airport GSE electrification strategy in the

DFW nonattainment area which requires the conversion of GSE to electric-powered GSE at the airports which have the most air carrier operations. After many meetings with the affected airlines and airports, the commission has made it possible for owners and operators of GSE to either meet a 100% electrification goal or meet an emission reduction goal of 90% by any alternative measure. The GSE conversion is to be phased-in over time and be complete by December 31, 2005. The adopted rules are necessary for the DFW nonattainment area to be able to demonstrate attainment with the ozone NAAQS.

GSE is used the moment an aircraft lands, until it takes off. GSE is comprised of a variety of vehicles and equipment that are 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, maintenance, and catering. Airlines and airports employ specially designed GSE to support all these operations. Electrical power and conditioned air are generally required throughout gate operation periods for both passenger and crew comfort and safety, and many times these services are also provided by GSE. 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 available as well.

The initial cost of purchasing electric-powered GSE is higher compared to diesel-powered and gasoline-powered GSE. A recent report by the EPA estimates 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 a less expensive source of power, so there will be savings in the cost of fuel. This fuel savings will offset the increased electric GSE price in two to three years. Additionally, the rules as adopted would allow GSE owners or operators to achieve the emission reductions in other ways in the event that electrification is infeasible for that fleet.

The majority of GSE engines are “uncontrolled” from an emission perspective. A majority of GSE use engines that have not been designed for low emissions. Therefore, GSE emit significant amounts of VOC and NO_x. A recent EPA study of four major airports in the United States indicated that GSE is responsible for 15-20% of airport-related NO_x and 10-15% of airport-related VOC.

The DFW area is nonattainment for ozone. Precursors to ozone include VOC and NO_x. The replacement of internal combustion engine GSE with electric-powered GSE, or the use of alternative emission reduction measures at the airports will greatly limit the VOC and NO_x emissions from this source and, therefore, help control ground-level ozone. GSE emissions for the DFW nonattainment area are projected to be reduced to 1.06 tons per day (tpd) of NO_x, in 2007. These rules will reduce the emissions from the source by 90%, thereby greatly helping control ground-level ozone.

SECTION BY SECTION DISCUSSION

The new §114.400 adds new definitions for “air carrier,” “air carrier operations,” “ground support equipment,” and “ground support equipment fleet,” “GSE average emission factor,” and “subject airport.” The terms “GSE average emission factor” and “subject airport” are added as new §114.400(5) and (6), respectively. “GSE average emission factor” is defined to allow fleets which did not operate in 1996 to establish a baseline for reductions. The changes are the result of further research and many meetings between the commission, federal government agencies, North Central Texas Council of Governments (NCTCOG), airline companies, and airfields. The definition of “air carrier,” §114.400(1) was modified for purposes of clarity. The new definition no longer describes an air carrier as a “person,” but rather an “entity.” The modified definition of “air carrier operations,” §114.400(2), includes an exemption for general aviation operations, non-fixed winged aircraft operations, and military operations in response to comments regarding the fact that these types of operations were not specifically referenced as exempted in the preamble. A general aviation exemption was made due to the small population and activity level of general aviation GSE units. Non-fixed winged operations were exempted so that those places that rotorcraft landed (e.g., hospitals, buildings, stadiums, etc.) would not be considered “subject airports.” The military operations exemption was made for reasons of military preparedness. The modified definition of “ground support equipment (GSE),” §114.400(3), now includes exemptions for GSE which service general aviation aircraft, non-fixed wing aircraft, military aircraft, and for GSE that is only used during freezing weather. The last part of the modified definition was developed in response to the fact that equipment that is only utilized during freezing weather is highly unlikely to lead to the formation of ozone, since it is not used during conditions which are conducive to ozone formation. The modified definition of “ground support equipment fleet,”

§114.400(4), was developed in order to describe in better detail who would be responsible for control of GSE emissions. The new definition now explains that anyone who leases a unit of GSE for 12 months or longer will have that unit of GSE considered part of his/her fleet. If the unit is leased for less than 12 months, the unit is still considered part of the lessors fleet. The definition of “GSE average emission factor,” in §114.400(5) was added in order to provide another method of compliance other than 100% electrification for owners and operators of GSE at subject airports while still providing air quality improvement assurances. The new definition helps establish a baseline for emission reductions for those fleets which were not in operation in 1996. Three emission factors are given, one for each grouping of horsepower. The definition of “Subject airport” simplifies the rule by condensing the version of §114.402(b) and (c) presented in the initial rule. The new definition will require owners or operators of ground support equipment fleets located at airports in Collin, Dallas, Denton, and Tarrant Counties, and which experience more than or equal to 100 commercial air carrier operations per year, as averaged over a three-year period, to meet the requirements specified in this rule. This rule contains a 100 air operations three-year average requirement to ensure that the number of air carrier operations per year is representative of the level of activity at an airport. The number 100 air operations was chosen in order to limit application of the rule to capture the vast majority of the GSE in the DFW ozone nonattainment area which operate at the four largest commercial airports (DFW International, Dallas Love Field, Alliance, and Meachem). These rules will not affect the general aviation operations due to their relatively low usage, nor the military operations which must have GSE that is able to be deployed and operated in any part of the world.

Many GSE operators have submitted comments stating that 100% electrification may be infeasible due to infrastructure requirements for electric equipment. In order to provide more flexibility which still achieving equivalent reductions, the commission included an alternative which allows each owner and operator to submit a plan to achieve the reductions through other means. This alternative would allow the reductions to be achieved anywhere within the nonattainment area depending upon the individual fleet and the market for credits. Some owners and operators may find it more economical to purchase credits instead of installing controls themselves.

The new §114.402(a), explains that affected owners and operators of GSE must demonstrate a reduction of NO_x emissions which is equal to or greater than the percentages of NO_x emissions attributable to the GSE fleet during the 1996 calendar year in accordance with the following: 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. Utilizing the emission factors from §114.400(6), the owner and/or operator of the fleet must demonstrate the following NO_x 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 §114.402(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 §114.402(a) or (b), whichever is applicable. However, the

owner or operator of GSE may comply on 2003, or December 31 of the year an airport becomes a subject airport; 2004 or the year after the airport becomes a subject airport; 2005 or the second year after the airport becomes a subject airport. Since it takes a three year average to become a subject airport, these fleet operators will have at least three years 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 meant to approximate this difference.

The new §114.402(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_x emissions in the amount required by §114.402(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 of the commission 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 §114.402(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 §114.402(d).

