The Texas Natural Resource Conservation Commission (commission) adopts new §114.470, Definitions; §114.472, Control Requirements; §114.476, Reporting and Recordkeeping Requirements; §114.477, Exemptions; and §114.479, Affected Counties. The commission adopts these new sections in new Division 8, Houston/Galveston Heavy Equipment Fleets - Compression-Ignition Engines; Subchapter I, Non-road Engines; Chapter 114, Control of Air Pollution from Motor Vehicles, and revisions to the state implementation plan (SIP) in order to reduce ambient concentrations of ground-level ozone in the Houston/Galveston (HGA) ozone nonattainment area through the accelerated purchase of United States Environmental Protection Agency (EPA) certified Tier 2 and Tier 3 non-road equipment 50 horsepower (hp) and larger. These new sections are one element of the control strategy for the HGA Post-1999 Rate-of-Progress (ROP)/Attainment Demonstration SIP. Section 114.477 is adopted **with changes** to the proposed text as published in the August 25, 2000 issue of the *Texas Register* (25 TexReg 8230). Sections 114.470, 114.472, 114.476, and 114.479 are adopted **without changes** to the proposed text and will not be republished.

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED 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. In addition, 42 USC, §7502(a)(2), requires attainment as expeditiously as practicable, and 42 USC, §7511a(d), requires states to submit ozone attainment demonstration SIPs for severe ozone nonattainment areas such as HGA. 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% 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 nitrogen oxides (NO_x) waiver allowed by 42 USC, §7511a(f). The January 1995 SIP and the NO_x waiver were based on early base-case episodes which marginally exhibited model performance in accordance with 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 (OTAG). 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 revision 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 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_x 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 state-wide 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 VIf); identification of the level of reductions of VOC and NO_x 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_x 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_x reductions needed for attainment; to list and quantify potential control measures to meet the shortfall of NO_x 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, the EPA 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_x emissions. The modeling and other analysis supporting these rules and the HGA SIP indicate a gap of an additional 88.8 tons per day (tpd) of NO_x reductions is necessary for an approvable attainment demonstration. The commission estimates that this measure will achieve a minimum of 12.2 tpd of NO_x 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.

This rule adoption is one element of the control strategy for the HGA SIP. Adoption and implementation of this control strategy is necessary in order for the HGA nonattainment area to comply with the requirements of the FCAA and achieve attainment for ozone. Additional elements of the control strategy for the HGA SIP are being adopted concurrently in this issue of the *Texas Register*, or were included in the HGA SIP considered by the commission on December 6, 2000 and planned to be submitted to EPA by December 31, 2000.

The amount of NO_x reductions required for the area to attain the ozone NAAQS has 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 reduction strategies. The FCAA, 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 oversight committee. Commission staff have continued to improve the air quality modeling technology and refine emission inventory data. Numerous emission control strategies were considered in developing the modeling. Varying degrees of reductions from point sources, on-road and non-road mobile sources, and area sources were analyzed in multiple iterations of modeling, to test the effectiveness of different NO_x reductions. The attainment demonstration modeling and other analysis submitted for public hearing and comment concurrently with the HGA SIP show that a significant amount of NO_x reductions practicably achievable are necessary from ozone control strategies in order for the HGA nonattainment area to achieve the ozone NAAQS by 2007, including reductions from surrounding counties included in the HGA consolidated metropolitan statistical area (CMSA).

Additionally, reductions associated from the ozone control strategies that will be implemented outside the HGA nonattainment area will benefit the HGA nonattainment area. This is due to the regional nature of air pollution, the contribution from mobile sources, and the economies of scale and associated market advantages related to distribution networks for some strategies. At the time the 1990 FCAA Amendments were enacted, the focus on controlling ozone pollution was centered on local controls. However, for many years an ever increasing number of air quality professionals have concluded that ozone is a regional problem requiring regional strategies in addition to local control programs. As nonattainment areas across the United States prepared attainment demonstration SIPs in response to the 1990 FCAA Amendments, several areas found that modeling attainment was made much more difficult, if not impossible, due to high ozone and ozone precursor levels entering from the boundaries of their respective modeling domains, commonly called transport. Recent science indicates that regional approaches may provide improved control of ozone air pollution.

The current SIP revision contains rules, enforceable commitments, photochemical modeling analyses and calculation of the remaining NO_x reductions required to reach attainment (gap calculation) 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_x 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 the accelerated purchase of federal Tier 2/Tier 3 non-road diesel equipment program will contribute to attainment and maintenance of the one-hour ozone standard in the HGA area.

The commission adopts these amendments to Chapter 114 and revisions to the SIP in order to control ground-level ozone in the HGA ozone nonattainment area, and the adopted rules are one element of the control strategy for the HGA Post-1999 ROP/Attainment Demonstration SIP. The purpose of these adopted rules is to establish the accelerated purchase and operation of cleaner non-road, compression-ignition fleet equipment within the HGA nonattainment area which will reduce NO_x and VOC emissions that are necessary for the counties included in the HGA nonattainment area to be able to demonstrate attainment with NAAQS.

The EPA has been regulating highway (on-road) cars and trucks since the early 1970s and continues to set increasingly stringent emissions standards for such vehicles. After making considerable progress in controlling the emissions from on-road vehicles, the EPA turned its attention to non-road engines, which also contribute significantly to air pollution.

Diesel engines, also referred to as compression-ignition engines, dominate the large non-road engine market. Examples of non-road equipment that use diesel engines include: agricultural equipment such as tractors, balers, and combines; construction equipment such as backhoes, graders, and bulldozers; general industrial equipment such as concrete/industrial saws, crushing equipment, and scrubber/sweepers; lawn and garden equipment such as garden tractors, rear engine mowers, and chipper/grinders; material handling equipment such as heavy forklifts; and utility equipment such as generators, compressors, and pumps.

The EPA adopted regulations in 40 Code of Federal Regulations Part 89 (40 CFR 89), Control of Emissions from New and In-use Nonroad Engines, as effective June 17, 1994. Under 40 CFR 89, compression-ignition engines greater than 50 hp must comply with Tier 1 emissions standards that are being phased in between calendar years 1996 and 2000, depending on the size of the engine. Under the Tier 1 standards, the EPA projects that NO_x emissions

from new non-road, compression-ignition equipment will be reduced by over 30% from uncontrolled levels of unregulated engines. The Tier 1 standards do not apply to engines used in underground mining equipment, locomotives, and marine vessels. The Mine Safety and Health Administration is responsible for setting requirements for underground mining equipment. Locomotives and marine vessels are covered by separate EPA programs.

On October 23, 1998, the EPA revised 40 CFR 89 and adopted more stringent emission standards for NO_x, hydrocarbons (HC, which are also called VOC), and particulate matter (PM) for new non-road, compression-ignition engines. Engines used in underground mining equipment, locomotives, and marine vessels over 50 hp are not included. This comprehensive new program phases in more stringent Tier 2 standards for all engine sizes from the model years 2001 to 2006, and yet more stringent Tier 3 standards from the model years 2006 to 2008. The following figure, which was extracted from the Table 1-1 of the "Final Regulatory Impact Analysis: Control of Emissions from Non-road Diesel Engines," (EPA 420-R-98-016, dated August 1998) shows the emission standards adopted by EPA in 40 CFR, §89.112. Also, the new program includes a voluntary program called the "Blue Sky Series" engine program to encourage the production of advanced, very low-emitting engines. Under these new standards, the EPA projects that emissions from new non-road, compression-ignition equipment will be further reduced by 60% for NO_x and 40% for PM compared to the emission levels of engines meeting the Tier 1 standards.

Figure 1: 30 TAC Chapter 114 - Preamble

Emission Standards In grams per kilowatt-hour (g/kW-hr) and grams per horsepower-hour (g/hp-hr)					
Engine Power	Tier	Model Year	Non-Methane Hydrocarbons plus NO_x	Carbon Monoxide	Particulate Matter
kW<8 (hp<11)	Tier 1	2000	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	Tier 2	2005	7.5 (5.6)	8.0 (6.0)	0.80 (0.60)
8≤kW<19 (11≤hp<25)	Tier 1	2000	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	Tier 2	2005	7.5 (5.6)	6.6 (4.9)	0.80 (0.60)
19≤kW<37 (25≤hp<50)	Tier 1	1999	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	Tier 2	2004	7.5 (5.6)	5.5 (4.1)	0.60 (0.45)
37≤kW<75 (50≤hp<100)	Tier 2	2004	7.5 (5.6)	5.0 (3.7)	0.40 (0.30)
	Tier 3	2008	4.7 (3.5)	5.0 (3.7)	
75≤kW<130 (100≤hp<175)	Tier 2	2003	6.6 (4.9)	5.0 (3.7)	0.30 (0.22)
	Tier 3	2007	4.0 (3.0)	5.0 (3.7)	
130≤kW<225 (175≤hp<300)	Tier 2	2003	6.6 (4.9)	3.5 (2.6)	0.20 (0.15)
	Tier 3	2006	4.0 (3.0)	3.5 (2.6)	
225≤kW<450 (300≤hp<600)	Tier 2	2001	6.4 (4.8)	3.5 (2.6)	0.20 (0.15)
	Tier 3	2006	4.0 (3.0)	3.5 (2.6)	
450≤kW≤560 (600≤hp≤750)	Tier 2	2002	6.4 (4.8)	3.5 (2.6)	0.20 (0.15)
	Tier 3	2006	4.0 (3.0)	3.5 (2.6)	
kW>560 (hp>750)	Tier 2	2006	6.4 (4.8)	3.5 (2.6)	0.20 (0.15)

As part of the attainment demonstration SIP for the Dallas/Fort Worth (DFW) ozone nonattainment area, the commission adopted accelerated non-road, compression-ignition fleet rules (§§114.410, 114.412, 114.416, 114.417, and 114.419). The adopted new rules apply requirements identical to the existing DFW rules in the eight-county HGA ozone nonattainment counties.

Non-road equipment covered by these rules only includes equipment that is used exclusively for non-road purposes because the federal Tier2/Tier 3 standards only apply to non-road engines. In other words, the rules cover non-road equipment that do not have a license plate and cannot be used on roads. Dump trucks and other equipment that are used both on-road and off-road are not subject to the requirements of these rules.

The adopted rules will require persons in the HGA nonattainment area which own or operate certain non-road equipment powered by compression-ignition engines 50 hp and up to meet the following requirements. For the portion of the fleet that is 50 hp up to 100 hp, the owner or operator must ensure that such equipment will consist of 100% Tier 2 non-road equipment by the end of the calendar year 2007. For the portion of the fleet that is 100 hp up to 750 hp, the owner or operator must ensure that such equipment consist of a minimum of 50% Tier 3 non-road equipment and the remainder Tier 2 non-road equipment by the end of the calendar year 2007. Finally, for the portion of the fleet that is greater than 750 hp, the owner or operator must ensure that such equipment consist of 100% Tier 2 engines by the end of calendar year 2007. This will accelerate the turnover rate of compression-ignition, engine-powered, non-road equipment that would occur as a result of the federal Tier 2/Tier 3 program. Alternatively, an affected person may be exempted from these requirements if an emission reduction plan is developed that will achieve emissions reductions equivalent to the full implementation of these rules. As part of this plan an owner or operator may achieve these reductions, in whole or in part, by obtaining emission reduction credits (ERC), mobile emission reduction credits (MERC), discrete emission reduction credit (DERC), or

mobile discrete emission reduction credit (MDERC) in accordance with adopted new §114.477 and 30 TAC Chapter 101, General Air Rules, §101.29, Emission Credit Banking and Trading. In 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 HGA area needs emissions reductions earlier than what the natural turnover would allow; therefore, these adopted rules will require that Tier 2 and Tier 3 equipment be purchased at an accelerated rate once they become available under the EPA schedule outlined in 40 CFR 89. The adopted rules exempt non-road engines used in locomotives, underground mining equipment, marine application, aircraft, airport ground support equipment (GSE), equipment used solely for agricultural and/or logging purposes, emergency equipment, and freezing weather equipment.

The rules will affect non-road diesel equipment 50 hp and larger such as construction, industrial, commercial, and lawn and garden equipment. Examples of equipment used in construction applications include bore/drill rigs, cement and mortar mixers, concrete/industrial saws, cranes, crawler tractors, crushing/processing equipment, dumpers/tenders, excavators, graders, off-highway tractors, off-highway trucks, pavers, paving equipment, plate compactors, rollers, rough terrain forklifts, rubber-tire dozers, rubber-tire loaders, scrapers, signal boards/light plants, skid-steer loaders, surfacing equipment, tampers/rammers, tractors/loaders/backhoes, and trenchers. Examples of equipment used in industrial applications include aerial lifts, forklifts, general industrial equipment, material handling equipment, refrigeration/air conditioning units, scrubber/sweepers, and terminal tractors. Examples of equipment used in lawn and garden applications include chippers/stump grinders, commercial turf

equipment, lawn and garden tractors, and leafblowers/vacuums. Examples of equipment used in commercial applications include air compressors, gas compressors, generator sets, pressure washers, pumps, and welders.