The new §114.402(g) states that in lieu of compliance with §114.402(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 §114.402(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. This subsection captures the electrification requirement in the proposed rule to ensure that it is still an option for compliance. This requirement has been pushed back to 2005 due to comments regarding the need for significant infrastructure improvements.

The new §114.406(a) and (b) have been modified for clarity. Subsection (a) requires that owners or operators subject to §114.402 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 date of the first report has been pushed back to reflect the later compliance schedule in the control requirements.

The new §114.409 specifies the counties (Collin, Dallas, Denton, and Tarrant) that are subject to this rule. This section has had minor changes since proposal for clarity and to reflect other changes already discussed. The title was also changed to be consistent with the other rules.

FINAL REGULATORY IMPACT ANALYSIS

The commission reviewed the 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 amendments to Chapter 114 are intended to protect the environment or reduce risks to human health from environmental exposure to ozone and may affect in a material way, a sector of the economy, competition, and the environment. The amendments are intended to implement the conversion of fossil-fueled GSE so as to lower GSE emissions 90% - 100% over a three-year period via the use of the use of electric-powered GSE or by any alternative measure, including one that is creditable in accordance with the commission emissions banking program.

This air pollution control program is part of the strategy to reduce NO_x emissions necessary for the counties included in the DFW ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. The steering committee representing the DFW ozone nonattainment area counties requested an air pollution control strategy, including the use of electric-powered GSE, be established to

reduce NO_x emissions necessary to demonstrate attainment with the ozone NAAQS. The amendments are part of the commission response to the request and one element of the proposed DFW Attainment Demonstration SIP. Although the amendments meet the definition of a “major environmental rule” as defined in the Texas Government Code, and are 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 action is not subject to the regulatory provisions of §2001.0225(b), because these rules do not meet any of the four applicability requirements.

Specifically, the program to convert airport GSE in the DFW nonattainment area was developed in order to meet the ozone NAAQS set by EPA under 42 USC, §7409, and therefore meet a federal requirement. States are primarily responsible for ensuring attainment and maintenance of NAAQS once EPA has established those standards. Under 42 USC, §7410, and related provisions, states must submit, for approval by EPA, SIPs that provide for the attainment and maintenance of NAAQS through control programs directed to sources of the pollutants involved. This adoption is not an express requirement of state law, but was developed specifically in order to meet the air quality standards established under federal law as NAAQS, as authorized under the Texas Clean Air Act (TCAA), §382.012 (concerning State Air Control Plan). This adoption is intended to help bring the DFW ozone nonattainment areas into compliance. The amendments do not exceed a standard set by federal law, exceed an express requirement of state law unless specifically required by federal law, nor exceed a

requirement of a delegation agreement. The amendments were not developed solely under the general powers of the agency but were specifically developed to meet the air quality standards established under federal law as NAAQS.

TAKINGS IMPACT ASSESSMENT

The commission prepared a takings impact assessment for these rules 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 lower their emissions, be it through the use of electric-powered GSE or any means available, including that which would be creditable in accordance with the commission's emissions banking program. This activity will act as an air pollution control strategy to reduce NO_x emissions necessary for the four counties included in the DFW ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. The affected area consists of the four-county DFW ozone nonattainment area, which includes Collin, Dallas, Denton, and Tarrant Counties. Promulgation and enforcement of the rules may burden private real property, because this rulemaking action may result in investment in the permanent installation of supplied utilities at the major airports in the DFW area. Some airports, such as DFW International, can and have installed utilities (aircraft power, and air conditioning) at the gates which in effect eliminates the need for a large portion of the GSE fleet. Although these rule revisions 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 adoption 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 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 adoption is to implement a GSE emission reduction program in the DFW 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 these rules is that of an action reasonably taken to fulfill an obligation mandated by federal law. Therefore, these proposed revisions will not constitute a takings under Texas Government Code, Chapter 2007.

COASTAL MANAGEMENT PROGRAM CONSISTENCY REVIEW

The commission determined that the 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 Resources 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 policy applicable to this rulemaking action is the policy that commission rules comply with regulations in 40 Code of Federal Regulations, to protect and enhance air quality in the coastal area (31 TAC §501.14(q)). No new sources of air contaminants will be authorized by the rule amendments. Therefore, in compliance

with 31 TAC §505.22(e), the commission affirms that this rulemaking is consistent with CMP goals and policies.

HEARING AND COMMENTERS

The commission held public hearings on this proposal on January 24, 2000 in El Paso; January 25, 2000 in Austin; January 26, 2000 in Longview and Irving; January 27, 2000 in Dallas Lewisville; January 28, 2000 in Fort Worth; January 31, 2000 in Beaumont and Houston; and February 9, 2000 in Denton. The comment period was originally scheduled to close on February 1, 2000, but was extended until 5:00 p.m. on February 14, 2000 (see the January 21, 2000 issue of the *Texas Register* (25 TexReg 461)).

Seven-hundred thirty-seven commenters submitted oral and/or written testimony: American Airlines (AA); American Lung Association Dallas Regional Office (ALA - Dallas Region); Air Transport Association (ATA); Bell Helicopter Textron (Bell); cities of Cleburne, Dallas, Fort Worth, and Plano; Fort Worth Chamber of Commerce (CoC - Fort Worth); Citizens for a Safe Environment (CSE); Delta Airlines (Delta); Downwinders at Risk (DAR); Dallas/Fort Worth International Airport (DFW Airport); Department of Defense (DoD); Environmental Chemical & Technology Incorporated (ECTI); Environmental Defense on Behalf of Itself (EDBI); Ellis County; EPA; Friends of Meacham International Airport Association (Friends of Meacham); Galaxy Aerospace Company (Galaxy); Lockheed Martin Aerospace Corporation (Lockheed-Martin); Lone Star Energy (Lone Star); LSG Sky Chefs (LSG); League of Women Voters (LWV); Natural Gas Vehicle Association (NGVA); Richardson Aviation (Richardson); Sustainable Economic and Environmental Development (SEED); Fort Worth

Sierra Club (Sierra - Fort Worth); Sierra Club, Lone Star Chapter (Sierra - Lone Star); Dallas Sierra Club (Sierra - Dallas); Southwest Airlines (SWA); Texas Air Crisis Campaign (TACC); Texas Campaign for the Environment (TCE); Texas Citizens' Lobby (TCL); Texas Clean Water Action (TCWA); Texas Public Citizen (TPC); Texas Jet (TxJet); United Parcel Service (UPS); Western Jets (Western); and 698 individuals.