The costs of meeting the new federal emission standards are expected to add about 1.0% to the purchase price of typical new non-road, compression-ignition equipment, although for some equipment the standards may cause price increases on the order of 2.0% to 3.0%. However, the cost of this program is the cost of having to replace the non-road, compression-ignition fleet on an accelerated schedule, not the cost of Tier 2 and Tier 3 engines. The cost of Tier 2 and Tier 3 engines is already accounted for in the EPA regulations, not as a result of these rules. The program is expected to cost between $30 million to $42 million average annual cost.

The commission solicited 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. There were 19 comments received regarding flexibilities which are addressed in the ANALYSIS OF TESTIMONY section of this preamble.

SECTION-BY-SECTION DISCUSSION

Rules regarding an accelerated purchase of federal Tier 2 and Tier 3 non-road diesel equipment were adopted for the DFW ozone nonattainment area on April 19, 2000. These rules were adopted in Chapter 114, Subchapter I, Division 2, §114.410, Definitions; §114.412, Control Requirements; §114.416, Reporting and Recordkeeping Requirements; §114.417, Exemptions; and §114.419, Affected Counties. This rulemaking action adopts identical requirements which apply to the eight-county HGA ozone nonattainment area.

The adopted new §114.470 adds definitions for Blue Sky Series engine, compression-ignition engine, fleet, non-road engine, non-road equipment, Tier 2 engine, and Tier 3 engine.

The adopted new §114.472 requires persons in the affected counties listed in §114.479, which own or operate non-road equipment powered by compression-ignition engines to use non-road equipment powered by Tier 2 and Tier 3 compression engines. The phase-in schedule specified in these rules accelerates the natural turnover of non-road equipment. To ensure the equipment is available, the phase-in schedule specified in these rules is set up so that compliance dates come after the implementation dates of the new federal standard as specified in the federal rules in 40 CFR §89.112, as amended on October 23, 1998. For the portion of the non-road fleets powered by compression-ignition engines greater than or equal to 100 hp, but less than or equal to 750 hp, the rule requires a gradually increased percentage of Tier 2 and Tier 3 equipment required, so that by the end of calendar year 2007, at least 50% of the affected portion of the fleet shall meet Tier 3 standards and the remainder of the affected fleet shall meet Tier 2 standards. For the portion of the fleet greater than or equal to 50 hp, but less than 100 hp, the adopted rule requires that 100% of the equipment meet Tier 2 standards by the end of calendar year 2007. For engines greater than 750 hp, the adopted rule requires that 100% of the affected fleet be Tier 2 engines by the end of calendar year 2007. The rule also allows the non-road engines designated as "Blue Sky Series" engines to be counted toward the percentage requirements as either Tier 2 or Tier 3 engines. The "Blue Sky Series" engine program is a voluntary EPA program that allows for earlier introduction of cleaner engines. The emission standards for the Blue Sky Series program are the same as Tier 3 emission standards. Finally, the adopted rule will allow an EPA-certified retrofit of newly purchased engines, in order to meet the Tier 2 or Tier 3 emission standards, be allowed to meet the percentage requirements. This retrofit allowance is adopted because some newly purchased engines may be able to meet the Tier 2 and Tier 3 emission standards by being retrofitted.

Therefore, for an affected entity to meet the percentage requirements, they may purchase new equipment or retrofit existing engines if there is an EPA-certified retrofit available.

The adopted new §114.476 requires persons subject to §114.472 to submit annual fleet reports. The adopted rule also requires them to maintain copies of the submitted reports for a minimum of three years.

The adopted new §114.477 exempts locomotives, underground mining equipment, marine engines, aircraft engines, airport GSE, and agricultural equipment. Locomotives, underground mining equipment, marine engines, and aircraft engines are exempt from these adopted rules because they are not regulated by the EPA non-road rule. Airport GSE is exempt from these rules because it is being regulated by another strategy being adopted concurrently. The exemption for airport GSE is intended to cover all equipment that is used to service aircraft during passenger and/or cargo loading and unloading, maintenance, and other ground-based operations. Exemptions from this equipment category which may exist in other rules or agreements, such as freezing weather equipment or leased equipment, do not apply here. Agricultural equipment is exempt from the adopted rules because of its small contribution (less than 1.0%) to non-road emissions, and because it is operated primarily in rural areas. Also, the commission adopts an exemption for equipment used exclusively for emergency operations and for equipment used exclusively for freezing weather operations due to their low impact on air quality during the ozone season. In response to comments received the commission clarified the language to make clear that logging uses are exempt.

In the rulemaking for the DFW area construction equipment operating restrictions rules, the commission specifically requested comment on allowing the use of added controls such as catalytic converters or other after-market devices, or the use of EPA-certified cleaner equipment, to exempt such equipment from the operating

restrictions of these rules. In response to the DFW exemption comments and other comments to those rules concerning the difficulty in complying with these rules, the commission adopts §114.477(b). This subsection allows owners or operators to be exempt from the requirements of these rules if they submit an emissions reduction plan by May 31, 2002, that is approved by the executive director and the EPA by May 31, 2003. The executive director may allow plans to be submitted after May 31, 2002. In any event, a plan must be approved prior to the use of that plan for compliance with the requirements of this division. The commission anticipates that by offering this exemption, the entities affected by these rules, the trade associations representing these entities, and the manufacturers will be encouraged to accelerate the research and development of emissions-reducing technology for equipment that will enable affected entities to meet the exemption. Each plan must describe in detail how the owner or operator will modify the equipment fleet to reduce NO_x emissions by June 1, 2005 by a target amount equivalent to the total reductions achieved by implementation of these rules. If equipment subject to these rules is also subject to the HGA construction equipment operating restrictions rules, and the owner or operator would like to be exempt from both sets of rules, then the plan must reduce NO_x emissions by a target amount equivalent to the total reductions achieved by both sets of rules. If the plan demonstrates that these reductions will occur by June 1, 2005, the reductions will be considered equivalent for purposes of timing. The commission will apply emissions inventory factors for equipment used in the modeling to develop these rules to quantify the emissions reductions resulting from the fleet modifications. The commission will develop a guidance document to assist operators in developing their plans. The guidance document will contain both the target emissions amount operators must meet, as well as emission factors for each type of equipment affected by the rules, and will offer guidance on how to calculate total emissions reductions for an equipment fleet. The commission made changes to the language in this subsection (b) to clarify and make the language consistent with that in the HGA construction equipment operating restrictions rules, §114.487 of this title (relating to Exemptions).

The commission is requiring submission of the emission reduction plans by May 31, 2002 to allow sufficient time to review and quantify the collective emissions reductions the plans propose. The commission will complete the reviews by May 31, 2003, which coincides with the planned mid-course review of all control measures included in the SIP. After reviewing the plans, the commission will determine whether the collective emissions reductions adopted by the plans are equivalent to the reductions achieved from implementing both these rules.

The adopted new §114.479 specifies the counties that are subject to the new requirements. The counties included in the eight-county HGA nonattainment area are Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller.

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the rulemaking action in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and has determined that the rulemaking meets the definition of a "major environmental rule" as defined in that statute. "Major environmental rule" means a rule of which the specific intent 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.

These adopted rules do not meet any of the four applicability criteria for requiring a regulatory analysis of "major environmental rule" as defined in the Texas Government Code. Section 2001.0225 applies only 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.

As discussed earlier in this preamble, this rule adoption is one element of the control strategy for the HGA SIP. Adoption and implementation of this control strategy is necessary in order for the HGA nonattainment area to comply with the requirements of the FCAA and achieve attainment for ozone. Additional elements of the control strategy for the HGA SIP are being adopted concurrently in this issue of the *Texas Register*, or were included in the HGA SIP considered by the commission on December 6, 2000, and planned to be submitted to EPA by December 31, 2000.

The rules are intended to protect the environment or reduce risks to human health from environmental exposure to ozone and will 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 rules would require units of state and local government, businesses, and persons in the eight-county HGA ozone nonattainment area which own or operate non-road equipment powered by compression-ignition equipment to meet the following requirements. For the portion of the fleet that is 50 hp up to 100 hp, owners and operators must ensure that such equipment will consist of 100% Tier 2 non-road equipment by the end of the calendar year 2007. For the portion of the fleet that is 100 hp up to 750 hp, owners and operators must ensure that such equipment consist of a minimum of 50% Tier 3 non-road equipment and the remainder Tier 2 non-road equipment by the end of the calendar year 2007. Finally, for the portion of the fleet that is greater than 750 hp, owners and operators must ensure that such equipment consist of 100% Tier 2 engines by the end of calendar year 2007.

This air pollution control program is part of the strategy to reduce NO_x emissions necessary for the counties included in the HGA ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. This is based on the analysis provided in the rule proposal preamble which was published in the August 25, 2000 issue of the *Texas Register*, including the discussion in the Public Benefit and Costs section.

These rules do not exceed an express standard set by federal law, since they implement requirements of the FCAA. Under 42 USC, §7410, states are required to adopt a SIP which provides for "implementation, maintenance, and enforcement" of the primary NAAQS in each air quality control region of the state. These rules were specifically developed as part of an overall control strategy to meet the ozone NAAQS set by the EPA under 42 USC, §7409. While 42 USC, §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 42 USC, Chapter 85, Air Pollution Prevention and Control). It is 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 42 USC, §7410. In order to avoid federal sanctions, states are not free to ignore the requirements of 42 USC, §7410 and must develop programs to assure that the nonattainment areas of the state will be brought into attainment on schedule. Thus, while specific measures are not prescribed, both a

plan and emission reductions are required to assure that the nonattainment areas of the state will be able to meet the attainment deadlines set by the FCAA. The EPA has provided the criteria for both the submission and evaluation of attainment demonstrations developed by states to comply with the FCAA. This criteria requires states to provide, in addition to other information, photochemical modeling and an analysis of specific emission reduction strategies necessary to attain the NAAQS. The commission's photochemical modeling and other analysis indicate that substantial emission reductions from both mobile and point source categories are necessary in order to demonstrate attainment. In this case, this rulemaking is intended to achieve emission reductions in the HGA nonattainment area. Specifically, as noted elsewhere in this rule preamble, the emission reductions associated with these rules are a necessary element of the attainment demonstration required by the FCAA.

In addition, 42 USC, §7502(a)(2), requires attainment as expeditiously as practicable, and 42 USC, §7511a(d), requires states to submit ozone attainment demonstration SIPs for severe ozone nonattainment areas such as HGA. By policy, the EPA requires photochemical grid modeling to demonstrate whether the 42 USC, §7511a(f), NO_x measures would contribute to ozone attainment. The commission has performed photochemical grid modeling which predicts that NO_x emission reductions, such as those required by these rules, 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 42 USC, §7511a(f), exemption from NO_x measures for HGA expired on December 31, 1997. The expiration of the exemption under 42 USC, §7511a(f), was based on the finding that NO_x reductions in HGA are necessary for attainment of the ozone standard. Therefore, the adopted amendments are necessary components of and consistent with the ozone attainment demonstration SIP for HGA, required by 42 USC, §7410.

During the 75th Legislative Session, Senate Bill (SB) 633 amended the Texas Government Code to require agencies to perform a regulatory impact analysis (RIA) of certain rules. The intent of SB 633 was to require agencies to conduct an RIA of extraordinary rules. 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. Because 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.

The commission has consistently applied this construction to its rules since this statute was enacted in 1997. Since that time, the legislature has revised the Texas Government Code but left this provision substantially

unamended. It is presumed that "when an agency interpretation is in effect at the time the legislature amends the laws without making substantial change in the statute, the legislature is deemed to have accepted the agency's interpretation." *Central Power & Light Co. v. Sharp*, 919 S.W.2d 485. 489 (Tex. App.–Austin 1995), *writ denied with per curiam opinion respecting another issue*, 960 S.W.2d 617 (Tex. 1997); *Bullock v. Marathon Oil Co.*, 798 S.W.2d 353, 357 (Tex. App.–Austin 1990, no writ). *Cf. Humble Oil & Refining Co. v. Calvert*, 414 S.W.2d 172 (Tex. 1967); *Sharp v. House of Lloyd*, Inc., 815 S.W.2d 245 (Tex. 1991); *Southwestern Life Ins. Co. v. Montemayor*, 24 S.W.3d 581 (Tex. App.--Austin 2000, *pet. denied*); and *Coastal Indust. Water Auth. v. Trinity Portland Cement Div.*, 563 S.W.2d 916 (Tex. 1978).

The commission's interpretation of the RIA requirements is also supported by a change made to the Texas Administrative Procedure Act (APA) by the legislature in 1999. In an attempt to limit the number of rule challenges based upon APA requirements, the legislature clarified that state agencies are required to meet these sections of the APA against the standard of "substantial compliance." Texas Government Code, §2001.035. The legislature specifically identified Texas Government Code, §2001.0225 as falling under this standard. The commission has substantially complied with the requirements of §2001.0225.

Therefore, in addition to not exceeding an express standard set by federal law, these rules do not exceed state requirements, and are not adopted solely under the general powers of the agency because the provisions of the Texas Clean Air Act (TCAA), §§382.011, 382.012, 382.017, 382.019, and 382.039 authorize the commission to implement a plan for the control of the states air quality, including measures necessary to meet federal requirements. The remaining applicability criteria, pertaining to exceeding a delegation agreement or contract between the state and the federal government does Texas Government Code, §2001.0225.

The commission solicited public comment on the draft regulatory impact analysis and received six comments. These comments are addressed in the ANALYSIS OF TESTIMONY section of this preamble.

TAKINGS IMPACT ASSESSMENT

The commission evaluated this rulemaking action and performed an analysis of whether the rules are subject to Texas Government Code, Chapter 2007. The following is a summary of that analysis. The specific purpose of the adopted rulemaking action would require persons in the eight-county HGA nonattainment area which own or operate non-road, compression-ignition equipment to meet the following requirements. For the portion of the fleet that is 50 hp up to 100 hp, the owner or operator must ensure that such equipment will consist of 100% Tier 2 non-road equipment by the end of the calendar year 2007. For the portion of the fleet that is 100 hp up to 750 hp, the owner or operator must ensure that such equipment consist of a minimum of 50% Tier 3 non-road equipment and the remainder Tier 2 non-road equipment by the end of the calendar year 2007. Finally, for the portion of the fleet that is greater than 750 hp, the owner or operator must ensure that such equipment consist of 100% Tier 2 engines by the end of calendar year 2007. This adopted rulemaking action will act as an air pollution control strategy to reduce NO_x emissions necessary for the eight counties included in the HGA ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. Promulgation and enforcement of this rule will not burden private, real property. Also, Texas Government Code, §2007.003(b)(13), states that Chapter 2007 does not apply to an action that: 1) is taken in response to a real and substantial threat to public health and safety; 2) is designed to significantly advance the health and safety purpose; and 3) does not impose a greater burden than is necessary to achieve the health and safety purpose. Although the adopted 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. In addition, §2007.003(b)(4) provides that Chapter 2007 does not apply to these adopted rules since it is reasonably

taken to fulfill an obligation mandated by federal law. This action is taken in response to the HGA area exceeding the NAAQS for ground-level ozone, which adversely affects public health, primarily through irritation of the lungs. The action significantly advances the health and safety purpose by reducing ambient NO_x and ozone levels in HGA. Attainment of the ozone standard will eventually require substantial NO_x reductions. Any NO_x reductions resulting from the current rulemaking are no greater than what the best scientific research indicates is necessary to achieve the desired ozone levels. However, this rulemaking is only one step among many necessary for attaining the ozone standard. Specifically, the emissions limitations and delays within the adopted rule 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 EPA approval, SIPs that provide for the attainment and maintenance of NAAQS through control programs directed to sources of the pollutants involved. Therefore, the purpose of these rules is to implement a cleaner-burning, non-road, compression-ignition fleet program necessary for the HGA nonattainment 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. The commission has included elsewhere in this preamble its reasoned justification for adopting this strategy and has explained why it is a necessary component of the SIP, which is federally mandated. This discussion, as well as the HGA SIP which is being adopted concurrently, explains in detail that every rule in the HGA SIP package is necessary and that none of the reductions in those packages represent more than is necessary to bring the area into attainment with the NAAQS. Therefore, these adopted rules will not constitute a takings under Texas Government Code, Chapter 2007.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission determined that the adopted 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 CMP. As required by 30 TAC §281.45(a)(3) and 31 TAC §505.11(b)(2), 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_x 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 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.

The commission solicited comments on the consistency of the proposed rules with the CMP during the public comment period and received no comments.

HEARINGS AND COMMENTERS

The commission held public hearings on this proposal at the following locations: September 18, 2000, in Conroe and Lake Jackson; September 19, 2000 in Houston (two hearings); September 20, 2000, in Katy and Pasadena; September 21, 2000, in Beaumont, Amarillo, and Texas City; September 22, 2000, in Dayton, El Paso, and Arlington; and September 25, 2000, in Austin and Corpus Christi. The comment period closed at 5:00 p.m. on September 25, 2000. The following entities and 40 individuals provided oral testimony and/or submitted written testimony: American Road & Transportation Builders Association (ARTBA); Associated Builders & Contractors of Greater Houston (ABC); Associated General Contractors of America, Houston Chapter (AGC-Houston); Associated General Contractors of Texas (AGC-Texas); Baker Botts; Lloyd, Gosselink, Blevins, Rochelle, Baldwin & Townsend, P.C. on behalf of BFI Waste Systems of North America, Inc. (BFI); Brazoria County Criminal District Attorney Jeri Yenne on behalf of Brazoria County Commissioners Court (Brazoria County); Brett & Wolff LLC (Brett & Wolff); British Petroleum-Amoco (BP); Business Coalition for Clean Air (BCCA); Chambers County Judge Jimmy Sylvia (Chambers County); City of Lake Jackson (Lake Jackson); City of Missouri City (Missouri City); City of Simonton (Simonton); City of Spring Valley (Spring Valley); Dow Chemical Company (Dow); Neal Gerber & Eisenberg on behalf of Engine Manufacturers Association (EMA); Environmental Defense (ED); ExxonMobil Corporation (ExxonMobil); Galveston-Houston Association for Smog Prevention (GHASP); Harris County Judge Robert Eckels (Harris County); Hispanic Community for Texas Citizens for a Solid Economy (TCSE-HC); Benthul & Kean on behalf of Houston Construction Industry Coalition (HCIC); Houston Metropolitan Planning Organization's Transportation Policy Council (Houston MPO); League of Women Voters of the Houston area (LWV-Houston); League of Women Voters of Texas (LWV-TX); Liberty County Sheriff Gregg Arthur (Liberty County-Sheriff); RMT, Inc. on behalf of Montgomery County (Montgomery Co.); Mothers for Clean Air (MCA); National Aeronautics and Space Administration (NASA); Pamela Berger on behalf of Lee Brown, Mayor of Houston (Mayor of Houston); Phillips 66 Company (Phillips 66); Port of Houston Authority (PHA); Public Citizen; Reliant Energy, Inc. (REI); SEED Coalition (SEED); Sierra Club Houston Regional Group (Sierra-Houston); Texas City Mayor Carlos Garza (Texas City); Texas Department of Transportation

(TxDOT); Texas Forestry Association (TFA); Texas Logging Council (TLC); EPA; and Waste Management (WM). The following entities and 11 individuals generally supported the proposal: BP, GHASP, Lake Jackson, LWV-Houston, LWV-TX, Missouri City, Public Citizen, and SEED. The following entities and 16 individuals generally opposed the proposal: ABC, AGC-Texas, ARTBA, Baker Botts, BCCA, BFI, Brazoria County, Chambers County, Dow, EMA, ExxonMobil, Harris County, HCIC, TCSE-HC, AGC-Houston, Liberty County-Sheriff, Montgomery Co., PHA, Phillips 66, REI, Simonton, Spring Valley, TFA, TLC, and WM. The following entities and 13 individuals suggested changes to the proposal as stated in the ANALYSIS OF TESTIMONY section of this preamble: ABC, AGC-Texas, ARTBA, BCCA, Baker Botts, BFI, Brett & Wolff, Chambers County, Mayor of Houston, Dow, ED, EMA, EPA, ExxonMobil, Harris County, HCIC, AGC-Houston, Sierra-Houston, Lake Jackson, Liberty County-Sheriff, MCA, Missouri City, Montgomery Co., NASA, PHA, Simonton, Spring Valley, Texas City, TFA, TLC, Houston MPO, TxDOT, and WM.

Phillips 66, REI, Dow, ExxonMobil, and one individual supported the comments submitted by BCCA; therefore references to BCCA should be read to include these commenters. The Mayor of Houston supported the comments submitted by Harris County; therefore references to Harris County should be read to include the Mayor of Houston. Harris County supported the comments submitted by the Houston MPO; therefore references to the Houston MPO should be read to include Harris County and the Mayor of Houston. Public Citizen supported the comments submitted by ED; therefore references to ED should be read to include Public Citizen.

ANALYSIS OF TESTIMONY

Legal Issues

AGC-Texas, ARTBA, BCCA, BFI, ExxonMobil, PHA, Phillips 66, and WM commented on the draft RIA and stated that the proposed rules were not evaluated in accordance with the analysis requirements for a major environmental rule. The commenters stated that Texas Government Code, §2001.0225, requires an RIA for certain major

environmental rules. The commenters stated that the commission must consider the benefits and costs of the proposed rules in relationship to state agencies, local governments, the public, the regulated community, and the environment. The commenters stated further that the commission must also incorporate aspects of this analysis into the fiscal note in the proposed rules, e.g., identify the costs and the benefits; describe reasonable alternative methods for achieving the purpose of the rules considered by the agency; provide the reasons for rejecting those alternatives; and identify the data and methodology used in performing the analysis. The commenters stated that under §2001.0225(d) the commission must also find that "compared to the alternative proposals considered and rejected, the rule will result in the best combination of effectiveness in obtaining the desired results and of economic costs not materially greater than the costs of any alternative regulatory method considered."

The commenters stated that the rule proposal preamble statement, that the rules are exempt from the RIA requirement because federal law mandates the rules, is a legally flawed effort to avoid an RIA and may render the rules invalid. The commenters stated that federal law does not mandate the control requirements, emission rates, and use restrictions contained in the proposal and asserted that many of the proposed rules exceed specific federal rules and standards applicable to the same sources.

BFI commented that the commission failed to comply with its statutory obligations to prepare a complete and accurate fiscal note and perform a meaningful RIA. AGC-Texas and ExxonMobil commented that these rules exceed a standard set by federal law, exceeds an expressed requirement of state law, and are adopted solely under the general powers of the agency. ExxonMobil commented further that the commission must incorporate aspects of this analysis into the fiscal note and that such analysis should at least include: 1) identification of the costs and the benefits; 2) reasonable alternative methods for achieving the purpose of the rule considered; 3)

reasoning for rejecting those alternatives; and 4) identification of the data and methodology used in performing the analysis. ExxonMobil commented that the commission must find that these rules will result in the "... best combination of effectiveness in obtaining the desired results and economic costs not materially greater than the costs of any alternative regulatory method considered." AGC-Texas expanded on this in that they state that the proposed rules will not result in the "best combination of effectiveness in obtaining the desired result and economic costs not materially greater than the costs of any alternative regulatory method considered." They commented that many of the non-road control measures being considered as alternatives are projected to cost between $3,000 and $15,000 per ton of NO_x reduced. Furthermore, ARTBA, ExxonMobil, and WM commented that they do not agree with the commission claim that these rules were exempt from these requirements because federal law "specifically required" them. WM commented that an RIA must be performed and offered for public comment before a proposal can be finally adopted.

The commenters stated that the rule proposal preamble acknowledges that the rule proposal components are "major environmental rules," but that the commission asserted that an RIA is "seldom" required and is only required for "extraordinary" rules. The commenters stated that these criteria appear nowhere in the RIA requirements. The commenters stated that the rule proposal preamble states that "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." The commenters stated that this "no greater than is necessary or appropriate" determination is the conclusion that an RIA is designed to evaluate and to offer for public review and comment. The commenters stated that the rule proposal is well beyond any federal mandates for the covered sources and are "extraordinary."

The commission agrees that these rules meet the definition of a major environmental rule; however, the commission disagrees that its interpretation of the exemption for federally

mandated standards is legally flawed. While the rules may require significant capital investment by equipment owners and operators, that alone is not enough to trigger the RIA requirements. The Texas Government Code, §2001.0225, only applies to a major environmental rule adopted by a state agency, 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 does not meet any of these four applicability requirements, and is adopted in substantial compliance with the RIA requirements in Texas Government Code, §2001.035. These rules do not exceed an express standard set by federal law, because the fleet requirements are specifically developed to meet the ozone NAAQS set by the EPA under 42 USC, §7409. Title 42 USC, §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 42 USC, §7410 does not specifically prescribe programs, methods, or reductions to meet the federal 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 42 USC, Chapter 85, Air Pollution Prevention and Control). Title 42 USC does require some specific measures for SIP purposes, such as an inspection and maintenance program, but those programs

are the exception, not the rule, in the federal SIP structure. 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. In order to avoid federal sanctions, states are not free to ignore the requirements of 42 USC, §7410, and must develop programs to assure that the nonattainment areas of the state will be brought into attainment on schedule. Failure to develop control strategies to demonstrate attainment can result in federal sanctions. Thus, while specific measures are not prescribed, both a plan and emission reductions are required to assure that the nonattainment areas of the state will be able to meet the attainment deadlines set by 42 USC. The EPA has provided the criteria for both the submission and evaluation of attainment demonstrations developed by states to comply with 42 USC. This criteria requires states to provide, in addition to other information, photochemical modeling and an analysis of specific emission reduction strategies necessary to attain the NAAQS. The commission's photochemical modeling and other analysis indicate that substantial emission reductions from both mobile and point source categories are necessary in order to demonstrate attainment. In this case, this rulemaking is intended to achieve reductions in ozone precursor emissions in the HGA nonattainment area. Specifically, as noted elsewhere in this rule preamble, the emission reductions associated with these rules are a necessary element of the attainment demonstration required by 42 USC.