Six-hundred eighty-eight commenters generally supported the proposal, including: Sierra - Dallas, DAR, Sierra - Fort Worth, SEED, TCE, TCWA, TPC, LWV, Plano, Cleburne, ALA - Dallas Region, CSE, Sierra - Lone Star, and 675 individuals.

Five commenters generally opposed the proposal, including: ATA, SWA, Delta, AA, and one individual.

Forty-four commenters suggested changes to the proposal as stated in the ANALYSIS OF TESTIMONY section of this preamble. These include: DFW Airport, Ellis County, Bell, Lockheed Martin, Lone Star, NGVA, LSG, UPS, TxJet, Galaxy, Western, Friends of Meacham, DoD, EDBI, EPA, Dallas, CoC - Fort Worth, Fort Worth, TCL, ECTI, TACC, Richardson, and 22 individuals.

ANALYSIS OF TESTIMONY

Delta, UPS, and SWA each commented that they incorporated the comments of ATA as their own.

ETCI commented that the proposal lets airlines off too lightly. An individual commented that DFW Airport is the single largest point source of air pollution in the DFW area, yet the SIP only requires token changes. They suggested that any means should be utilized to lower emissions at the airport.

The commission will lower NO_x emissions from 10.6 tpd to 1.06 tpd from a major category of mobile sources in the DFW area by regulating the emissions from GSE vehicles at DFW Airport, Love, Meacham, and Alliance airports. The commission believes that this is an aggressive emission control strategy.

UPS commented that the commission would be more successful in cleaning Texas' air if the commission adopted the following principles: polluter pays doctrine; free market preferred over government mandates; industry- and company-neutral regulation; transportation of people and goods treated equally; voluntary actions promoted and recognized; and allowing operational flexibility.

The commission believes that industry specific regulation is often necessary to achieve sufficient reductions. The steering committee representing the DFW nonattainment area requested that the commission adopt a measure which would mandate the use of electric-powered GSE at airports which support air carrier operations. This request is based on the fact that DFW Airport, Love, Meacham, and Alliance Airports emit very large amounts of ozone-producing emissions. The adoption of this rule will lead to air quality improvements, i.e., a reduction to 1.06 tpd of NO_x, and will assist the attainment of the NAAQS for ozone. The commission attempted to incorporate

many of the commenter's principles in the alternative for compliance which would allow the subject entities to find reductions in the market, thus allowing operational flexibility.

UPS proposed "drive slow" days to reduce speeds on certain roads during peak emission periods and restricting idle times for all vehicles such as restricting the use of drive-through lanes.

The commission notes that reduced speed limits have been proposed for certain roads in the DFW area and believes that this measure effectively produces "drive slow" days for peak emission periods. The commission agrees that idle time limits could be effective at reducing vehicular emissions and could be a source of additional reductions. The commission will evaluate the suggestion for possible inclusion in future air quality initiatives.

UPS suggested an improved incident management program in order to clear accident scenes faster, thereby reducing the level of related traffic congestion.

The commission notes that the NCTCOG is coordinating significant improvements and expansions to the DFW area intelligent transportation system (ITS). A primary function of ITS is to manage incidents through roadside cameras, changeable message signs, and computer networks. Using ITS, incident detection and response times are improved and traffic can be efficiently rerouted to reduce accident-related congestion. Although an improved and expanded ITS will reduce vehicle emissions, those reductions have not been quantified for inclusion in the SIP. However, due to the

large number of emission reductions needed, the reductions cannot be achieved from on-road mobile sources, but must also come from non-road sources such as GSE.

TCL commented on the air pollution generated by aircraft ground operations at DFW Airport and advocated an “in-line fast deployment aircraft handling system” which would decrease ground handling of aircraft, per takeoff and landing from an approximate average of 23 minutes, to eight minutes.

The commission will be lowering NO_x emissions to 1.06 tpd from GSE in the DFW area by promulgating the conversion of GSE vehicles, and/or an equivalent emission reduction program, at DFW Airport, Love, Meacham, and Alliance airports. The electrification of GSE is one of the many ways that a subject entity can lower emissions. Other alternatives that would significantly lower emissions at these sources may include the strategy mentioned by the commenter, but would have to be implemented by the airlines, airports, the Federal Aviation Administration (FAA), or the EPA. The commission is working closely with these various groups to meet the goal of additional reductions of harmful emissions at large sources such as airports.

EDBI and the 44 members of the TACC commented that they would have included in the SIP a mandatory reduction in the number of flights allowed in and out of the DFW area, mandatory powering of jets at gates with electric power, reduction of idling on runways, and congestion pricing for airplanes during their rush hour.

All air carrier gates at DFW Airport currently supply aircraft auxiliary power by electricity.

While the other strategies may be achieved voluntarily, they are beyond the statutory power of the commission to the extent that they could have economic and operational consequences. The commission is working with the airlines, airports, the FAA, and the EPA to achieve additional aircraft and airport emission reductions.

An individual commented that cities should be more involved in reducing emissions from the affected airports since cities own and operate them.

The commission agrees with the commenter. Cities like Dallas do own or share ownership of airports. The cities can aid in the initiation of change. The commission is currently working with cities, airlines, airports, the FAA, and the EPA to develop more ideas to lower ozone-producing emissions from the area's airports.

Three individuals commented that Love Field should be "shut down."

This rule applies only to lowering emissions from GSE vehicles. An action such as shutting down an airfield is beyond the commission's authority, would only transfer emissions to another airport, and would have serious economic effects.

An individual commented that airport pollution is a federal problem and that the federal government should be responsible for decreasing emissions from these sources instead of imposing sanctions on the region.

The commenter is partially correct in that many of the activities which occur at airports can only be regulated by the federal government. However, the commission is obligated to act in those areas, such as the subject of this rule, where it has jurisdiction. The commission is working with the airlines, airports, FAA, and EPA to reach agreements that could lead to additional reductions of ozone-producing emissions.

ATA commented that they would like to be able to convert GSE designed to meet EPA off-road spark ignition and compression ignition engines.

Converting GSE to meet EPA off-road spark ignition and compression ignition engines would not achieve emission reductions sufficient to meet air quality goals. However, such a strategy could be included in an emission reduction plan under §114.402(d) and coupled with another strategy to achieve the 90% reduction. Airport GSE can meet lower emission standards than off-road internal combustion engines, as it is more easily converted to electric power due to the uniformity of the terrain on which it operates and readily accessible electric power for recharge.

An individual suggested that ground support equipment should be used to tow airplanes to the runway in addition to their normal duties.