This conclusion is supported by the legislative history for Texas Government Code, §2001.0225. During the 75th Legislative Session, SB 633 amended the Texas Government Code to require agencies to perform a RIA of certain rules. The intent of SB 633 was to require agencies to

conduct an RIA of 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. 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. Because of the ongoing need to address nonattainment demonstrations required by federal law, the commission routinely proposes and adopts SIP rules. If each rule proposed for inclusion in the SIP was incorrectly considered as exceeding federal law, every SIP rule would require the full RIA contemplated by SB 633. This result would be inconsistent with the cost estimates and fiscal notes prepared by the commission and by the LBB. Because 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 meet the requirements under §2001.0225(a). While the SIP rules will have a broad impact, that impact is no greater than is necessary or appropriate to meet the requirements of 42 USC. In other words, the proposed rules are intended to meet federal and state law, and do not go above and beyond what is required to meet federal or state statutes.

The commission has consistently applied this construction to its rules since this statute was enacted in 1997. Since that time, the legislature has revised the Texas Government Code but left this provision substantially unamended. It is presumed that "when an agency interpretation is in effect at the time the legislature amends the laws without making substantial change in the

statute, the legislature is deemed to have accepted the agency's interpretation." *Central Power & Light Co. v. Sharp*, 919 S.W.2d 485, 489 (Tex. App.–Austin 1995), *writ denied with per curiam opinion respecting another issue*, 960 S.W.2d 617 (Tex. 1997); *Bullock v. Marathon Oil Co.*, 798 S.W.2d 353, 357 (Tex. App.–Austin 1990, no writ). *Cf. Humble Oil & Refining Co. v. Calvert*, 414 S.W.2d 172 (Tex. 1967); *Sharp v. House of Lloyd*, Inc., 815 S.W.2d 245 (Tex. 1991); *Southwestern Life Ins. Co. v. Montemayor*, 24 S.W.3d 581 (Tex. App.--Austin 2000, *pet. denied*); and *Coastal Indust. Water Auth. v. Trinity Portland Cement Div.*, 563 S.W.2d 916 (Tex. 1978).

The commission's interpretation of the RIA requirements is also supported by a change made to the APA by the legislature in 1999. In an attempt to limit the number of rule challenges based upon APA requirements, the legislature clarified that state agencies are required to meet these sections of the APA against the standard of "substantial compliance." under Texas Government Code, §2001.035. The legislature specifically identified §2001.0225 as falling under this standard. The commission has substantially complied with the requirements of §2001.0225.

Therefore in addition to not exceeding an express standard set by federal law, these rules do not exceed state requirements, and are not adopted solely under the general powers of the agency because the provisions of the TCAA, §§382.011, 382.012, 382.017, 382.019, and 382.039 authorize the commission to implement a plan for the control of the states air quality, including measures necessary to meet federal requirements. The remaining applicability criteria, pertaining to exceeding a delegation agreement or contract between the state and the federal government does not apply. Thus, the commission is not required to conduct an RIA as provided in Texas Government Code, §2001.0225.

BCCA, BFI, ExxonMobil, Phillips 66, and WM commented that the rules were proposed without an adequate takings impact assessment (TIA). BFI commented that the agency failed to perform a meaningful TIA. BCCA, ExxonMobil, and WM stated that Chapter 2007 of the Texas Government Code requires an agency to prepare a written TIA when proposing a rule. BCCA, ExxonMobil, and WM further stated that the assessment must describe the purpose of the proposed action; determine whether engaging in the proposed action will constitute a taking; and describe reasonable alternative actions that could accomplish the specified purpose and explain whether these alternatives actions also would constitute a takings. BCCA commented that these rules will significantly impact private real property by rendering existing non-road equipment unusable. BCCA and ExxonMobil stated that guidelines from the attorney general direct an agency to carefully review governmental actions that have a significant impact on the owner's economic interest. Finally, BCCA commented that commission did not explain why the rules were reasonably taken to meet the federal requirement and therefore does not qualify for the exemption claimed. BCCA stated that these rules require more than is necessary to meet the federal requirement.

The primary reason the commission determined that these rules did not constitute a takings under Texas Government Code, Chapter 2007 is that they will not burden private real property. These rules apply to non-road equipment which is not real property nor an appurtenance thereto.

In its analysis, the commission also found that the rules are exempt from Texas Government Code, Chapter 2007 under §2007.003(b)(4), because they are reasonably taken to fulfill an obligation mandated by federal law. The commission included elsewhere in this preamble its

reasoned justification for adopting this strategy and explained why it is a necessary component of the federally mandated SIP. This discussion, as well as the HGA SIP which is being adopted concurrently, explains in detail that every rule in the HGA SIP package is necessary, and that none of the reductions in those packages represent more than is necessary to bring the area into attainment with the NAAQS. This rulemaking action therefore meets the requirements of §2007.003(b)(4). Although the rule amendments 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 significantly advance the health and safety purpose and therefore meet the requirement of §2007.003(b)(13). For these reasons the rules do not constitute a takings under Chapter 2007 and do not require additional analysis.

BCCA, ExxonMobil, PHA, Phillips 66, and WM stated that the proposed rules did not include adequate notice as required under Texas Government Code, §2002.024. ExxonMobil commented that §2002.024 requires that the notice of a proposed rule include: a brief explanation of the proposed rule; its text; a statement of the statutory or other authority for the proposed rule; a fiscal note showing its impact to state and local governments; a note about public benefits and costs; the local employment impact statement (if required); a request for comments from any interested person; and other statements required by law. BCCA, ExxonMobil, PHA, and WM stated that adequate notice is essential for fairness as well as a meaningful opportunity to comment on a proposed rule, and that courts have considered notice "adequate" only if: 1) interested persons can confront the agency's factual suppositions and policy preconceptions; and 2) the agency provides interested parties the opportunity to challenge the underlying factual data relied upon by the agency. BCCA, PHA, and WM commented that §2001.024 of the APA requires adequate notice of a proposed rule, including information about its public benefits and costs.

BCCA, Phillips 66, and WM stated that they have identified a number of critical gaps in the underlying factual data, methodology, and analysis in support of the proposed rules. The commenters asserted that the proposal included insufficient information and analysis regarding costs and impacts. The commenters asserted that the commission has not adequately responded to requests for additional information from stakeholders. The commenters stated that the following requests for information were outstanding: information regarding the modeling of emissions, information regarding the corrected emissions inventory database, and information supporting the estimated costs of control. The commenters stated that this information is necessary in order to comment effectively on the proposed rules and that data gaps in the proposal hindered effective comment.

The commission disagrees with the commenters and made no change in response to these comments. Texas Government Code, §2001.024 requires that the notice of a proposed rule to include certain information. Subsection (a)(5) requires that the notice state the public benefits expected as a result of the adoption of a proposed rule and the probable economic cost to persons required to comply with the rule. Adequate notice is essential for fairness as well as a meaningful opportunity to comment on a proposed rule. *United Loans, Inc. v. Pettijohn*, 955 S.W.2d 649, 651 (Tex. App.-Austin 1997). To achieve the goal of encouraging meaningful public participation in the formulation and adoption of rules by state agencies, the notice must have sufficient information so that interested persons can determine whether it is necessary for them to participate in order to protect their legal rights and privileges. The proposed rules contained an analysis of information available to the commission regarding the costs and benefits of these rules. The commission received intelligent comments which were substantial in both number and in scope, regarding the costs as well as the benefits. Therefore, the

commission believes this goal has been achieved and that the notice includes sufficient information to constitute adequate notice.

The purpose of the comment period is for the public to provide the commission with information to say why they agree or disagree. There is no requirement that the commission determine the probable economic cost of the unique aspects of every facility or source that must comply, nor give the probable economic cost of every possible method of control. Rather, the notice must include the cost of a reasonable method of compliance. Mere disagreement with cost estimates does not render notice inadequate.

These rules meet the requirement to include sufficient information in explaining the fleet requirements, to whom they apply, the compliance schedule, the anticipated cost of compliance, and the anticipated reduction in emissions. To simply state that the proposal failed to provide sufficient information does not provide the commission with sufficient information to propose changes or alternative strategies. The commenters did not say how the notice is insufficient, merely that it is insufficient. Nevertheless, the commission reviewed the notice, determined it to be adequate, and responded to comments regarding costs associated with compliance with these rules elsewhere in this ANALYSIS OF TESTIMONY.

Similarly, the comments which state there are critical gaps did not identify what those gaps are or how that results in inadequate notice. The commission is unaware of any requests for additional information to which it was not completely responsive.

BCCA, ExxonMobil, PHA, Phillips 66, and WM commented that the rules were proposed without an adequate small and micro-business assessment. Specifically, the commenters stated that the commission failed to consider the costs of compliance for small and micro-businesses, and that the proposal did not adequately compare of the cost of compliance for small businesses to the cost of compliance for the largest businesses affected by the proposed rules. The commenters stated that Texas Government Code, §2006.002, requires an agency to prepare a statement in the rule proposal of the effect on small and micro-businesses. The commenters further stated that this statement must include an analysis of the cost of compliance with the rules, and a comparison of the cost of compliance for small and micro-businesses with the cost of compliance for the largest business effected by the rules. The commenters stated that this comparison must use one of the following standards: cost for each employee, cost for each hour of labor, or cost for each $100 of sales. BCCA noted that none of the SIP rules' small and micro-business assessments applied the mandated cost comparison standards, even where the commission acknowledged "significant" impact. BCCA commented that the commission either restated the costs of compliance it identified in the analyses of public benefits and costs, or concluded that it cannot determine the cost to small businesses. BCCA noted that it is impossible for the public to provide comment on whether the commission adequately considered the effect of the rules on small business because the commission did not publish the information required by Texas law. Finally, ExxonMobil commented that an agency must provide a basis for its conclusion that a rule does not adversely impact small business and compare the impact on large versus small business.

The commission estimated, to the extent possible, the costs to small businesses and determined that the cost depends more upon the number of non-road engines operated by the business, and that it is not dependent upon the number of employees, hours of labor, or amount of sales income. Some small businesses have only one piece of non-road equipment while others have

large fleets. Large businesses vary in the same way. The size of the fleet is not dependent upon the size of the business. The commission provided the estimated cost per piece of equipment and argues that this is the only meaningful way to provide sufficient notice of the cost to small business, and therefore, that it meets the objective of the Texas Government Code, Chapter 2006. This assertion is supported by the fact that no small businesses provided comments which include cost of compliance in terms of the number of employees, hours of labor, or amount of sales income.

BCCA, ExxonMobil, PHA and WM commented that the rules did not include the local employment impact statement required under Texas Government Code, §2001.022. The commenters stated that §2001.022, requires the commission to determine whether the rule proposal has the potential to affect a local economy before proposing the rule for adoption. The commenters stated that if answered affirmatively, the commission must request that the Texas Workforce Commission (Workforce Commission) to prepare a local employment impact statement describing in detail the probable effect of the rules on employment in each geographic area affected by the rule for each year of the first five years that the rules will be in effect. The commenters further asserted that the commission failed to make the required initial determination and ignored the potential for the proposal to adversely affect the local economy. The commenters stated that a local employment impact statement should have been requested and prepared in advance of the proposal.

The commission agrees with the commenters that the rules may affect a local economy, however, does not agree that it is the responsibility of the commission to provide the local employment impact analysis. The APA requires state agencies to determine whether a rule may affect a local economy before proposing a rule for adoption. If an agency determines that a

proposed rule may affect a local economy, the agency must send a copy of the proposed rule and other information to the Workforce Commission before the agency files notice of the proposed rule with the secretary of state. The APA requires the Workforce Commission to prepare a local employment impact statement for proposed rules, if a state agency requests the statement. The commission determined that the proposed rules might affect a local economy, and sent the proposed rules and other requested information to the Workforce Commission. This commission received a letter from the Workforce Commission, indicating that they did not have the ability to determine the potential local employment impacts from the proposed rules.

AGC-Texas, ARTBA, BCCA, BFI, EMA, PHA, Simonton, Spring Valley, WM, and two individuals commented on federal preemption. One individual commented that the rules may be preempted by federal regulations. Another individual and Spring Valley commented that any attempt by the commission to adopt a rule governing the emissions of non-road diesel engines is preempted by federal law. ARTBA, BCCA, BFI, and PHA commented that the FCAA, §209 preempts the commission from adopting these rules. BFI further stated that the Supremacy Clause of the United States Constitution preempts the commission from adopting these rules. AGC-Texas and BCCA commented that §209(e)(1) preempts states from regulating new non-road engines in construction equipment/vehicles and farm equipment/vehicles smaller than 175 hp. AGC-Texas and WM commented that the rule language in 30 TAC §114.472 expressly requires fleets to meet engine "standards" and that these standards exceed federal standards because federal standards do not apply to used engines. AGC-Texas and WM further commented that §209(e)(2) authorizes California to adopt and enforce "standards and other requirements relating to the control of emissions," but other states are not allowed to adopt new or used engine standards. Finally, AGC-Texas commented that states must adopt California's non-road standards if they wish to control new or used non-road engines not preempted by §209(e)(1), and at this time California has not adopted used non-

road engine standards. EMA commented that §209(e)(2) broadly preempts all states and their political subdivisions (except California) from adopting or attempting to enforce "any standard or other requirements relating to the control of emissions" from non-road engines and vehicles (42 USC, §7543(e)). EMA further commented that preemption applies to all non-road engines and vehicles, whether they are "new" or not. They further stated that the rules would effectively ban the sale and operation if Tier 1 non-road engines and vehicles that are otherwise authorized for sale and operation under controlling federal law, and that this would constitute a standard or other requirement relating to the control of emissions from non-road engines. Simonton commented that the commission should have no authority to tell owners of diesel equipment when to retire equipment.

The commission disagrees that these rules are preempted by federal law. The mobile source provisions of 42 USC 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). In accordance with the court's interpretation, only standards which apply to the non-road vehicles or engines are preempted by the FCAA, §209(e). States retain authority to promulgate in-use restrictions. Under this rule, no manufacturer will have to create a special vehicle for Texas which is what Congress intended to prohibit. The EPA established the existing standards for non-road engines. These rules do not set a standard for non-road engines, but instead they require that certain percentages of a non-road fleet meet the existing federal Tier 2 and Tier 3 standards. Additionally, these rules do not set a standard for in-use engines, they simply restrict the use of older, dirtier engines within the HGA nonattainment area. This type of use restriction is clearly allowed by the EPA rule for state implementation and case law regarding preemption under §209(e). See 59 Fed. Reg. 36, 969 (July 20, 1994) and *Engine Manufacturers Association v. EPA*, 88 F.3d

1075 (D.C. Cir. 1996). The commission disagrees with the comment which characterizes these rules as a standard instead of a use restriction. The rules do not attempt to regulate or "ban" the sale of Tier 1 equipment. The rules place no restrictions on the sale of equipment, only the area of use. Tier 1 equipment may be used outside the nonattainment area or it may be used in the area if the operator choose to comply with an alternative plan for emissions reduction. In fact, the reductions required by these rules do not have to be created by the equipment owner or operator but may be acquired from other entities, by the purchase of credits through the cap and trade program established in a concurrent rulemaking action. For these reasons, these rules are not preempted by federal law.

An individual, AGC-Texas, and HCIC commented on legal authority. The individual stated that the commission broadly interpreted the TCAA to give them the authority to regulate non-road diesel engines. The individual further stated that the commission authority is limited to on-road vehicles, and that it is not reasonable to believe or infer that the Texas Legislature intended to directly confront the FCAA and to usurp the EPA's direct responsibilities. AGC-Texas commented that proposal of these rules exceed the commission's statutory authority. AGC-Texas commented that TCAA, §382.09, applies "to engines used to propel land vehicles" and that this section does not apply to "equipment" or engines used not only to propel, but also to perform other functions. AGC-Texas commented further that the prime function of the equipment covered by these rules is not that of a land vehicle, and that this point is further reinforced by the definition a motor vehicle in Texas Transportation Code, §114.500(2). AGC-Texas concluded that these rules are therefore based solely on the general powers of the agency. HCIC questioned the legal ability of the agency to write and implement these rules.

The commission assumes that AGC-Texas is referring to TCAA, §382.019 as opposed to §382.09. In addition to §382.019, the commission also cites authority in §§382.011, 382.012, 382.017, and 382.039, all of which provide specific authority for this rulemaking, and are not "general powers" of the agency. Section 382.019 specifically authorizes rules to reduce emissions from engines used to propel land vehicles. As noted by AGC-Texas, engines subject to this rule are used, at least in part, to propel the equipment. The statute doesn't limit the commission's authority to engines which are used solely or primarily to propel engines. Therefore the commission asserts that §382.019 does provide authority for the adoption of these rules. Additionally, the presence of this authorization does not imply a lack of authority to control emissions from other types of vehicles or equipment. For these reasons, the commission disagrees that this rulemaking exceeds its statutory authority.

ABC commented that it is their understanding that Texas Health and Safety Code, §392.011(b) directs the commission to seek to implement the TCAA through measures that are "practicable and economically feasible." ABC stated that these rules are anything but economical and feasible. BFI commented the rules violate the TCAA in that the commission failed to conduct an analysis sufficient to determine the economic feasibility of the rules and the public health and general welfare impacts of those rules as required by TCAA, §§382.011 & 382.002. AGC-Texas commented that this strategy is not economically feasible.

These rules as proposed anticipated the possibility that some regulated entities may find it difficult to replace their diesel equipment in accordance with the schedule in the rules. Therefore the rules include a provision which would allow the owner or operator to propose an alternative strategy to achieve equivalent reductions. If there is a more cost-effective way to

achieve the necessary reductions, these rules allow for it to be implemented instead of the fleet requirements. This provision of the rules ensures that the requirements are practical and economically feasible. In the event that no other alternative is more cost effective, then compliance with the fleet requirements is the most practical and economically feasible way to make the reductions necessary to meet the federal air quality standards.

Cost of compliance and equipment availability

ABC, AGC-Texas, ARTBA, BFI, Chambers County, Harris County, HCIC, Texas City, Spring Valley, Missouri City, and six individuals commented on the financial impact of these rules. One individual commented that the cost of new equipment must be borne by the public in the case of equipment used by industry and the taxpayer in the case of government work and equipment. Another individual commented that these rules will economically devastate small and marginal construction companies. The third individual commented that the people should not be forced to do things, plus people cannot afford it. The fourth individual commented that the rules would greatly add to the city operating and capital costs. The fifth individual commented that these rules will bankrupt businesses. The sixth individual commented that the rules will cause small business owners to find a way to get around the rules by being dishonest, or if he does follows the rules, then he will be forced out of business by the cost of replacing equipment. Chambers County questioned if the rules are going to shut their construction and economic development down. HCIC and Harris County commented that they oppose the rules for economic reasons. ARTBA commented that small businesses, minority-owned construction companies, and minority and low-income workers will be impacted by these rules. ARTBA further stated that the rules will impose huge capital costs on construction companies. AGC-Texas commented that contractors will have to borrow $4.5 billion in order to comply with these rules and that this amount of debt can not be absorbed by the industry. ABC commented that contractors will be seriously damaged economically if they are forced to purchase new

equipment before the lifespan of their equipment has been reached. They further commented that cost of these rules to the construction industry, along with the workday shift rules, would be around $450 million for the eight-county area. Texas City commented that the rules will result in an increase of equipment cost which will make it harder for smaller communities and school districts to comply with the rules. Missouri City commented that increased costs with city construction projects could result.

The commission recognizes that compliance with these rules will result in increased costs and economic impacts to affected businesses and the communities in which these businesses operate. However, the commission anticipates that affected companies and communities will find and make the necessary adjustments to minimize these impacts, especially considering the far more substantial economic impacts that would result from the failure of the HGA area to attain the federal air quality standards that these rules are designed to help achieve. These rules are an essential component to the overall strategy to reduce peak ozone levels to enable the HGA area to attain federal ozone standards. Although many of the rules included in the current SIP attainment strategy will not be easy to implement and will cause many of the affected entities to adjust normal operations and make certain sacrifices, these rules are of critical importance in the protection of the environment and human health, which is essential for continued economic prosperity for all entities affected by the rules. The failure to attain these standards would significantly impact the area's economy, and the quality of life of its citizens and communities.

In order to provide maximum flexibility, the rules includes a provision for an emissions reduction plan. This is a plan submitted to the commission by a fleet owner or operator to show alternate methods of achieving emissions reductions equivalent to the emissions reductions that would be

achieved by complying with the requirements of these rules. This provision will allow for the financial impacts to industry and governments to be mitigated if they find ways to achieve the emission reductions without having to buy new equipment.

ABC, BCCA, and Dow commented on federal Tier 2/Tier 3 equipment availability. ABC and BCCA commented that the commission is requiring owners and operators to have Tier 2 and Tier 3 engines and equipment earlier than the federal schedule. ABC commented that the accelerated implementation of the Tier 2 and Tier 3 engines may not be possible given that many of the nation's engine manufacturers are only planning their rollout of Tier 2 and Tier 3 engines based on the FCAA schedule. BCCA commented that the rules impose a duty on owners and operators to have in place, engines that meet Tier 2/3 standards on a schedule that is earlier than the federal standard. Dow commented that they can not determine if Tier 2 or Tier 3 equipment is available or if it will become available by the effective date of these rules.

These rules do not accelerate the implementation of the Tier 2 and Tier 3 engines as set forth in 40 CFR, §89.112. The rules simply require that a fleet owner or operator ensure that their fleet consists of Tier 2 and Tier 3 engines as specified in §114.472. In essence, these rules accelerate the natural turnover of the equipment. All manufacturers who plan to keep selling non-road diesel engines in the United States will already have to comply with the Tier 2 and Tier 3 standards. At this time, the commission is unaware of any manufacturers that are not going to sell Tier 2 and Tier 3 engines. Furthermore, the requirement dates in the rules were determined so that they come after the federal implementation dates of the Tier 2 and Tier 3 engines. In other words, if a owner or operator of a fleet chooses to buy new non-road equipment to comply with these rules,

then this equipment will already be on the marketplace. The following table contains the implementation dates of the federal Tier 2 and Tier 3 standards.

Figure 2: 30 TAC Chapter 114 - Preamble

Implementation Dates of Federal Non-road Emission Standards		
Engine Power	Tier	Model Year
50 ≤ hp‹ 100	2	2004
	3	2008
100 ≤ hp‹ 175	2	2003
	3	2007
175 ≤ hp‹ 300	2	2003
	3	2006
300 ≤ hp‹ 600	2	2001
	3	2006
600 ≤ hp ≤ 750	2	2002
	3	2006
hp › 750	2	2006

For example, the rules as adopted require non-road equipment fleets in the 100 to 750 hp range to be 10% Tier 2 by the end of 2004. Tier 2 engines are available beginning in years 2001 to 2003 for

this hp range. Thus the rules are not requiring use of the equipment until it is available on the marketplace.

An individual, NASA, PHA, and WM commented on the compliance schedule. The individual asked that more time be given in the compliance schedule. NASA, PHA, and WM commented that they are concerned that the transition to lower emission diesel engines may not be achievable due to production limitations of the original equipment manufacturers (OEM), and NASA encouraged the commission to work with the OEMs to ensure a realistic schedule. Furthermore, PHA suggestd that, if the commission does pursue this rule, then in order to address the engine availability issue, PHA requested that an exemption be added to §114.477 as follows: **(c) An operator is exempt from complying with §114.472 and §114.476, if it can demonstrate that no equipment that can perform the function of the equipment to be replaced and that meets the Tier 2 and Tier 3 standards is commercially available.**

The commission disagrees that an exemption as outlined by PHA should be added to the rules. Furthermore the commission believes that the compliance schedule is long enough to ensure adequate supply. The commission expects that the adoption of these rules and the subsequent demand that will result from the adoption will prompt the manufacturers to make sure that they can meet the demand. Also, if fleet operators or owners submit emissions reduction plans, that are approved by the commission, then the demand for the equipment may not be as great since there will be other alternatives to achieve the emissions reductions.

MCA commented that rules such as the construction ban will not be effective. MCA stated that accelerating the phase-in schedule of these rules would provide the additional NO_x reductions that would purportedly be gained from the construction ban.

The commission believes that the "construction ban" will be effective rules. Furthermore, it is not possible to accelerate the phase-in schedule any more than what is already in the rules because the requirement dates in the rules were established so that they come after the federal implementation dates of the Tier 2 and Tier 3 engines. In other words, if a fleet owner or operator chooses to buy new non-road equipment to comply with the rules, then this equipment will already be on the marketplace. The commission believes that the compliance schedule is as aggressive as possible given these considerations.

An individual commented that the commission should require California heavy equipment engines on new equipment as of October 1, 2003.

The commission disagrees with this comment. California has adopted the federal Tier 2 and Tier 3 standard for non-road engines. Therefore requiring California engines would achieve the same benefit as requiring a federal engine. Furthermore, the commission disagrees with using October 1, 2003 as a start date because Tier 2 engines with hp greater than or equal to 50 and less than 100 and engines with hp greater than 750 will not be on the market yet. No changes have been made to the rule in response to this comment.

An individual commented that the rules go far beyond anything that is necessary to protect the environment, that the analysis and basis behind these rules is flawed, and that these rules are being set up to embarrass Texas and the Governor.

The commission's intent is not to embarrass Texas and/or the Governor but instead to comply with the timelines provided in 42 USC and subsequent EPA guidance for submitting rules to demonstrate ozone attainment in HGA. Accordingly, the commission has committed to adopting the majority of the necessary rules for the HGA attainment demonstration by December 31, 2000.