The commission disagrees with this comment and believes that the use of GSE to tow airplanes to the runway could create operational difficulties and a threat to safety. The commission is, however, discussing with airlines, airports, the FAA, and EPA new and innovative ways to use GSE.

An individual commented that limiting the number of gates available to air carriers would be more beneficial in the reduction of NO_x than the electrification of ground support equipment.

An action in this area may be beyond the statutory authority of the commission. The commission also believes that limiting gates would lead to greater aircraft waiting times with a corresponding increase in emissions not only from aircraft but also from ground transportation.

An individual felt the proposal would raise the cost of air carrier usage.

Based on the relatively moderate cost of electric-powered GSE, the extremely low cost of electric power as compared to gasoline fuel, lower maintenance costs, the trade-in value of old GSE, and the fact that electric GSE do not use fuel during idle periods (which constitutes approximately 50% of GSE operation), the commission believes that the owners and operators of GSE will be capable of converting their diesel and gasoline GSE fleets without raising ticket prices, and therefore disagrees with the commenter. Additionally, the rule now allows owners and operators the flexibility to choose various types of emission control technology, some less expensive and more technically feasible than electric-powered GSE.

An individual stated that GSE is not subject to emissions inspection and believes that they should be inspected annually.

An inspection program is meant to ensure that vehicles are meeting the emission level for which they are designed. Because current GSE is not designed for low emissions, the commission does not believe that such a program would result in any emission reductions.

An individual stated that the policy for the electrification of all GSE should be extended to include all major urban areas in East Texas.

The commission is evaluating a separate rule proposal very similar to this rule for the eight-county Houston nonattainment area and would consider other urban areas if evaluation of air quality plans indicates such a rule would be beneficial and necessary.

DFW Airport commented that they would like the TNRCC to seek the affected airlines' input on the rule.

The commission welcomes meeting with the affected airlines to discuss this rule further and future modifications. The commission has met with members of the affected airlines, including Southwest, Delta, American, and Continental and ATA on a number of occasions. The commission also joined in a meeting with the airlines, the ATA, the FAA, the EPA, NCTCOG,

and DFW Airport. Although all of their preferences could not be incorporated, their comments and suggestions have been taken into consideration throughout the drafting of this rule.

DFW Airport commented that the Texas Natural Resource Conservation Commission mistakenly reported that if airports did not have hydraulics equipment installed at the gates, then the aircraft would require GSE to provide these services. This, they report, is not true. Rather, they report that aircraft use their own auxiliary power units to perform these tasks.

The commission acknowledges the distinction, but does not believe the use of aircraft auxiliary power and the subsequent emissions weakens the case for the electrification of GSE and has made no changes in response to this comment.

DFW Airport commented that it may take approximately eight hours to recharge a battery, hence requiring a recharge station for each unit of GSE.

The length of time that it will take to recharge electric-powered GSE will be determined by many factors. The type of GSE and its recharging equipment are the primary factors. Some chargers can recharge a GSE unit in as little as 45 minutes. In other cases, GSE operators can be taught to recharge throughout the day if the charging station is in the GSE unit's parking space allowing for "opportunity charging" around the clock. Whenever the GSE unit is not in use, it is being recharged. This method is used at Los Angeles International Airport. Also, with proper scheduling, GSE units will be able to operate continuously with no delays. For example, those

owners and operators who do not use either of these systems may take advantage of off-peak hours to charge equipment. The owner or operator may also purchase a mixed fleet containing for example both electric-powered and natural gas-powered GSE. Natural gas-powered vehicles are more quickly refueled compared to recharging electric GSE. The emissions from the natural gas powered vehicles could then be offset using another control strategy.

LSG, Delta, UPS, and SWA commented that the air quality improvements do not justify the monetary cost that they will incur.

An EPA study entitled “Technical Support for Development of Airport Ground Support Emission Reductions,” EPA420-R099-007, dated May 1999, states that “GSE are responsible for 15 - 20 percent of airport-related NO_x and 10 - 15 percent of airport-related HC.” The same EPA study states that “it is difficult to provide precise cost effectiveness estimates for electric GSE 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, based on the data presented in the preamble it is clear that from an operating standpoint alone that electric GSE are more cost-effective based on lower maintenance costs and lower fuel costs. Furthermore, while the initial cost of alternatively-powered GSE may be relatively expensive, utilization of off-peak electrical rates, the trade-in value, and the fact that electric GSE do not use fuel during idle periods (which may constitute 50% of the GSE operation) leads the commission to believe that the owners and operators of GSE will be capable of converting their diesel and gasoline GSE fleets within three years. Furthermore, electric-powered GSE are not the only option open to owners or

operators of these fleets. The rule allows owners and operators the option of lowering GSE emissions by any means available, including the purchase of emission reduction credits at the market rate.

DFW Airport commented that the steering committee only asked for a voluntary GSE electrification program.

The steering committee (whom the commission cooperated with in formulating a suitable emission reduction plan) recommended “airport electrification standards and operations management with state or local control.” The commission did evaluate the possibility of a voluntary program, but determined that it would be infeasible due to the large number of parties and the impending SIP deadlines.

Delta and ATA commented that the commission overestimated future GSE populations.

The commission revised its estimated figure of 3,008 GSE vehicles in the DFW area in 1996 based on ATA GSE survey data. The commission now estimates the 1996 number of GSE units to be 3,090 and the 2007 future population of GSE to be 4,631. The estimate of 4,631 was used to arrive at a NO_x emissions estimate of 10.6 tpd in 2007. Lowering GSE emissions by 90% will lead to a 9.54 tpd NO_x reduction.

ATA commented that the California Air Resource Board (CARB) OFFROAD Model and the EPA NONROAD Model predicted NO_x emissions per unit of GSE better than the commission. DA, SWA, and ATA commented that the commission overestimated NO_x emissions from GSE. Conversely, DFW Airport commented that the commission underestimated NO_x emissions from GSE. DFW Airport commented that GSE located at DFW Airport alone would create 19.58 tpd of NO_x by 2007, while the commission estimation for the entire DFW area was 7.28 tpd lower.

The Non-Road Engine and Vehicle Emissions Study (NEVES) that the commission initially used to estimate emissions from GSE has been determined by the commission to be less precise for the purposes at hand than the EPA NONROAD Model. The commission has now based its estimation of GSE emissions on data that the commission, airports, airlines, and the ATA have cooperated in producing. GSE emissions for the DFW nonattainment area in 2007 are projected to be 10.6 tpd of uncontrolled NO_x.

ATA commented that it would take longer than three years for air carriers to switch their GSE fleet from fossil-fuel powered to electric-powered.

Based on the extremely low cost of electric power as compared to gasoline and/or diesel fuel, utilization of off-peak electrical rates, lower maintenance costs, the trade-in value of the old GSE, and the fact that electric GSE do not use fuel during idle periods (which may constitute 50% of the GSE operation), the commission believes that the owners and operators of GSE will be able to recover the capital investment on new GSE quickly, allowing the rapid replacement of the

equipment. Additionally, electric-powered GSE are not the only option open to owners or operators of these fleets. The rule allows owners and operators the option of achieving emission reductions by any means available.

UPS commented that they would not be able to operate their business if there were a power outage.

The rule has been revised to allow GSE owners and operators the option of owning various types of GSE, not just the electrically-fueled variety. Air carriers could thus use other types of alternative-fueled vehicles that do not run on electricity. However, many of the electric-powered GSE vehicles available today can operate for very long periods of time without requiring a recharge and are typically recharged during non-operating hours. Additionally, power outages occur infrequently, usually during severe weather conditions, and last for brief periods (approximately two hours). Backup generators could be used to provide electricity during these unusual events.

NGVA, DFW Airport, SWA, and ATA commented that the cost of building electrical recharging stations would be too expensive.

At Sky Harbor Airport in Phoenix, Southwest Airlines successfully tested and implemented a new fast-charging technology. Using the quick charging ElectrX infrastructure, ARCADIS Geraghty & Miller, Inc. reported in a study entitled “Assessment of Airport Ground Support Equipment Using Electric Power or Low-Emitting Fuels,” dated July 20, 1999, that Southwest Airlines

required no changes to the electric wiring system at their recharge station because of low load requirements. The same ARCADIS study reports that the system, built for 20 GSE units, “draws a maximum load of 25kW⁵ which is lower than the load of a conventional system and a fairly insignificant portion of the total airport electrical load.” Because the system can recharge GSE in approximately 45 minutes, “less space is required because the short charging period permits a rotation of equipment,....” According to the ARCADIS study, “the Enerpro off board charger only needs a connection to a 240V or 480V power source.” The ARCADIS study also found that savings were also made with planned electric usage, i.e., “the strategic utilization of off-peak electrical rates.” Based on this information and the relatively moderate cost of electric-powered GSE, the extremely low cost of electric power as compared to gasoline fuel, lower maintenance costs, the trade-in value, and the fact that electric GSE do not use fuel during idle periods (which may constitute 50% of the GSE operation), the commission believes that the owners and operators of GSE will be capable of converting their diesel and gasoline GSE fleet within three years. Furthermore, electric-powered GSE are not the only option open to owners or operators of these fleets. The rule allows owners and operators the option of achieving emission reductions by any means available.

Lone Star and DFW Airport stated that electric-powered GSE would increase pollution from power plants.

While emissions may increase at some electric power generators due to a rise in electric-powered GSE use, the amount of pollution created by the typical petroleum-powered GSE vehicle is greater

than the pollution created at a power plant to charge an electric-powered GSE vehicle of the same type. The EPA study entitled “Technical Support for Development of Airport Ground Support Equipment Emission Reductions,” EPA420-R-99-007, dated May 1999, reports that “even when the increased emissions from power generating stations are considered, electric GSE usually emit significantly less HC, CO, NO_x, PM and CO₂ emissions than their fossil-fueled counterparts.” Additionally, recent legislation and regulations have been passed to clean up the older power producers. The commission is considering rules today which would make the power producers in the DFW nonattainment area meet more stringent standards.

Bell commented that this rule will trigger federal solid waste reporting requirements because of the use of large batteries containing sulfuric acid.

The commenter is correct and the commission acknowledges that operators of electric GSE may have additional costs from proper disposal of batteries that are beyond their useful life. However, given the operational savings from electric equipment, the commission believes operators will still realize a significant net savings.

SWA commented that they would like an exemption allowing them to utilize EPA’s Voluntary Mobile Source Emission Reduction Program (VMEP) instead of electrification.

Under EPA’s VMEP program a state can only take credit for 3.0% of the necessary reductions through voluntary programs. The commission has already used this 3.0% on other strategies.

Additionally, it was necessary for the commission to factor in both the VMEP reductions as well as the reductions from the airports in order to demonstrate attainment.

DFW Airport commented that the estimation of electricity costs that the commission utilized are \$0.01 to \$0.012 per kilowatt hour lower than what DFW Airport pays for electric power.

Owners and operators of GSE like DFW Airport do pay \$0.01 to \$0.012 per kilowatt hour more than our estimation. However, even considering this difference, gasoline fuel costs are approximately five times as high when compared to the cost of electric fuel. Hence, overall, the cost of refueling GSE vehicles will be much lower.

LSG, the NGVA, DFW Airport, SWA, and the ATA commented that the commission did not properly calculate the cost that would be incurred by business to alter their GSE fleets from gasoline power to electric power (e.g., the cost of altering their infrastructure and buying new GSE equipment).

The commission estimated expected costs based on an EPA study entitled “Technical Support for Development of Airport Ground Support Equipment” which allowed for benefits accrued when taking into account the utilization of off-peak electrical rates, the extremely low cost of electricity as compared to fossil fuel, the trade-in value of the fossil fuel-burning GSE fleet, the lower maintenance costs associated with electric powered GSE, and the fact that electric-powered GSE technology is improving constantly. The report estimates that the savings in fuel costs alone could pay for the conversion within three years.

LSG, SWA, and ATA commented that the lower cost of electricity will not offset the cost of buying electric-powered GSE.

The commenter is correct in stating that initial cost will be high. Although the cost for each owner or operator will vary according to their needs and the system they purchase, the commission expects that it will take time for the GSE owners to realize a savings from the purchase of electric GSE infrastructure and the GSE itself. Initially, however, there should be a return on the trade-in value of the fleet. In time, the low cost of electricity, lower maintenance costs, use of off-peak electrical rates, and the constant improvement of electric-powered GSE will make up for the relatively high cost of electric GSE vehicles and their requisite infrastructure. Therefore, the commission believes that the lower cost of electricity compared to fossil fuel should offset the cost of purchasing electric-powered GSE within three years.

LSG and one individual both commented that they are concerned about the environmental impacts related with the use of batteries, including disposal and servicing.

In cases where vehicle fleets are electrically powered, servicing is typically performed by the maintenance personnel who work for the owners and operators of the GSE vehicles. These maintenance personnel are specially trained in the handling and storage of the batteries. As for battery disposal, the batteries must be collected by a qualified retail dealer for recycling, they are not disposed of by the owner or operator.