The commission worked extensively with the construction industry and other affected industries in the HGA area, along with consultants, to ensure that the emissions inventory and the inventory of affected equipment in the area is as accurate and as specific to the HGA area as possible. The accuracy of the inventories thereby ensures the accuracy of the modeling of the affected industries' contribution to the air quality problem, as well as the necessary ozone reductions that these rules are designed to achieve. The commission is required to use a federally-recognized and approved model for developing data that will be used to demonstrate attainment with the SIP. The commission used the most state-of-the-art photochemical methodologies to develop these rules. The Comprehensive Air Model with Extensions (CAMx) model that was used is the latest version of the photochemical model for SIP modeling recognized by the EPA. The Houston Diesel Construction Emissions project was conducted with the goal of improving upon the emission levels used previously in the Houston attainment plan. Previous inventories had been supplied by the EPA in their Non-Road Equipment and Vehicle Emission Study (NEVES). As such, the accepted method to model years other than the 1990 NEVES

data was to apply growth factors from the Economic Growth Assessment System (EGAS); then technology reduction factors had to be applied to the grown inventories to model new federal emission rules such as those for diesel engines. Over the last year, however, a new method of calculating non-road emissions has been developed by the EPA called the NONROAD model. The NONROAD model will be used for updating the attainment modeling (1993 base case and 2007 future case) for the Houston area because the model has the best available science with regard to emission factors and treatment of activity (equipment usage rates) data. The NONROAD model works more like the highway emissions model, MOBILE, in that temperatures and fuel qualities can be modified to better reflect local conditions. The main change to the NONROAD model input stream was the use of new equipment populations for diesel construction equipment. The commission worked with representative construction operators through independent engineering firms. The general approach was to define the market share of the representative construction companies and then upscale the equipment totals based upon estimated total market share. Local equipment data then had to be adjusted to state equipment populations using adjustment factors, because NONROAD requires state-wide totals to perform the county-based calculations. Under contract with the Houston-Galveston Area Council (HGAC), Eastern Research Group (ERG) conducted a detailed survey of construction equipment populations and activity within the eight-county HGA ozone nonattainment area. As part of this effort, Starcrest Consulting facilitated communications with a coalition of local construction trade organizations and assisted with the development of survey strategies. Based on the study's findings, input files were generated for use in the EPA NONROAD emissions model in order to estimate total pollution levels from construction sources operating in the area. These results serve as an update to the commission's previous estimates based on the EPA's default

methodology. Commission staff then re-ran the NONROAD model using the revised input files to develop a revised construction emissions inventory for the Houston area. For several reasons it is believed that the NEVES survey methodology originally used significantly overestimated equipment populations (and therefore emissions) for the construction sector in Houston. For example, Houston serves as headquarters for some of the world's largest construction companies, with thousands of employees dedicated to engineering and administrative work. However, the employment surrogates found in the County Business Patterns Report do not distinguish between "office" and "field" employees. While the number of construction field employees in a given area may be indicative of overall construction activity, projections using total "construction employment" in the Houston area may drastically overestimate overall equipment numbers and activity. For these reasons it was thought that a "bottom-up" survey of construction sources in the area could provide significant improvements to the equipment inventory. However, previous survey attempts encountered very low response rates, and ultimately proved unsuccessful. As part of a multi-task contract with HGAC, ERG agreed to perform a comprehensive survey of all construction equipment activity in the eight-county HGA ozone nonattainment area. In order to improve survey response rates, ERG obtained assistance from a coalition of several local trade organizations, termed the HCIC. The HCIC, along with their representative Starcrest Consulting, was instrumental in identifying key experts for interviews, as well as encouraging their member companies to actively participate in the survey effort. This effort provided the commission with a much-improved inventory of construction equipment emissions in the Houston area, and resulted in the revisions incorporated into the Base 6 and Base 6a modeling. Even though the revised inventory greatly reduced the uncertainty in construction equipment emissions, the commission continually seeks to improve its inventories.

Based upon this in-depth work, the commission believes that the analysis and basis behind the rules is not flawed. Additionally, the SIP modeling makes clear that the SIP does not require more reductions than are absolutely necessary.

Alternatives and Flexibilities

Two individuals, Baker Botts, AGC-Texas, BCCA, Dow, and Spring Valley commented on the need for the EPA to implement the Tier 2 and Tier 3 standards sooner that what is currently prescribed, and to be held accountable for their lack of timely action on non-road engines. One individual and Spring Valley commented that the commission should engage in discussion with the EPA to encourage the earlier implementation of these standards. The second individual, Baker Botts, and PHA commented that the commission should urge the EPA to grant SIP consideration based on their lack of timely action. AGC of Texas commented that the EPA should accept responsibility for the late promulgation of federal standards for non-road engines. They commented that this has caused the commission to consider onerous strategies with regard to these engines that are not economically feasible. Baker Botts commented that it generally supports the ongoing efforts by the commission to develop a SIP that is technologically achievable, economically reasonable, and legally approvable. Baker Botts, BCCA, ExxonMobil, Harris County, Phillips 66, Spring Valley, and an individual commented that the commission should incorporate into the SIP a greater level of reductions from federally preempted sources and stated that EPA-regulated sources account for about 40% of the NO_x emissions in the HGA. The commenters stated that the EPA issued a number of regulations for some federally preempted sources, such as land-based spark engines, marine, recreational and land-based diesel engines, aircraft, and locomotive engines, well after the FCAA deadlines, and that the EPA recently strengthened rules for on-road and non-road vehicles and fuels, such as low sulfur gas and diesel, Tier 2 motor vehicles, heavy-duty highway vehicle standards, and non-road Tier 2/Tier 3 heavy-duty engine standards. The commenters stated that delays in implementing these rules have prompted

the commission to propose technically and economically infeasible emission reductions from sources in HGA that the state has authority to regulate to make up for the missing federal reductions. The commenters stated that these delays have forced the commission to propose expensive regional fuels and significant use restriction regulations. The commenters stated that the commission and the EPA can ensure an equitable distribution of the compliance burdens necessary to meet mandated air quality improvement in HGA only by allowing the SIP to capture anticipated emission reductions from federally preempted sources. Baker Botts noted that the EPA demonstrated a willingness to assume responsibility for a portion of emission reductions by creating a process in Los Angeles called a "public consultative process," that would resolve issues related to emissions from national and international sources, and that the EPA has also provided flexibility in obtaining offsets by allowing states to provide offsets to refiners based on emission reductions that the EPA projected would result from mobile sources using Tier 2 gasoline. Baker Botts suggested that this same sort of prospective crediting should be used to develop a more rational HGA SIP, and that the EPA should allow the commission to credit in the SIP the prospective emission reductions that will result from implementation of the Tier 2 gasoline rule and from other federally preempted sources. Finally, Baker Botts cited two cases in which the District of Columbia Circuit Court has approved the EPA's flexibility with respect to statutory deadlines under the FCAA when the EPA has failed to meets its own deadlines, and this failure was deemed to upset the balanced federal/state responsibilities under the FCAA. ExxonMobil commented that it supports the commission and the EPA crediting the HGA SIP with an additional 60 tpd of federally preempted emission reductions that will occur over the next ten years. Harris County commented that the commission should work with the EPA to accelerate the implementation schedule for federally preempted emissions so that at least one-half of the related emission reductions are achieved by 2007, and that as a part of this process, the commission should delineate federal assignments detailing the engine standards and emission reductions necessary to achieve real and sustainable pollution reductions.

The commission agrees with the commenters that emission reductions from federally preempted sources would provide benefits for the HGA SIP demonstration, and the inability of the commission to regulate certain source categories has necessitated the use of other ozone control strategies. However, the commission understands that the EPA SIP approval process does not provide a mechanism for credit for emission reductions that occur after the attainment date. The commission understands that the EPA is not currently considering accelerating implementation schedules for existing federal rules. The commission is working with the EPA to determine the availability of SIP credit for many nontraditional control strategy mechanisms, like economic incentive programs and flexibility for preempted source categories. Additionally, the commission is working with the EPA to determine an appropriate federal contribution credit available for the HGA SIP.

WM commented that the commission should explore other alternatives such as the extension of the attainment deadline in order to provide sufficient time for new, low-emission equipment to penetrate the market.

The FCAA requires that a state have no more than one exceedance of the NAAQS in the year preceding the extension year, and that the state has complied with all requirements and commitments in the applicable implementation plan, prior to EPA granting such an extension. There is no provision in the FCAA or EPA guidance for EPA granting an extension in the absence of this data. However, the commission is committed to working with EPA and all interested parties to provide opportunities for new, low-emission equipment availability within the HGA nonattainment area.

Two individuals requested that the mandatory element of this rule be deleted to allow for a voluntary program. Another individual commented that the rule should be voluntary on equipment predating 1992. The Mayor of Houston urged the commission to work with industry to try to develop voluntary agreements in order to avoid lawsuits.

The EPA provides for the inclusion of voluntary programs or measures as part of the attainment demonstration, but limits the amount of emission reduction credit that may be claimed from such measures, due to the fact that the programs are not enforceable mechanisms. In accordance with EPA policy, the commission included some voluntary programs as part of the HGA SIP. The HGAC is the entity responsible for the development and implementation of these programs, which are detailed in the HGA SIP as the Voluntary Mobile Emissions Reduction Program (VMEP). If the adopted rule became voluntary it could not be counted as an enforceable measure obtaining emission reductions for the demonstration of attainment. As stated elsewhere in this preamble, the emissions reductions associated with these rules are necessary for the attainment of the NAAQS in the HGA area. The NO_x emissions from non-road equipment comprise 12% of the HGA area's total NO_x emissions. Because of this significant contribution that the equipment affected by these rules makes to the HGA area's ozone levels, it is essential that the rules be implemented along with the other rules and measures included in this SIP revision in order for the HGA area to demonstrate attainment with the federal ozone standard.
It is possible for voluntary measures to be made enforceable through agreements and in that case they can be counted toward the SIP. The commission included a provision in these rules which would allow these enforceable agreements to be counted toward compliance with the

rules. The commission encourages efforts to reach enforceable agreements as suggested by the Mayor of Houston, and looks forward to working with all interested participants.

Two individuals, ABC, AGC-Texas, BCCA, ED, ARTBA, Harris County, HCIC, AGC-Houston, PHA, Spring Valley, Texas City, the Houston MPO, and WM commented that the commission should provide for economic incentive programs to encourage development of new technologies, achieve earlier and/or greater reductions in pollution, and substitute for other rule proposals which may be costly and difficult to meet and enforce. The first individual, Spring Valley, and the Houston MPO commented that the rules should be replaced with an economic incentive program. The second individual and WM commented that the commission should consider voluntary rules that are part of an incentive program. ABC and BCCA commented that a diesel equipment incentive plan should be developed and that such plan would remove more NO_x emissions than both the construction workday shift rule and the accelerated Tier 2/Tier 3 rule combined. AGC-Texas commented that the commission should replace these rules with a market-based incentive program similar to the California Carl Moyer program. AGC-Houston commented that they support State Senator Buster Brown's proposal of developing legislation to fund an incentive program patterned after the Carl Moyer program in California. ED commented that the rules should be be supplemented with market-based strategies that can be implemented immediately.

The commission agrees that economic incentive programs can potentially be an effective tool for achieving air quality. One such program is the Carl Moyer program in California. That program appears to be successful in providing flexibility to the regulated industry while still achieving reductions in air emissions. The California program is authorized by and funded through the California state legislative process; however, such legislative approval does not currently exist for a similar Texas program. The commission will continue to try to identify economic incentives

which it has authority to implement. Because the commission agrees that market-based incentive programs can be an important component in encouraging development of new technologies and/or greater or more cost-effective emission reduction strategies, the commission has provided for the inclusion of economic incentive programs as a component of the HGA SIP in the future.

In addition, these particular rules do provide for the regulated entity to submit an alternative plan to achieve equivalent emission reductions. This alternative would enable regulated entities to take advantage of an economic incentive program which is developed in the future. The commission will continue to work with industry representatives to identify options for compliance which may currently exist or which may become available in the near future.

Three individuals commented that a tax credit or tax incentive should be given to companies to help replace their equipment.

The commission agrees that a tax credit or incentive would be helpful. Currently, 30 TAC Chapter 17, Tax Relief for Property Used for Environmental Protection, is the commission's program that provides tax relief for the purchase of pollution control property. On November 2, 1993, the Texas voters approved a constitutional amendment, commonly referred to as "Proposition 2," that provides an exemption from property taxation for pollution control property. The intent of the constitutional amendment was to ensure that capital investment undertaken to comply with federal, state, or local environmental mandates did not result in an increase in a facility's property taxes. Legislation implementing that amendment, House Bill 1920, was passed during

the 73rd Texas Legislative Session which added a new §11.31 and §26.045 to the Texas Tax Code. The Tax Code provides that pollution control property could include any land purchased after January 1, 1994; or any structure, building, installation, excavation, machinery, equipment, or device; and any attachment or addition to or reconstruction, replacement, or improvement of property that is used, constructed, acquired, or installed wholly or partly to meet or exceed rules or regulations adopted by any federal, state, or local environmental agency for the prevention, monitoring, control, or reduction of air, water, or land pollution. Motor vehicles are specifically noted as being ineligible for an exemption under this provision of the Tax Code. The Tax Code contains a two-step process for securing an exemption from property taxes for pollution control property. An applicant must first receive a determination from the commission that the property is used for pollution control purposes. The applicant then can use this determination to apply to the local appraisal district for a property tax exemption.