Lockheed and Bell commented that they believed all airports would be required to keep track of how many “takeoffs and landings” are made for the purpose of the “transportation of persons or goods for remuneration.”

All airports in the DFW nonattainment area do not have to keep a tally of the information described. An airport may access the FAA website (<http://www.apo.data.faa.gov>) if it has a question concerning how many air carrier operations are performed at a specific airport each year.

LSG commented that the rule is arbitrary and capricious in that it requires them to obtain equipment which is not currently manufactured and not technologically feasible. Additionally, LSG and UPS claimed that the rule does not meet the requirement of TCAA, §382.011(b) that it require only “practical and economically feasible methods” because there is no electric equipment available to meet their needs. LSG also states that the rule is arbitrary and capricious because the agency did not consider all relevant factors and because the agency did not study the technological feasibility of food and beverage catering. UPS states that the rule is arbitrary and capricious because it singles out GSE when more practical options exist for emission reductions.

The rule as proposed anticipated the possibility that electric equipment may not be available for all ground support equipment. It included a provision in which would allow the owner or operator to purchase the cleanest equipment available subject to the executive director’s approval. If the only equipment available to the commenter is the equipment they already have, no purchase

will be necessary. In the adopted version of the rule, the commission has provided GSE fleet operators with the option of obtaining NO_x reductions from elsewhere in the nonattainment area if they represent a reduction of at least 90% of their 1996 ozone season GSE NO_x emissions. In addition to reasons previously stated in this preamble, these provisions of the rule ensure that the requirements are practical and economically feasible pursuant to TCAA, § 382.011(b).

The commenter cites several cases regarding federal rulemaking which are not necessarily binding on state rulemaking. The Texas law regarding rulemaking is found in the Texas Administrative Procedure Act, Texas Government Code, Chapter 2001, as well as case law from Texas courts. Under Texas law a rule is arbitrary and capricious when it lacks a legitimate reason to support it. As required by the Administrative Procedure Act, the commission has stated its reasoned justification for this rule throughout this preamble. In fact, this rule is part of a larger package that will be submitted as part of the SIP for the DFW area. The commission and the local elected officials have considered numerous alternatives to achieve the reductions needed and for the reasons stated in the introduction to this preamble, the strategies chosen were the most practical and economically feasible available. Under the state standards the rule is not arbitrary and capricious.

Delta, UPS, SWA, and ATA commented that the rule is preempted by §209(e) of the Federal Clean Air Act because it sets a standard for nonroad vehicles. EPA commented that while the rule may be preempted, the preemption may be overcome by allowing alternative means of compliance, one of which is not preempted.

The commission disagrees with the commenters stating that the requirement to electrify ground support equipment is preempted under §209(e). The mobile source provisions of the FCAA were written to protect manufacturers against a patchwork of different state standards. See *Engine Manufacturers Association v. EPA*, 88 F.3d 1075, 1079 (D.C. Cir. 1996). Under the court's interpretation, it is only standards which apply to a non-road vehicle or engine which are preempted by §209(e). States retain authority to promulgate in-use restrictions.

This rule does not set a standard for nonroad vehicles or engines. As proposed, it required the use of a certain technology only when it is available. This is clearly not a new manufacturing standard and therefore not intended by Congress to be preempted. It is an in-use restriction that applies to owners and operators of the vehicles or engines. This rule as proposed limited the operation of fossil-fueled vehicles at large airports within the nonattainment area. The adopted version of this rule has additional options for compliance. Owners or operators of GSE fleets may obtain a certain amount of reductions in NO_x emissions which may be achieved anywhere in the nonattainment area and is not required to come from nonroad vehicles. In fact, the reductions required by this rule do not have to be created by the GSE fleet owner or operator, but may be acquired from other entities. While this option uses the amount of GSE emissions as a benchmark to determine the amount of reductions needed, it does not specifically require changes to the nonroad fleet. In this way, the rule is similar to the New Source Review permitting program, in that emissions within a nonattainment area must be offset. The commission is already authorized to require offsets for increased emissions at airports in accordance with the general conformity rules found in 30 TAC §101.29. For these reasons, this rule is not preempted by federal law.

Delta, UPS, SWA, AA, and ATA commented that this rule is preempted under the Federal Aviation Act which grants the FAA exclusive regulatory authority governing the “safe and orderly” operation of ground vehicles in airport areas.

The commission disagrees that the Federal Aviation Act preempts this rule. The commission rule does not attempt to regulate the “safe and orderly” operation of ground support equipment and the regulation of the emissions of such equipment should not interfere with the “safe and orderly” operation of ground vehicles. The preemption in the Federal Aviation Act does not automatically prohibit any other governmental entity from regulating activities within airport boundaries. For example, state rules regarding reporting and cleanup of spills, general conformity requirements for air emissions at the airport, state tort law, and a multitude of other state laws are still applicable within the boundaries of the airport as long as they do not thwart the objective of the federal act. To the extent that electrification of GSE interferes with the objective of the Federal Aviation Act, there are several other means by which an owner or operator can comply with this rule, including the acquisition of emission reduction credits which were generated elsewhere in the nonattainment area. For these reasons, the rule is not preempted by the Federal Aviation Act.

Delta, UPS, SWA, and ATA commented that this rule is preempted under the Airline Deregulation Act because it impacts the service provided by an air carrier.

The commission disagrees that this rule is preempted by the Airline Deregulation Act. The commenter correctly notes that the test is whether the rule would impact the price, route, or

service of an air carrier. The courts have interpreted this language increasingly narrowly finding that a state law must have “more than peripheral effects” to be preempted *Morales v Trans World Airlines*, 504 U.S. 374, 384 (1992). A requirement that all GSE be electric-powered if available would not impact services. If there is no electric equipment available which is able to perform the job, it is not mandated by the rule. In fact, with the additional compliance options added to the adopted version of this rule, an owner or operator of GSE may choose to acquire equivalent credits elsewhere instead of making changes to the fleet. For these reasons, the rule is not preempted by the Airline Deregulation Act.

SWA and ATA commented that the commission did not meet the requirements of Texas Government Code, §2001.0225 because a regulatory impact analysis (RIA) was not performed.