The Mayor of Houston commented that the Construction Trades Association, EMA, and other interest groups are contemplating lawsuits for the purpose of removing these rules, among others, from the SIP. However, the city recognizes that without these rules, the area will not be able to meet the air quality standards. Therefore the city urges the commission to begin dialogue with the groups to develop enforceable alternatives. Texas City commented that the city is working with various industry groups to try to identify flexibilities for complying with the rules.

The commission agrees that these rules are needed for the HGA area to reach attainment. In order to achieve the maximum flexibility possible, the rules include a provision for an emission reduction plan. This is a plan submitted to the commission by a fleet owner or operator to show

alternate methods of achieving emissions reductions equivalent to the emissions reductions that would be achieved by complying with the requirements of these rules. To develop a guidance document for this plan, a workshop has already taken place where stakeholders were invited and were given drafts of the requirements of the emissions reduction plan and asked for their input and comments. Further workshops will be held and the commission intends to work with the stakeholders to come up with an emissions reduction plan guidance document that will be workable and agreeable to everyone. The commission appreciates the efforts of all local entities, such as Texas City, which are working with industry to identify options for compliance.

Rule Coverage

Sierra-Houston and one individual commented that the rules should be adopted statewide.

The commission appreciates the support for state-wide applicability of the rules. The commission notes, however, that it is not obligated to adopt all rules statewide in order to satisfy its commitments under the SIP, nor is the commission required to do so under 42 USC. Three of the proposed measures which contained emissions reduction strategies that have been proposed for state-wide applicability are: California large-spark ignition engines; emissions banking and trading program (that portion of the rules which relates to the trading of emission reduction credits and discrete emission reduction credits); and cleaner diesel fuel (that portion of the proposed rules which relates to on-road fuel).

In evaluating whether to implement all of the rules statewide, the commission took into account many concerns, including the need for the marketplace to be able to respond to regulation, the

possible impacts on transport and distribution systems, the possibility of increased costs and financial burdens on regulated entities, and the regional needs and issues associated with state-wide mandates. The commission analyzed where emission reduction measures are most needed and where emissions reduction measures will be most effective in order to demonstrate attainment.

Equipment inventories and emission inventories do not support the implementation of these particular rules on a state-wide basis. These inventories and associated modeling show that the vast majority of heavy-duty diesel equipment is located and used in the DFW and HGA metropolitan areas, coinciding with the major concentrations of population in the state. Therefore, emissions from this equipment are also concentrated in those areas. In addition, these areas have air quality problems that are more serious than the rest of the state, primarily with ozone, the compound that these rules are designed to help reduce. These existing air quality problems, coupled with the geographic concentration of equipment usage and emissions, justifies implementing rules to control the emissions of ozone-forming compounds from heavy-duty diesel equipment in the DFW and HGA areas only, rather than statewide. Generally, mobile source emissions have more of a localized effect on ozone formation than elevated point sources. Given the more localized effect, and the fact that equipment subject to these rules do not typically travel over long distances, a state-wide application of the rules is not warranted at this time. However, these rules do not preclude other areas from implementing similar locally-regulated or voluntary programs to achieve similar benefits.

After careful consideration of all of these factors, the commission determined that the rules as proposed will achieve the needed emissions reductions and promote cleaner air throughout the State of Texas.

Montgomery Co. commented that their elimination from these rules would result in a difference of less than 1/100th of one ppb (0.01 ppb) of ozone. One individual commented that the rules such as this one should not apply in rural counties like Chambers and Liberty Counties.

Montgomery, Chambers, and Liberty Counties are all part of the HGA nonattainment area. The FCAA Amendments of 1990 provided new requirements for areas that had not attained the NAAQS for ozone, carbon monoxide, particulate matter, sulfur dioxide, nitrogen dioxide, and lead, and new requirements for SIPs in general. The EPA was authorized to designate areas failing to meet the ozone NAAQS as nonattainment and to classify them according to severity. The FCAA, §107(d)(4)(A)(iv) mandated that areas designated as serious, severe, or extreme for ozone that were within a metropolitan statistical area (MSA) or CMSA must have boundaries that include the entire MSA or CMSA. This requirement is supported by the legislative history for the FCAA Amendments in Senate Report Number 101-228, page 3399, "Because ozone is not a local phenomenon but is formed and transported over hundreds of miles and several days, localized control strategies will not be effective in reducing ozone levels. The bill, thus, expands the size of areas that are defined as ozone nonattainment areas to assure that controls are implemented in an area wide enough to address the problem." The FCAA provided the ability to exclude portions of the entire MSA or CMSA prior to designation if the state conducted, and EPA agreed, a study

that proved that the geographic portion did not contribute significantly to violation of the NAAQS.

For existing areas currently included within a nonattainment area, the specific area must be redesignated as attainment in order to be removed from a nonattainment area designation. FCAA, §107(d)(3) provides that the EPA may not redesignate a nonattainment area, or a portion thereof, to attainment unless several criteria are met, which include: a determination that the area has attained the NAAQS; there is a fully approved SIP for the area; there is a determination that the improvement in air quality is due to permanent and enforceable reductions in emissions; there is an approved maintenance plan for the area; and the state has met all requirements for the area under Section 110 and Part D of the FCAA. Redesignation has not occurred for any portion of the HGA nonattainment area, and is not currently being considered.

However, even if a specific area within the HGA nonattainment area was redesignated by the EPA as attainment for ozone, reductions associated from all adopted ozone control strategies would still be necessary because of the requirements of the FCAA, §107(d)(3) and §175A which require maintenance plans for all redesignated areas. The maintenance plan must include the measures specified in §107(d)(3) and any additional measures that are necessary to ensure that the area continues to be in attainment with the NAAQS for ten years after the redesignation. Eight years after the redesignation, the state is required to submit an additional revision to the SIP for maintaining the NAAQS for another ten years after the end of the first ten-year period.

Additionally, reductions associated from the ozone control strategies that will be implemented outside the HGA nonattainment area will benefit the HGA nonattainment area. This is due to the regional nature of air pollution, the contribution from mobile sources, and the economies of scale and associated market advantages related to distribution networks for some strategies.

At the time the 1990 FCAA Amendments were enacted, the focus on controlling ozone pollution was centered on local controls. However, for many years an ever increasing number of air quality professionals have concluded that ozone is a regional problem requiring regional strategies in addition to local control programs. As nonattainment areas across the United States prepared attainment demonstration SIPs, several areas found that modeling attainment was made much more difficult, if not impossible, due to high ozone and ozone precursor levels entering from the boundaries of their respective modeling domains, commonly called transport. Recent science indicates that regional approaches may provide an improved control of ozone air pollution.

The commission conducted air quality modeling and upper air monitoring that found regional air pollution should be considered when studying air quality in Texas' ozone nonattainment areas. This work is supported by research conducted by the OTAG, the most comprehensive attempt ever undertaken to understand and quanitfy the transport of ozone. Both the commission and the OTAG study point to the need to take a regional approach to controlling air pollutants.

Five individuals commented that the rules would have an impact to farming and ranching. Two individuals commented that farmers and ranchers could not afford new equipment. Another individual commented that the rules would have an adverse economic impact on farmers. The commenter further stated that a project being undertaken by farmers in the Liberty, Jefferson, and Chamber counties will make "carbon credits" available to local industries which will not only have cash value but economic development advantage points. Three individuals commented that the cost of new equipment would be prohibitive and suggested that an agricultural exemption be put in place.

The commission disagrees that farmers and ranchers will experience a severe economic impact because the rules already contain an exemption, in §114.477(a)(6), for equipment which is used solely for agricultural purposes. This would include much, if not all, the equipment used by farmers and ranchers. Therefore, the rules would not affect farmers and ranchers unless they were using heavy-duty diesel equipment for non-agricultural purposes. Concerning the project that is being undertaken by the farmers, the commission supports all projects which have a potential to reduce emissions and support economic development.

TFA and TLC commented that small businesses such as logging contractors are not financially able to retire their equipment. They further state that the rules would be devastating to these contractors.

The commission disagrees that loggers will experience a severe economic impact because the rules do not require logging equipment such as chain saws, shredders, fellers, bunchers, and skidders to comply with these rules. The commission added language to the agricultural exemption to make clear that logging uses are also exempt.

Rule Effectiveness

Simonton commented that the commission should limit their concern to the exhaust emission levels, not the age of the equipment. An individual commented that we should look at the quality of what the equipment is putting out instead of just retiring old equipment. If the equipment is bad, then retirement may be necessary.

These rules are in fact based upon the exhaust emissions, not the age of the equipment. The rules require that certain percentages of a fleet must be certified to meet federal standards. The rules do not prohibit use of older equipment if it can be retrofitted to meet the same emission rates as newer, cleaner equipment. Additionally, if an operator chooses to submit an emissions reduction plan, older equipment may be included under that plan.

The commissions acknowledges that their may be old equipment that runs fine and is properly maintained, and therefore its emissions are acceptable for that equipment. However, the fact remains that the Tier 2 and Tier 3 engines will have more stringent standards than previous engines and equipment. Therefore, emissions levels will be lower for these fleets that contain Tier 2 and Tier 3 equipment or their equivalent.

An individual, Harris County, and the Houston MPO commented that the rules will not be effective. The individual stated the proposal is not based on proven technology, and Harris County stated that the rules are untried and untested. The Houston MPO commented that the Tier 2/Tier 3 standards are experimental, difficult to quantify, and market acceptance is uncertain.

The commission disagrees that these rules will not be effective. Although it is true that this strategy has never been implemented, the commission believes that it is reasonable, based on known and credible science, to reduce emissions from diesel equipment in order to meet the federal ozone NAAQS. The federal Tier 2 and Tier 3 standards are more stringent than Tier 1 and earlier equipment. It is therefore reasonable to conclude that a fleet that consists of only Tier 2 and Tier 3 equipment will emit less than a fleet that consists of a mix of unregulated, Tier 1, Tier 2, and Tier 3 equipment. The commission disagrees that market acceptance will be a problem because the Tier 2 and Tier 3 engine standards are a federal requirement, and therefore the manufacturers will have no choice but to produce such engines. The demand created by these rules may actually increase sales of the newer equipment which could help manufacturers recoup their development costs more quickly. The commission disagrees that the rules will be hard to quantify because the emission factors for this equipment are known and because the HGA inventory of construction equipment has been significantly refined. Through the use of the NONROAD model and the photochemical modeling, the rules have been shown to reduce 12.20 tpd of NO_x in 2007. For these reasons the commission asserts that the rules are based on well-accepted science and that they will be an effective emission reduction strategy.

Miscellaneous

Sierra-Houston opposes the use of emission credits and trading for these rules because they feel that the commission should be maximally reducing air emissions. Dow supports the commission position to allow credits for early upgrades to diesel equipment. Harris County supports the use of trading.

The commission disagrees that emission credit and trading should not be used to help with compliance to the rules. The commission believes that the flexibility offered through emission trading will provide opportunities for regulated entities to achieve significant emission reductions in a method that best suits that particular entity . This is just one tool that can be used in the emissions reduction plan to get the needed emission reductions. Furthermore, trading can only occur within the same nonattainment area so when a credit is generated, an actual reduction is taking place in the HGA nonattainment area. Finally, trading encourages early reductions and could give incentive for the development of cleaner technologies on an accelerated timetable.

Two individuals commented on the use of equipment after it has been "retired." One individual commented that the retiring of old equipment that is inefficient will result in such equipment ending up in third world countries such as South America and Africa. The commenter suggested that the equipment be scrapped, certified, and inspected. The second individual commented that this equipment should be dismantled.

The commission agrees that the "retirement" of old equipment may cause such equipment to end up in other areas of the region, state, nation, and possibly the world. The commission anticipates that this older equipment will be resold or transferred out of the area, thus mitigating the cost of compliance with these rules. Use of this older equipment in areas which do not have air quality problems is not cause for concern.

Concerning the dismantlement, scrappage, certification, and inspection of the "retired" equipment, the commission believes that the equipment should not be scrapped, because that

equipment can be used in other areas outside of HGA. Furthermore, the commission does not believe certification and inspection of this "retired" equipment would serve any useful purpose.

Two individuals, Sierra-Houston, and Liberty County-Sheriff expressed concern over enforcement of the rules. More specifically, Sheriff Arthur wondered who is going to enforce the rules. He stated that they have a lot more serious problems in Liberty County to be concerned about. Sierra-Houston commented that the commission has not explained how enforcement will be done.