The commission disagrees that an RIA is required for this rule. Although the commission has determined that this is a major environmental rule because it may adversely impact in a material way a sector of the economy, the commission is not required to perform an RIA because the rule does not meet any of the criteria listed in Texas Government Code, §2001.0225(a). The rule does not exceed a standard set by federal law or state law. The standard in this case is the NAAQS for ozone. The state is required to demonstrate compliance with this standard under federal law, 42 USC, §7410, and under state law, Texas Health and Safety Code, §382.012 and §382.039. As shown in the modeling for the SIP that is associated with this control strategy, the state is requiring no more emission reductions than absolutely required to meet the standard.

Additionally, this rule would not exceed a requirement of a delegation agreement or contract with

the federal government because none exists on this topic. And finally, this rule has not been proposed under the general powers of the agency but instead has been proposed under the specific state laws found in Texas Health and Safety Code, §§382.011, 382.012, 382.017, 382.019, and 392.039.

The FCAA, §7410, requires 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’s true that the FCAA 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 the FCAA. The provisions of the FCAA 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 the FCAA 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.

Therefore, adopting the SIP rules are specifically required by federal law.

Additionally, the legislative history contradicts the conclusion of the commenters that a full RIA is required of this rule. The requirement to provide a fiscal analysis of proposed regulations in the Texas Government Code were amended by Senate Bill 633 (SB 633) during the 75th Legislative Session. The intent of SB 633 was to require agencies to conduct a 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 or federal law, a delegated federal program or is 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 discussed previously, the FCAA 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 adopts rules for inclusion into the SIP. 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 to only 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 implemented for inclusion in the SIP fall under the exception in §2001.0225(a) because they are specifically required by federal law.

UPS commented that the rule and associated SIP constitute an unlawful delegation of legislative authority to the commission because the commission has not demonstrated why electrification of GSE is practical, economically feasible, and rationally connected to the goal of attaining the NAAQS in the DFW area.

The commission disagrees with the commenter and asserts that the rule meets the state law requirements regarding legislative delegation. "The Texas Legislature may delegate its powers to agencies established to carry out legislative purposes, as long as it establishes 'reasonable' standards to guide the entity to which the powers are delegated. Requiring the legislature to include every detail and anticipate unforeseen circumstances would . . . defeat the purpose of delegating legislative authority." *Railroad Comm'n v. Lone Star Gas Co.*, 844 S.W.2d 679, 689

(Tex. 1992) (quoting *State v. Texas Mun. Power Agency*, 565 S.W.2d 258, 273 (Tex. Civ. App.-- Houston [1st Dist.] 1978, writ dismissed)). " In this case, the legislature has delegated the authority to develop a state air control plan and to take measures necessary to demonstrate and maintain attainment of the NAAQS (see Texas Health and Safety Code, §382.012 and §382.039). Texas Health and Safety Code, §382.011(b) limits that authority to those controls which are practical and economically feasible as well as other sections of the TCAA which limit specific types of controls. The commission has already responded to the UPS comment that the rule was not practical or economically feasible. Additionally, the preamble of this adoption explains the need for NO_x reductions in the DFW area in order to demonstrate attainment of the ozone NAAQS. This strategy will achieve 9.54 tpd of NO_x reductions and is a necessary component of the DFW SIP. For these reasons, this rule does not represent an unlawful delegation of legislative authority.

Lockheed and Bell commented that they would like a definition of the term "airport" to be included in the rule for purposes of clarifying whether the areas that their rotary winged aircraft land will be subject to the rule.

To avoid unnecessary complexity there is no definition of an "airport" within the rule. The commission however does not wish every location that a rotary winged aircraft lands such as building tops, hospitals, and stadiums to be subject to the rule. The commission has therefore created an exemption under §114.400(2) for non-fixed wing aircraft. The new language excludes rotary wing aircraft from the definition of air carrier operations.

Lockheed-Martin and DoD each requested an exemption for military operations.

The commission agrees with the DoD that military operations should be exempted since the military's GSE units need to be operational in any part of the world. The proposed rule has now been revised. Language is now present in § 114.400(2) which specifically exempts military operations.

Lockheed, Bell, Richardson, Western, TxJet, Friends of Meacham, Galaxy, and Fort Worth commented that they are seeking an exemption for general aviation operations.

The commission agrees that there should be an exemption for general aviation due to its very modest level of activity. Due to this lower activity level, these operations do not significantly impact the air quality, making the controls required by the rules much less cost effective. The proposed rule has been revised. Specific language is now present in §114.400(2), which exempts general aviation operations.

Dallas commented that they believed the rule could incorporate as many as 23 other airports besides Meacham, DFW Airport, Alliance and Love Field. They asked that the intent in the preamble be restated in the rule that it is the commission's intention to only include the four airports listed.

The commission assumes that because the rule proposal did not specifically exempt general aviation, Dallas was concerned that the rule would apply to general aviation operations and their

associated airports. This is not the case, and the rule has been revised. Section 114.400(2) now specifically exempts general aviation operations. At this time, the commission interprets the rules to cover only the four airports mentioned. However, the rules are written to address airports which become subject at a later date either by increasing air carrier operations over the threshold level or by the construction of a new airport.

Dallas commented that they assume the definition of GSE applies to non-road vehicles.

The definition of GSE does not refer to non-road, or off-road vehicles only. A licenced on-road vehicle may be subject to the rule based on its role on the airfield. That is, as §114.400(3) points out, the vehicle is not exempt from this rule if it is “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).”

NGVA and Lone Star commented that many of the GSE that the commission proposes to regulate are available for purchase and can be operated on natural gas power. They commented that the EPA report that the commission utilized as the basis for its rulemaking did not take the latest natural gas-powered GSE technology now available into account. The individuals are concerned that specifying only electrification will not encourage the use of natural gas vehicles. The individuals cited the benefits of significant emission reductions, economic savings, daily GSE scheduling and load demands, quality, the cost of conversion, the availability and cost of electric recharging or battery replacement, scheduling

recharging, battery capacity, and the fact that those GSE that are not available in electric power form are available as natural gas vehicles. Therefore, they have recommended that the rule include a provision to allow operators and owners of GSE to be allowed to choose between the purchase of equipment that runs on electricity, compressed natural gas, liquified natural gas, propane, hydrogen, or any fuel that is at least 90% by volume methanol or ethanol.

The commission agrees with the commenters in that flexibility should be allowed. The commission has modified the rule to allow owners and operators of GSE to achieve emission reductions through means not limited only to 100% electrification of their GSE fleet, or, as §114.402(d) states, “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 pursuant to the TNRCC emissions banking program as defined in §101.29 of this title (relating to Emission Credit Banking and Trading).” In other words, owners and operators of GSE could use GSE vehicles that run on alternative fuels to meet the requirements of this rule, as long as they ensure that 90% of the emissions are offset or reduced.

DFW Airport commented that modification of the airport (i.e., to put in place recharge stations) would require modification of the airport layout plan if they had to relocate an existing facility.

The commission disagrees with this comment. Airports should not have to relocate an existing facility if they, for example, place the recharge stations in nearby areas where no existing facilities would have to be relocated. For instance, recharge facilities can be placed in existing GSE

parking spaces near the baggage handling hangar where most GSE operate. United Airlines found in their cost-sharing contract with the South Coast Air Quality Management District that the converted aircraft tug they utilized required no change in the infrastructure. A study by ARCADIS Geraghty & Miller entitled, "Assessment of Airport Ground Support Equipment Using Electric Power or Low-Emitting Fuels," published July 20, 1999, showed that in Southwest Airlines' experiences with the Minit charger, "the unit was set up by the breakroom," and "there was no need to put a roof over the charger and sequencers because they [were] waterproof (UL listed)." Additionally, after careful consideration, the commission chose to alter the rule so as to allow owners and operators of GSE to achieve emission reductions through ways other than 100% electrification of their GSE fleet, or as §114.402(d) states, "emission reductions measures which are applied to the GSE fleet itself and measures which have been achieved elsewhere within the nonattainment area."

Bell commented that they would like an exemption for GSE that is powered by alternative fuel.

The commission has revised the rule to allow credit for units converted to alternative fuel as long as the 90% reduction or offsets are met. Section 114.402(d) allows GSE owners and operators the option of utilizing alternative means to lower NO_x emissions to comply with the rule. This means that owners and operators may employ "emission reduction 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 pursuant to the TNRCC emissions banking program as defined in §101.29 of this title (relating to Emission Credit Banking and Trading)."

LSG, UPS, SWA, and ATA commented that there are no electrically powered substitutes that can be utilized which will perform some of the functions that diesel- and gasoline-powered GSE do.

Section 114.402(c) allows GSE owners and operators to employ “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 pursuant to the TNRCC emissions banking program as defined in §101.29 of this title (relating to Emission Credit Banking and Trading).” However, in response to the statement that there are no electric GSE which could be utilized, a report prepared by **ARCADIS Geraghty & Miller for the California Air Resources Board entitled “Assessment of Airport Ground Support Equipment Using Electric Power or Low-Emitting Fuels,”** dated July 20, 1999, states that **“the majority of conventionally powered GSE can either be converted to electric power or replaced with specially manufactured electrically powered counterparts.”** In fact, there are electric forklift trucks with a 6,000-pound load capacity; airplane tugs which can tow aircraft as large as a Boeing 777; and baggage tractors, belt loaders, and more, which have the same capabilities as the conventional models. The same **ARCADIS Geraghty & Miller study reports that, “the most promising applications for alternative GSE are baggage tractors, belt loaders, ground power units, aircraft tugs, and forklifts.”** Furthermore, the same **ARCADIS study states that several hundred of these are already being operated by airlines such as Southwest, United, Delta, and American. However, if the owner or operator has chosen to comply with these rules by meeting §114.402(g), and certain units are not**

available in electric-power, the rules allow the use of another fuel as long as it is demonstrated to be the lowest emitting equipment available.

LSG commented that the use of the term “conversion” was not defined in terms of cost or extent or necessity of “conversion,” and that therefore the term was too vague.

Whether to replace or convert will have to be determined by the owner or operator depending on cost. A case can be made with the executive director and the EPA, on a case-by-case basis.

However, electric conversion is not necessarily required for GSE by this rule as modified. Section 114.402(d) gives GSE owners and operators the ability to employ “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 pursuant to the TNRCC emissions banking program as defined in §101.29 of this title (relating to Emission Credit Banking and Trading).”

LSG commented that their GSE trucks are “over-the-road trucks.” They add that they cannot be converted and there is no electrical substitute for these particular vehicles.

LSG trucks are considered GSE. However, LSG might be able to use their existing vehicles if there are truly no alternatives for the company to use and LSG chooses to comply with the rules by meeting the requirements of §114.402(g). According to §114.402(g), “[f]or 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 they demonstrate that the lowest emitting equipment is used, subject to the approval of the executive director.”

Dallas, DFW Airport, SWA, and ATA questioned whether the affected cities had the jurisdiction to administer the rule.

As stated in §114.406(a) and (b), administration will be overseen by the executive director of the commission under state authority.

Fort Worth commented that businesses affected by the rule could move to another airfield somewhere else in the DFW area (other than the four presently affected airports) to escape enforcement of the rule.

Section 114.409 states that airports in Dallas, Tarrant, Denton, and Collin will be subject to the rule. Therefore, if a company which must comply with this rule moves from one airfield to another within these counties, they will still be subject to the rule unless that airport has less than 100 air carrier operations each year. In most cases, the commission expects that moving an entire operation would be much more costly than complying with these rules.

STATUTORY AUTHORITY

The new sections are adopted under Texas Water Code (TWC), §5.103, which provides the commission the authority to adopt rules necessary to carry out its powers and duties under the TWC. The new sections are also adopted under the Texas Health and Safety Code, TCAA, §382.011, which provides the commission the authority to control the quality of the state's air; §382.012, which provides the commission the authority to prepare and develop a general, comprehensive plan for the control of the state's air; §382.017, which provides the commission the authority to adopt rules consistent with the policy and purposes of the TCAA; §382.019, which provides the commission the authority to adopt rules to control and reduce emissions from engines used to propel land vehicles and §382.039, which provides the commission the authority 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.

SUBCHAPTER I: NON-ROAD ENGINES

DIVISION 1: AIRPORT GROUND SUPPORT EQUIPMENT

§§114.400, 114.402, 114.406, 114.409

§114.400. 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 §114.402(b) of this title (relating to Control Requirements), the following factor should be used depending on engine size:

Figure: 30 TAC §114.400(5)

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

(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.

§114.402. Control Requirements.

(a) In the counties listed in §114.409 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_x) emissions which is equal to or greater than the following percentage of NO_x 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_x 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 §114.400 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_x 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 pursuant to 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 EPA.

§114.406. Reporting and Recordkeeping Requirements.

(a) Owners or operators affected by §114.402 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 operate primarily;

(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 §114.402 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.

§114.409. Affected Counties and Compliance Schedules.

Owners or operators of ground equipment at subject airports in Collin, Dallas, Denton, and Tarrant Counties shall be in compliance with §114.402 of this title (relating to Control Requirements) and §114.406 of this title (relating to Reporting and Recordkeeping Requirements) no later than the dates specified therein.