As with all of its rules, the commission will enforce the requirements after the rule compliance date and take appropriate action for noncompliance situations. The rules are enforced by commission staff in the regional offices, as well as local air pollution control programs. Local governments have the same power and are subject to the same restrictions as the commission under TCAA, §382.015, Power to Enter Property, to inspect the air and to enter public or private property in its territorial jurisdiction to determine if the level of air contaminants in an area in its territorial jurisdiction meets levels set by the commission. Local governments are not required to enforce commission rules, but may sign cooperative agreements with the commission to enforce the rules under TCAA, §382.115, Cooperative Agreements. Local programs can also enforce commission rules without signing a cooperative agreement. The authority of local governments to enforce air pollution requirements is specified in detail in TCAA, §§382.111 - 382.115, and local governments can institute civil actions in the same manner as the commission under Texas Water Code (TWC), §7.351.

The commission will work with local officials to ensure enforcement of the SIP and SIP rules. The commission has existing relationships with pollution control authorities in the City of Houston, Harris County, and Galveston County for enforcement of other commission rules. The agency will continue enforcement relationships with these entities and develop relationships with other local officials as needed to create effective enforcement mechanisms for the SIP and SIP rules.

Effected entities are required to report in accordance with 30 TAC §114.476, Reporting and Recordkeeping Requirements, and would have to keep those reports onsite. These rules have been written to allow enforcement to take place during operation by an investigator who requests the reports. An operator without reports on-site which include the piece of equipment being operated can then be cited with a violation of the rules. In addition, enforcement is possible by reviewing construction permits in the affected counties and performing spot checks at construction sites. The commission plans to use public education and public awareness as part of the enforcement strategy to ensure that the requirements of these rules are understood and that they will be enforced.

Lake Jackson commented that they have 22 pieces of non-road equipment and believe that they would be able to replace most of the equipment to comply with these rules. TxDOT commented that up to 138 pieces of equipment would be subject to these rules and that they would comply with these rules.

The commission appreciates Lake Jackson and TxDOT identifying these pieces of equipment for compliance with these rules.

EPA commented that the commission should provide information regarding the viability of the alternative means of compliance.

The EPA comments allude to the provision in the rules for the emissions reduction plan. In addressing the viability of alternative measures that could be used in such a plan, the commission is developing a guidance document for this plan. A workshop has already taken place where stakeholders were invited and were given drafts of the requirement of the emissions reduction plan and asked for their input and comments. Further workshops will be held and the commission intends to work with the stakeholders to come up with an emissions reduction plan guidance document that will be workable and agreeable to everyone.

ARTBA commented that the commission should not over-regulate the construction industry. They stated that the industry is already heavily regulated by the EPA emission standards on construction equipment.

The commission disagrees with this characterization of the construction industry as "heavily regulated." It is true that the EPA has issued emission standards for categories of non-road engines used by the construction industry. However, these standards were promulgated well after the federal statutory deadline and did not require any reductions until 1996, nor were any significant reductions required until the 2001 - 2006 time frame. The EPA has never regulated the non-road diesel fuel used in construction equipment, nor has the EPA regulated the hours which that equipment can be used. Until this year the commission had not regulated emissions from construction equipment, except incidentally as part of permitting actions. The commission has historically focused its regulations on point sources and on-road vehicles. Due to the efforts of

state and federal agencies, these point sources and motor vehicles have become substantially cleaner over time and, as a result, the emissions from construction activities have increasingly made up a disproportionate amount of the emissions inventory. Given the amount of reductions needed to demonstrate attainment for the HGA SIP, the commission must require substantial reductions from all sectors including point sources, on-road vehicles, and non-road engines. Therefore, the commission does not agree that the construction industry is being over-regulated as part of the HGA SIP.

Three individuals commented about on-road diesels. One individual commented that the soot emissions coming from diesels cars are ten times higher than others. Two individuals commented that something should be down about the black smoke being emitted from diesel trucks. One of these individuals commented that it is a distraction in traffic, while the other individual commented that new equipment that is sold should have lower emissions, and existing equipment should be required to be replaced or upgraded. Both individuals commented that some sort of device be applied to existing diesel trucks to reduce emissions.

These commenters suggestions are beyond the scope of this rulemaking because these rules only affect non-road engines and equipment. However, the commission is considering for adoption, concurrent with this rulemaking, low-emission diesel fuel standards which would lower emissions from diesel trucks. Also, in the near future, new federal standards for on-road, heavy-duty diesel trucks will begin.

TxDOT suggested that the requirement in the rules that require 25% of the 50 to 100 hp fleet be Tier 2 by December 31, 2004, should be changed to 10%. They stated that because this equipment does not become available until 2004, then it may be hard to meet the 25% requirement.

The commission made no change in response to this comment. The commission believes that the 25% requirement will be achievable, and anticipated that OEMs will provide sufficient numbers of equipment in response to these rules because of the market that will be created. The commission also anticipates that many entities will choose to implement an emissions reduction plan, thus somewhat lessening the demand for the new equipment. However, when the SIP mid-course correction occurs in the 2003 to 2004 time frame, the commission will evaluate whether changes to the rule requirements will need to be made.

Brett & Wolf commented that for purposes of complying with the rules, a fleet owner or operator should be allowed choose to replace existing diesel-fueled equipment with units powered by gas turbines and/or fuel cells, and that these be counted as part of the fleet meeting the Tier 3 diesel standards under 30 TAC §114.472.

The commission believes that if it is feasible for a fleet owner or operator to replace diesel equipment with gas turbines and/or fuel cells, then they may do so. If all non-road equipment is converted to use these technologies then the fleet would not be subject to these rules, because gas turbines and/or fuel cells are not compression-ignition engines. Also, converting engines to these technologies is certainly a measure which could be included in an emissions reduction plan.

Sierra-Houston commented that the under 30 TAC §114.476, records should be maintained for five years because, this is the length of time the commission uses for compliance history.

The commission disagrees that records should be maintained for five years. Because the annual reports will be kept by the commission, more than three years of recordkeeping for an owner/operator is not deemed necessary. The commission made no change in response to this comment.

PHA commented that EPA approval of an emissions reduction plan should not be necessary. They commented that the commission has the requisite authority to approve the plans and should not require EPA approval. Therefore, PHA requested that 30 TAC §114.477(b) be revised to delete the phrase "and the EPA" with regard to plan approval.

The commission disagrees with this comment. Because this plan is part of a SIP strategy, an EPA review of the emissions reduction plans is prudent to ensure that the SIP is complete, approvable, and enforceable.

STATUTORY AUTHORITY

The new sections are adopted under TWC, §5.103, which authorizes the commission to adopt rules necessary to carry out its powers and duties under the TWC, and under Texas Health and Safety Code, TCAA, §382.017, which authorizes the commission to adopt rules consistent with the policy and purposes of the TCAA. The new sections are also adopted 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.

CHAPTER 114: CONTROL OF AIR POLLUTION FROM MOTOR VEHICLES SUBCHAPTER I: NON-ROAD ENGINES

DIVISION 8: HOUSTON/GALVESTON HEAVY EQUIPMENT FLEETS - COMPRESSION-IGNITION ENGINES

§§114.470, 114.472, 114.476, 114.477, 114.479

§114.470. 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) Blue Sky Series engine - A non-road engine meeting the requirements of Title 40 Code of Federal Regulations (CFR) §89.112(f), as amended on October 23, 1998.

(2) Compression-ignition engine - A type of engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The non-use of a throttle to regulate intake air flow for controlling power during normal operation is indicative of a compression-ignition engine.

(3) Fleet - The aggregate of non-road equipment powered by compression-ignition engines that operate within the counties specified in §114.479 of this title (relating to Affected Counties) under the authority of the same person. Regarding fleet equipment leased for one year or longer, the authority is considered to reside

with the lessee. For fleet equipment leased for less than one year, the authority is considered to reside with the lessor.

(4) Non-road engine - An engine as defined in Title 40 CFR §89.2, as amended on December 29, 1999.

(5) Non-road equipment - Equipment which is powered by a non-road engine and which is not licensed for on-road use.

(6) Tier 2 engine - An engine subject to the Tier 2 emission standards listed in Title 40 CFR §89.112(a), Table 1, as amended on October 23, 1998.

(7) Tier 3 engine - An engine subject to the Tier 3 emission standards listed in Title 40 CFR §89.112(a), Table 1, as amended on October 23, 1998.

§114.472. Control Requirements .

(a) Persons who own or operate non-road equipment powered by compression-ignition engines 50 horsepower (hp) and larger, in the counties listed in §114.479 of this title (relating to Affected Counties), are subject to the compliance requirements specified in subsection (b) of this section.

(b) Owners or operators shall ensure that their fleet is certified to meet or exceed the Tier 2 and Tier 3 standards in accordance with the following schedule.

(1) For the part of the fleet greater than or equal to 50 and less than 100 hp:

(A) at least 25% of the affected portion of the fleet shall meet Tier 2 certification standards by December 31, 2004;

(B) at least 50% of the affected portion of the fleet shall meet Tier 2 certification standards by December 31, 2005;

(C) at least 75% of the affected portion of the fleet shall meet Tier 2 certification standards by December 31, 2006; and

(D) 100% of the affected portion of the fleet shall meet Tier 2 certification standards by December 31, 2007.

(2) For the part of the fleet greater than or equal to 100 and less than or equal to 750 hp:

(A) at least 10% of the affected portion of the fleet shall meet Tier 2 certification standards by December 31, 2004;

(B) at least 20% of the affected portion of the fleet shall meet Tier 2 certification standards by December 31, 2005;

(C) at least 30% of the affected portion of the fleet shall meet Tier 2 certification standards by December 31, 2006; and

(D) at least 50% of the affected portion of the fleet shall meet Tier 3 certification standards, and the remainder of the affected portion of the fleet shall meet Tier 2 certification standards by December 31, 2007.

(3) For that part of the fleet with an hp rating greater than 750 hp:

(A) at least 50% of the affected portion of the fleet must meet Tier 2 certification standards by December 31, 2006; and

(B) 100% of the affected portion of the fleet must meet Tier 2 certification standards by December 31, 2007.

(c) Non-road equipment that uses a "Blue Sky Series" engine, as defined in §114.470 of this title (relating to Definitions) may be considered a Tier 2 or Tier 3 engine for compliance with the percentage requirements of subsection (b) of this section.

(d) The percentage requirements of subsection (b) of this section may also be met by a retrofit of currently owned or newly purchased non-road, compression-ignition engines certified by the EPA to meet or exceed the Tier 2 or Tier 3 emission standards.

§114.476. Reporting and Recordkeeping Requirements.

(a) Persons affected by §114.472 of this title (relating to Control Requirements) must submit annual reports for the previous year beginning February 1, 2005, and every February 1 thereafter. The report shall be submitted to the executive director and shall contain, at a minimum:

(1) the fleet identification number (when assigned by the Texas Natural Resource Conservation Commission);

(2) the person's name, mailing address, telephone and fax numbers;

(3) the name, title, mailing address, and telephone number of the specified person responsible for the fleet;

(4) a list of all non-road equipment with compression-ignition engines 50 horsepower and larger; and

(5) a demonstration of compliance with the applicable implementation schedule under §114.472 of this title.

(b) The affected person shall maintain copies of reports required by subsection (a) of this section on-site at the reported fleet address for a minimum of three years, and upon request shall make such reports available to the executive director or local air pollution control agencies with jurisdiction.

§114.477. Exemptions.

(a) The following non-road equipment powered by compression-ignition engines are exempt from §114.472 and §114.476 of this title (relating to Control Requirements; and Reporting and Recordkeeping Requirements):

(1) locomotives;

(2) underground mining equipment;

(3) marine engines;

(4) aircraft engines;

(5) airport ground support equipment;

(6) equipment used solely for agricultural and/or logging purposes which includes, but is not limited to, tractors, balers, combines, sprayers, swathers, and skidders;

(7) equipment used exclusively for emergency operations to protect public health and safety or the environment; and

(8) equipment used exclusively for freezing weather operations.

(b) Owners or operators who submit an emission reduction plan by May 31, 2002, which is approved by the executive director and the EPA no later than May 31, 2003, will be exempt from §114.472 and §114.476 of this title in the counties listed in §114.479 of this title (relating to Affected Counties) upon implementation of the rules of this division on December 31, 2004. The executive director may allow plans to be submitted after May 31, 2002. In any event, a plan must be approved prior to the use of that plan for compliance with the requirements of this division. In order to be approved, the plan must demonstrate nitrogen oxide reductions equivalent to those required by §114.472 of this title and must contain adequate enforcement provisions. The operators may submit a plan for exemption from the control requirements of §114.472 of this title, §114.482 of this title (relating to Control Requirements), or both.

§114.479. Affected Counties.

Persons in the following counties shall be in compliance with §114.472 and §114.476 of this title (relating to Control Requirements; and Reporting and Recordkeeping Requirements) no later than the dates specified in §114.472(b) of this title: Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller.