The Texas Natural Resource Conservation Commission (commission) adopts new §114.482, Control Requirements; §114.486, Record keeping Requirements; §114.487, Exemptions; and §114.489, Affected Counties and Compliance Dates. The commission adopts these revisions to add new Division 9, Houston/Galveston Construction Equipment Operating Restrictions; to Subchapter I, Non-road Engines; Chapter 114, Control of Air Pollution from Motor Vehicles; and corresponding revisions to the state implementation plan (SIP). The commission adopts these new sections in Chapter 114 and revisions to the SIP in order to control ground-level ozone in the Houston/Galveston (HGA) ozone nonattainment area. The adopted sections are one element of the control strategy for the HGA Post-1999 Rate-of-Progress (ROP)/Attainment Demonstration SIP. New §§114.482, 114.486, 114.487, and 114.489 are adopted *with changes* to the proposed text as published in the August 25, 2000 issue of the *Texas Register* (25 *TexReg* 8240).

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

HGA SIP Background and Historical Summary

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

Around the same time as the 1995 submittal, the EPA policy regarding SIP elements and time lines went through changes. Two national programs in particular resulted in changing deadlines and requirements. The first of these programs was the Ozone Transport Assessment Group. This group grew out of a March 2, 1995 memo from Mary Nichols, former EPA Assistant Administrator for Air and Radiation, that allowed states to postpone completion of their attainment demonstrations until an

assessment of the role of transported ozone and precursors had been completed for the eastern half of the nation, including the eastern portion of Texas. Texas participated in this study, and it has been concluded that Texas does not significantly contribute to ozone exceedances in the Northeastern United States. The other major national initiative that has impacted the SIP planning process is the revisions to the national ambient air quality standard (NAAQS) for ozone. The EPA promulgated a final rule on July 18, 1997 changing the ozone standard to an eight-hour standard of 0.08 ppm. In November 1996, concurrent with the proposal of the standards, the EPA proposed an interim implementation plan (IIP) that it believed would help areas like HGA transition from the old to the new standard. In an attempt to avoid a significant delay in planning activities, Texas began to follow this guidance, and readjusted its modeling and SIP development time lines 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 has indicated that the state must adopt those strategies modeled in the November submittal and then adopt sufficient controls to close the remaining gap in NO_x emissions. The modeling and other analysis supporting these rules and the HGA SIP indicate a gap of approximately 91 tons per day (tpd) of NO_x reductions is necessary for an approvable attainment demonstration. The expected emissions shift from these rules are necessary to successfully demonstrate 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, a dynamic commonly referred to as 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 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 by 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 HGA construction equipment operating restrictions program will contribute to attainment and maintenance of the one-hour ozone standard in the HGA area.

Purpose and Summary of Proposed Rules

The purpose of these rules is to establish a restriction on the use of construction and industrial equipment (non-road, heavy-duty diesel equipment rated at 50 horsepower (hp) and greater) as an air pollution control strategy to delay the emissions of NO_x, a key ozone precursor, until after noon in order to limit ozone formation. The non-road mobile source category is one of the few sources of ozone-forming emissions that is not currently regulated by state or federal rules. Federal controls such as cleaner-burning engines and cleaner-diesel fuel have been proposed, but are not scheduled to be implemented until the 2004 time frame.

The adopted revisions will provide a similar restriction on the use of construction and industrial equipment as that previously adopted by the commission for the Dallas/Fort Worth (DFW) ozone nonattainment area, except that the effective period for the HGA ozone nonattainment area is between the hours of 6:00 a.m. and noon, from April 1 through October 31. The affected area includes the following counties within the HGA nonattainment area: Brazoria, Fort Bend, Galveston, Harris, and Montgomery. The contribution towards the reduction in ozone levels from restricting the hours of operation of construction and industrial equipment is an essential component of the control strategy and is necessary for the HGA ozone nonattainment area to demonstrate attainment with the ozone NAAQS. However, based on estimated population, estimated population growth, and estimated emissions developed using EPA-approved methodologies, the commission believes it is not necessary to include Chambers, Liberty, and Waller Counties in the adopted rules. This issue is discussed in greater detail in the ANALYSIS OF TESTIMONY section of this preamble.

The effective date of the amended rules for HGA will be April 1, 2005. The commission established an effective date in 2005 to allow manufacturers time to produce and release new cleaner-burning equipment and retrofit technology, which would enable equipment operators to plan for and implement purchases of this equipment before rules concerning restrictions on the operation of construction and industrial equipment become effective.

Equipment Classification

The equipment to which the rules concerning operating restrictions apply includes all non-road, heavy-duty diesel equipment classified as "construction equipment" or "industrial equipment," rated at 50 hp and greater, regardless of how that equipment is being used. "Construction equipment" includes, but is not limited to, pavers, tampers/rammers, plate compactors, concrete pavers, rollers, scrapers, paving equipment, surfacing equipment, signal boards/light plants, trenchers, bore/drill rigs, excavators, concrete/industrial saws, cement and mortar mixers, cranes, graders, off-highway trucks, crushing/processing equipment, rough terrain forklifts, rubber tire loaders, rubber tire tractors/dozers, tractors/loaders/backhoes, crawler tractors/dozers, skid steer loaders, off-highway tractors, and dumpsters/tenders. "Industrial equipment" includes, but is not limited to, aerial lifts, forklifts, sweepers/scrubbers, other general industrial equipment, other material handling equipment, air conditioning/refrigeration equipment, and terminal tractors. Agriculture equipment, such as tractors, combines, balers, agricultural mowers, agricultural sprayers, irrigation sets, and tillers greater than six hp, are not considered to be construction or industrial equipment, and are therefore not regulated under these rules.

Ozone Formation

Ozone is formed through chemical reactions between natural and man-made VOC and NO_x emissions in the presence of sunlight. The critical time for the mixing (chemical reactions) of NO_x and VOC is early in the day, and thus, higher ozone levels occur most frequently on hot summer afternoons. By delaying the hours of operation of construction and industrial equipment, and delaying the release of NO_x emissions until after noon during the time period between April 1 though October 31 in the HGA nonattainment area, the NO_x emissions are less likely to mix in the atmosphere with other ozone-forming compounds until after the critical mixing time has passed. Therefore, production of ozone will be stalled until later in the day when optimum ozone formation conditions no longer exist, ultimately minimizing the peak level of ozone produced.

This strategy is not dependent on atmospheric conditions to reduce ozone formation, as such strategies are disfavored by 42 USC, §7423. Instead, the strategy creates reductions in the amount of NO_x added to the atmosphere by construction and industrial equipment during the time of day when those emissions have been shown to contribute to exceedances of the ozone NAAQS. The use of "time of day" restrictions such as this for NAAQS compliance strategies was supported by the EPA in their non-road mobile source rules.

Emissions Reduction Plan

This rule contains a provision that allows operators to submit an emissions reduction plan by May 31, 2002, which, if approved by the executive director and the EPA by May 31, 2003, could allow the operation of construction or industrial equipment between the hours of 6:00 a.m. and noon during the

restricted months. 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 in the HGA area, equipment manufacturers will invest in additional emission reduction research for construction and industrial equipment, and therefore advance the state of the art in emission reduction technology.

The emissions reduction plan must describe in detail how the operator will reduce NO_x emissions no later than April 1, 2005 by an amount equivalent to the total NO_x reductions that would have been achieved if the operator had otherwise complied with the rules. Owners or operators may submit plans to apply for exemption from either the construction equipment operating restrictions rules, the accelerated purchase of non-road heavy-duty diesel equipment rules, or from both sets of rules. The plans must contain emission reductions equivalent to the total NO_x reductions that otherwise would have been required by the rules, and must describe how the operator plans to ensure compliance with the provisions of the rules. Examples of possible modifications which may result in emission reductions include using new, cleaner-burning equipment, replacing existing equipment with cleaner-burning engines, retrofitting existing equipment with emissions-reducing technology, using emissions-reducing fuel, changing hours of operation, restricting equipment idling, and participating in an emissions banking and trading program. For example, an owner or operator may obtain emission reduction credits (ERCs), mobile emission reduction credits (MERCs), discrete emission reduction credit (DERCs), or mobile discrete emission reduction credit (MDERCs) in accordance with this section and 30 TAC Chapter 101 (General Air Rules), §101.29 (Emission Credit Banking and Trading). Note: in a concurrent rulemaking (rule log number 1998-089-101-AI), the emission credit banking and trading

rules are being moved to Chapter 101, Subchapter H (Emissions Banking and Trading), Division 1 (Emission Credit Banking and Trading) and Division 4 (Discrete Emission Credit Banking and Trading).

In order to quantify the NO_x and VOC emission reductions and equivalent ozone reductions resulting from the fleet modifications, the commission will apply the same construction and industrial equipment emission inventory factors used in the modeling to develop these rules. The commission is developing a guidance document that will be available by May 31, 2001 to assist operators in developing their plans. The guidance document will outline requirements for the emissions reduction plan exemption in detail. A working draft of the guidance document is currently available. The commission is accepting comments on it from all interested parties until May 1, 2001, and is holding workshops for all interested parties to give input into the development of the document. The commission estimates that these rules will result in an approximate 7.9 tpd shift of NO_x emissions from morning to afternoon, which is equivalent to about 6.7 tpd of NO_x reductions.

The commission is requiring submission of the plans by May 31, 2002 to allow sufficient time to review and quantify the collective emission reductions the plans propose. The executive director and the EPA 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 executive director will determine whether the collective emission reductions proposed by the plans are equivalent to the NO_x reductions that would have been achieved from implementing the underlying rules. The commission will implement the construction equipment operating restrictions rules on April 1, 2005 and

the accelerated purchase rules on December 31, 2004, as adopted, for operators who did not submit plans or whose plans were not approved.

The commission has determined that the fiscal implications may be significant due to the shift in work hours. The restriction in the hours of operation may require that companies adjust their work schedules to comply with these restrictions.

Additional Flexibilities

The commission solicited comment on the need for additional flexibility relating to rule content and implementation which have not been addressed in this or other concurrent rulemakings. Such flexibility may be available for both mobile and stationary sources. Additional flexibility may 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. The commission received comments from 40 persons and eight individuals regarding these issues. The comments are addressed in the ANALYSIS OF TESTIMONY section of this preamble.

SECTION BY SECTION DISCUSSION

The adopted new §114.482 establishes time of day operating restrictions for construction equipment. This new section restricts the operation of any non-road diesel construction and industrial equipment of 50 hp and above, between the hours of 6:00 a.m. and noon, from April 1 through October 31. The description of the time period of the restriction was changed from “Daylight Savings Time” to “April 1

through October 31" in order to be consistent with other rules. In response to a comment that the definition of construction equipment required clarification, the commission added the term “industrial” in the preamble and rule language in each instance where the types of affected equipment is mentioned, and also added to the preamble a list of the specific types of equipment included in the categories “construction and industrial equipment” that are subject to these rules.

The adopted new §114.486 requires all persons subject to the provisions of §114.482 to maintain daily records of equipment operated in the affected counties. The term “industrial” was added to subsection (a) of this section to clarify the definition of affected equipment. The term “working” was added to subsection (b) of this section to clarify the time limit to provide records upon request is to be working days rather than calendar days.

The adopted new §114.487 provides exemptions from the control requirements of §114.482 and the recordkeeping requirements of §114.486. The term “industrial” was added to subsection (a) of this section to clarify the definition of affected equipment. These exemptions include diesel equipment used exclusively for situations involving emergency operations, and diesel equipment being used for mixing, transporting, pouring, or processing wet concrete. For purposes of these rules, emergency equipment is defined as equipment being used to repair facilities, devices, systems, or infrastructure that have failed, or are in danger of failing, in order to prevent immediate harm to public health, safety, or the environment. Therefore, language was added to subsection (a)(1) to clarify this aspect of the exemption. However, this exemption does not cover equipment being used for routine maintenance of

facilities, devices, systems, or infrastructure, since such activities are not essential to prevent greater immediate harm to public health, safety, or the environment.

Subsection (b) contains an exemption that allows operators to submit an emissions reduction plan by May 31, 2002, which, if approved by the executive director and the EPA by May 31, 2003 could allow the operation of construction or industrial equipment between the hours of 6:00 a.m. and noon during the restricted months. 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. Each plan must contain adequate enforcement provisions, and must demonstrate emission reductions equivalent to the total NO_x reductions that would otherwise have been achieved under the rules from which the owner/operator is applying for exemption: construction equipment operating restrictions in §114.482, accelerated purchase of Tier 2/Tier 3 diesel equipment in §114.472, or both sets of rules. The language in subsection (b) was revised to clarify that the requirement to demonstrate equivalent NO_x reductions applies to the specific rules from which an exemption is being requested.

The commission is developing a guidance document that will be available May 31, 2001 to assist operators in developing their plans. The guidance will outline requirements for the plan exemption in detail. A working draft of the guidance is currently available from the commission. A working draft of the guidance document is currently available. The commission is accepting comments on it from all interested parties until May 1, 2001, and is holding workshops for all interested parties to give input into the development of the document.

The adopted new §114.489 specifies the counties in which these rules are applicable, and the dates and times the rules are effective. The affected counties include the counties of Brazoria, Fort Bend, Galveston, Harris, and Montgomery Counties. Based on estimated population, estimated population growth, and estimated emissions developed using EPA-approved methodologies, the commission believes it is not necessary to include Chambers, Liberty, and Waller Counties in the adopted rules. This issue is discussed in greater detail in the ANALYSIS OF TESTIMONY section of this preamble. The compliance date for the HGA area is April 1, 2005. The compliance date was changed to be consistent with the compliance dates of other rule packages.

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking meets the definition of a "major environmental rule" as defined in that statute. "Major environmental rule" means a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The rules are intended to protect the environment and/or reduce risks to human health from environmental exposure to ozone and, although the commission does not have cost estimates at this time, construction delays could affect a sector of the economy in a material way. The adopted rules are intended to implement an operating-use restriction which would prohibit the operation of heavy-duty diesel construction and industrial equipment between the hours of 6:00 a.m. and noon, from April 1 through October 31. These rules are part of a strategy to reduce the formation of ozone in the

HGA nonattainment area by delaying NO_x emissions from construction and industrial equipment until later in the day when optimal conditions for the formation of ozone no longer exist. The rules were developed to help the HGA ozone nonattainment area demonstrate attainment of the ozone NAAQS. The rules are one element of the HGA Post-1999 ROP/Attainment Demonstration SIP.

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.

These rules do not exceed an express standard set by federal law, since they implement requirements of the FCAA Provisions of 42 USC, §7410, require states to adopt a SIP which provides for "implementation, maintenance, and enforcement" of the primary NAAQS in each air quality control region of the state. 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 42 USC does require some specific measures for SIP purposes, like the inspection and maintenance program, but those programs are the exception, not the rule, in the SIP structure of 42 USC. The provisions of 42 USC recognize that states are in the best position to determine what programs and controls are necessary or appropriate in order to meet the NAAQS. This flexibility allows states, affected industry, and the public to collaborate on the best methods for attaining the NAAQS for the specific regions in the state. Even though 42 USC allows states to develop their own programs, this flexibility does not relieve a state from developing a program that meets the requirements of 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 shift the morning NO_x emissions, thereby limiting formation of afternoon peak ozone levels. Specifically, as noted elsewhere in this rule preamble, the limitation in afternoon peak ozone production associated with these rules is 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 strategies, 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 emissions management in HGA is 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 a 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 adopted 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 adopted 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 42 USC.

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 within this standard. The commission has substantially complied with the requirements of §2001.0225.

Rules adopted for inclusion in the SIP fall within the exception in Texas Government Code, §2001.0225(a), because they are required by federal law. The commission performed photochemical

grid modeling which predicts that NO_x emission shifting, such as that required by these rules, will result in reductions in ozone formation in the HGA ozone nonattainment area. This rulemaking does not exceed an express requirement of state law. This rulemaking is intended to 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. The rulemaking does not exceed a standard set by federal law, does not exceed an express requirement of state law (unless specifically required by federal law), and does not exceed a requirement of a delegation agreement. The rulemaking was not developed solely under the general powers of the agency, but rather was specifically developed to meet the federal NAAQS under the authority of the Texas Clean Air Act (TCAA), §§382.011, 382.012, 382.017, 382.019, and 382.039.

The commission solicited public comment on the draft RIA and received 14 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 proposed rules are subject to Texas Government Code, Chapter 2007. The following is a summary of that analysis. The specific purpose of the rulemaking action is to establish a construction and industrial equipment operating restriction which will delay until after noon NO_x emissions that lead to high levels of ground-level ozone production. This rulemaking will act as an air pollution control strategy to reduce ozone levels necessary for the HGA ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. The affected area includes the following counties within the HGA

nonattainment area: Brazoria, Fort Bend, Galveston, Harris, and Montgomery. 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 rules do not directly prevent a nuisance, prevent an immediate threat to life or property, or prevent a real and substantial threat to public health and safety, the rules partially fulfill a federal mandate under the 42 USC, §7410. Specifically, the emissions shift under these rules was developed in order to meet the ozone NAAQS set by the EPA under the 42 USC, §7409. 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 shifting ambient NO_x and reducing peak ozone levels in HGA. Attainment of the ozone standard will require substantial NO_x emissions control and management. Any NO_x emissions shifting resulting from the current rulemaking is 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.

Therefore, the purpose of the rulemaking action is to implement a construction and industrial equipment time of day operating restriction necessary for the HGA nonattainment area to meet the ozone NAAQS established under 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, explain 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. For these reasons the rules do not constitute a takings under Chapter 2007 and do not require additional analysis.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission has 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 31 TAC §505.11(b)(2) and 30 TAC §281.45(a)(3), relating to actions and rules subject to the CMP, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission has reviewed this rulemaking 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 ozone levels will be reduced as a result of these rules. The CMP policy applicable to this rulemaking action is the policy that commission rules comply with regulations in 40 Code of Federal Regulations (CFR), to protect and enhance air quality in the coastal area (31 TAC §501.14(q)). This rulemaking action complies with 40 CFR Part 50, National Primary and Secondary Ambient Air

Quality Standards, and 40 CFR Part 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 but received none.

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 persons and 124 individuals provided oral testimony and/or submitted written testimony: 1st Infinity Enterprises, Inc. (Infinity); AAA Asphalt Paving, Inc. (AAA Asphalt); American Road & Transportation Builders Association (ARTBA); American Short Line Railroad Association (ASLRRA); Associated Builders & Contractors of Greater Houston (ABC); Associated General Contractors of America, Houston Chapter (AGC-Houston); Associated General Contractors of Texas (AGC-Texas); Association of American Railroads (AAR); Baker Botts, L.L.P. (Baker Botts); Balfour Beatty (Balfour); Bearden Contracting Company (Bearden); Bell Janitorial (Bell); BFI Waste Systems of North America, Inc. (BFI); Boring & Tunneling Company of America, Inc. (BorTunCo); Brazos River Constructors, Inc. (BRC); Brett & Wolff, L.L.C. (Brett & Wolff); Brown & Brown Insurance (Brown & Brown); Business Coalition for

Clean Air (BCCA); Casa Linda Remodeling, Inc. (Casa Linda); CCC Group, Inc. (CCC); C.E. Barker, Inc. Underground Construction (Barker); Centex Homes (Centex); Chambers County Judge Jimmy Sylvia (Chambers County); Cherry Demolition (Cherry); Chevron Phillips Chemical Company, L.P. (Chevron); City of La Porte (La Porte); City of Missouri City (Missouri City); City of Simonton (Simonton); City of Spring Valley (Spring Valley); Clean Air Partnership (CAP); Clear Lake Area Chamber of Commerce (Clear Lake COC); Coastal Water Authority (CWA); Conrad Construction Company (Conrad); Contractor Technology, Inc. (CTI); Dayton Pipe Company (Dayton Pipe); Demar Constructors (Demar); Dina Industries, Inc. (Dina); Dow Chemical Company (Dow); Drews Custom Homes (Drews); Earth Material Services, L.L.C. (Earth Material); E.E. Reed Construction, L.C. (Reed); Ella S.A. Contracting, Inc. (Ella); Emerald Builders (Emerald); Neal, Gerber, & Eisenberg on behalf of Engine Manufacturers Association (EMA); Enterprise Products Operating L.P. (Enterprise); Environmental Defense (ED); Excalibur Construction, Inc. (Excalibur); ExxonMobil Corporation (ExxonMobil); GR Birdwell Construction, Inc. (GR Birdwell); Grandparents of East Harris County (GEHC); Greater Houston Builders Association (GHBA); Harris County Judge Robert Eckels (Harris County); Hassell Construction, Inc. (Hassell); Higgs Custom Homes (Higgs); Hoar Construction (Hoar); Holmes Homes, Inc. (Holmes); Houff Energy Corporation (Houff); Benthul & Kean on behalf of Houston Construction Industry Coalition (HCIC); Houston Contractors Association (HCA); Houston Metropolitan Planning Organization Transportation Policy Council (Houston MPO); Independent Electric Contractors, Inc. (IEC); JB Services (JBS); J & S Contractors, Inc. (J & S); Jim Frankel Custom Homes (Frankel); Joel A. Trimm Construction Company, Inc. (Trimm); John Holland Construction Co., Inc. (Holland); Kinder Morgan, Inc. (Kinder Morgan); Kossman Contracting Company, Inc. (Kossman); Kvaerner; League of Women Voters of Texas (LVW-TX); Legacy Homes

(Legacy); Legal Eagle Contractors Co. (Legal Eagle); Liberty County Judge Lloyd Kirkhall (Liberty County); Listo Company (Listo); Lyondell-Citgo Refining, L.P. (Lyondell-Citgo); Manhattan Construction Company (Manhattan); MB Western Industrial Contracting Company (MB Western); Ms Pamela Berger on behalf of Houston Mayor Lee Brown (Mayor of Houston); Mesa Mechanical, Inc. (MMI); Metropolitan Transit Authority (Metro); Mickie Service Company, Inc. (MSC); RMT, Inc. on behalf of Montgomery County (Montgomery County); Montgomery County Commissioner, Precinct 1, Mike Metter (Commissioner Metter); Montgomery County Judge Allen Sadler (Judge Sadler); Montgomery County Soil & Water Conservation District Number 452 (MCSWCD); Mothers for Clean Air (MCA); Mustang Tractor & Equipment Company (Mustang Tractor); N & S Construction Co., L.L.C. (N&S); National Aeronautics and Space Administration (NASA); National Motorists Association (NMA); National Solid Wastes Management Association (NSWMA); NBG Constructors, Inc. (NBG); NuHome Design, L.L.C. (NuHome); Nunez Construction Company, Inc. (Nunez); Paisan Construction Company (Paisan); Trinity Consultants on behalf of Pasadena Paper, Pasadena Pulp, and Donohue Industries Inc. (Pasadena/Donohue); Pat Hambrick Construction (Hambrick); Pate & Pate Enterprises, Inc. (Pate & Pate); Perry Homes; Phillips 66 Company (Phillips 66); PolyTech; Port of Houston Authority (PHA); Protherm Services Group (Protherm); Public Citizen; Reddico Construction Company (Reddico); Regional Air Quality Consensus Group on behalf of the Houston-Galveston Area Council (RAQCG); Reliant Energy, Inc. (REI); State Representative for District 16, Ruben Hope (Representative Hope); State Representative for District 130, John Culberson (Representative Culberson); Rhodia, Inc. (Rhodia); Rohm and Haas Chemical Company (Rohm and Haas); S&B Plant Services, Ltd. (S&B); Sandlin Companies (Sandlin); Sustainable Economic and Environmental Development Coalition (SEED); State Senator for District 11, Mike Jackson (Senator Jackson); Sierra

Club Houston Regional Group (Sierra - Houston); Slack & Co. Contracting, Inc. (Slack); Small Business United of Texas (SBU Texas); Solutia; Sprint Sand & Clay, L.P. (Sprint Sand); Stephen Hann Custom Builders (Hann); TDIndustries, Inc. (TDIndustries); Jenkins & Gilchrist, L.L.P. on behalf of TXI Operations, L.P., (TXI); Texas Association of Builders (TAB); Texas Chemical Council (TCC); Texas Citizens for a Sound Economy (CSE); Texas Department of Transportation (TxDOT); Texas Forestry Association (TFA) in conjunction with the Texas Logging Council (TLC); Texas Oil & Gas Association (TxOGA); Trunkline Gas Company (TGC); U.S. Army Corps of Engineers (USACE); US Home Corporation (US Home); Union Carbide Corporation (Union Carbide); Union Pacific Railroad Company (Union Pacific); University of Texas System (UT); Vernor Material and Equipment (Vernor); and Waste Management (WM).

Commenters generally supporting the proposal included Kinder Morgan, LWV-TX, Metro, TGC and 15 individuals. Commenters generally opposing the proposal included Infinity, AAA Asphalt, ARTBA, ABC, AGC-Houston, AGC-Texas, AAR, ASLRRA, Baker Botts, Balfour, Bearden, Bell, BFI, BorTunCo, BRC, Brett & Wolff, Brown & Brown, BCCA, Casa Linda, CCC, Barker, Centex, Chambers County, Cherry, La Porte, Simonton, Spring Valley, CAP, Clear Lake COC, CWA, Conrad, CTI, Demar, Dina, Dow, Drews, Earth Material, Reed, Ella, Emerald, EMA, ED, Excalibur, ExxonMobil, GR Birdwell, GEHC, GHBA, Harris County, Hassell, Higgs, Hoar, Holmes, Houff, HCIC, HCA, IEC, JBS, Frankel, Trimm, Holland, Kossman, Kvaerner, Legacy, Legal Eagle, Liberty County, Listo, Manhattan, MB Western, Mayor of Houston, MMI, MSC, Commissioner Metter, Judge Sadler, MCSWCD, MCA, Mustang Tractor, N&S, NASA, NMA, NSWMA, NBG, NuHome, Nunez, Paisan, Hambrick, Pate & Pate, Perry Homes, Phillips 66, PolyTech, PHA, Protherm, Public Citizen,

Reddico, RAQCG, REI, Representative Hope, Representative John Culberson, Rhodia, Rohm and Haas, S&B, Sandlin, SEED, Senator Mike Jackson, Sierra - Houston, Slack, SBU Texas, Sprint Sand, Hann, TDIndustries, TAB, TCC, CSE, TxDOT, TFA, TLC, TXI, TxOGA, USACE, US Home, Union Pacific, UT, Vernor, WM, and 89 individuals.

The following persons and 93 individuals suggested changes to the proposal as stated in the ANALYSIS OF TESTIMONY section of this preamble: Infinity, AAA Asphalt, ARTBA, ABC, AGC-Houston, AGC-Texas, AAR, ASLRRA, Baker Botts, Balfour, Bearden, Bell, BFI, BorTunCo, BRC, Brett & Wolff, Brown & Brown, BCCA, Casa Linda, CCC, Barker, Centex, Chambers County, Cherry, Chevron, La Porte, Missouri City, Simonton, Spring Valley, CAP, Clear Lake COC, CWA, Conrad, CTI, Dayton Pipe, Demar, Dina, Dow, Drews, Earth Material, Reed, Ella, Emerald, EMA, Enterprise, ED, Excalibur, ExxonMobil, GR Birdwell, GHBA, Harris County, Hassell, Higgs, Hoar, Holmes, Houff, HCIC, HCA, Houston MPO, IEC, JBS, J&S, Frankel, Trimm, Holland, Kinder Morgan, Kossman, Kvaerner, Legacy, Legal Eagle, Liberty County, Listo, Lyondell-Citgo, Manhattan, MB Western, Mayor of Houston, MMI, MSC, Commissioner Metter, MCSWCD, MCA, Mustang Tractor, N&S, NASA, NMA, NSWMA, NBG, NuHome, Nunez, Paisan, Pasadena/Donohue, Hambrick, Pate & Pate, Perry Homes, Phillips 66, PolyTech, PHA, Protherm, Public Citizen, Reddico, RAQCG, REI, Representative Hope, Rhodia, Montgomery County, Rohm and Haas, S&B, Sandlin, Sierra - Houston, Slack, SBU Texas, Solutia, Sprint Sand, Hann, TDIndustries, TAB, TCC, CSE, TxDOT, TFA, TLC, TxOGA, TGC, Union Carbide, USACE, US Home, Union Pacific, UT, Vernor, and WM.

Harris County supported the comments submitted by Houston MPO, RAQCG, and CAP. The comments submitted by the BCCA were supported by REI, ExxonMobil, Chevron, LP, Dow, and Phillips 66. The comments submitted by Texas Industry Project were supported by Reliant Energy, Inc., ExxonMobil Corporation, Dow Chemical Company, and Phillips 66 Company. The comments submitted by TCC were supported by ExxonMobil, Dow, and Phillips 66. ExxonMobil and Phillips 66 also supported the comments submitted TxOGA. The comments submitted by HCA were supported by Slack and Cherry. The comments submitted by GHBA were supported by Legal Eagle, NuHome, Legacy, and Perry Homes. The AGC-Houston supported the comments submitted by HCIC. The Mayor of Houston supported the comments submitted by Harris County.

ANALYSIS OF TESTIMONY

One individual commented that the public should be informed in simple terms how much pollution is generated per day and year by heavy construction equipment between 6 a.m. and noon.

For 1993, which is the base year for modeling for the HGA area, emissions from heavy-duty diesel construction equipment amounted to 42.4 tpd of NO_x.

One individual asked, “What is the benefit from this rule to Houston’s air quality in terms of percentage improvement?”

The construction equipment operating restrictions rules shift 7.9 tpd of NO_x to the afternoon, which is equivalent to an approximate 6.7 tpd of NO_x reduction. This amounts to approximately 1% of the total NO_x reductions in the HGA area.

One individual asked, "What viable alternatives exist to this provision (e.g. alternative fuel incentives)?"

The exemption offered by submitting an emissions reduction plan which demonstrates equivalent reductions offers the possibility for an alternative compliance method. Also, local stakeholders in the HGA area have expressed an interest in the creation of programs designed to provide incentives for the achievement of earlier and/or greater reductions than those reductions anticipated from currently proposed control measures. Such incentive programs could be effective technology-forcing tools to obtain substantial innovation and ozone reductions in the most cost-effective manner possible. Possible components of one such program applicable to these rules could be the provision of funds on a competitive basis to entities operating both on- and non-road NO_x sources to assist in the incremental costs of cleaner equipment (which could encourage earlier implementation of new technologies, cleaner engines, and fuels). Other incentive programs could focus on tax incentives, subsidies, research and development, technological assistance, etc. The commission anticipates that such programs could be components of the HGA ozone nonattainment SIP, either as enforceable commitments, as potential future substitute measures based on per-ton reduction cost and total funding associated with the final scope of the programs, or as alternative methods of compliance with proposed control strategies. Any incentive program or other

alternative method of compliance must result in emission reductions equivalent to those contained in these rules.

Sierra - Houston and one individual commented that there should not be exceptions to the rule.

The commission disagrees with this comment. The exemptions offered under these rules will either ensure equivalent emission reductions or will not result in significant emissions of ozone-forming compounds, so that the ozone reductions achieved by these rules will not be compromised. The commission is also committed to offering entities affected by the rules adopted under the SIP as much flexibility in complying with those rules as possible, while ensuring that the emission reductions the SIP is intended to achieve are not compromised. The exemptions allow operators to avoid the operating restriction while still contributing to the regional clean air goals. Specific justifications for the existing exemptions are as follows: Equipment, when used for situations involving emergency operations, including equipment that may have to be used to repair facilities or devices which have failed in order to prevent greater immediate harm to the environment or public health, is exempt in order to ensure protection of public health and the environment. Equipment used while mixing, transporting, pouring, or processing wet concrete is exempt because of the temperature sensitivity of these operations during the effective time period of these rules. In addition, the emissions from wet concrete processing equipment constitute a very minor contribution to the total emissions from construction and industrial equipment. Therefore, allowing this particular equipment to operate during the restricted hours is not expected to significantly impact peak ozone levels. The emissions reduction plan exemption

offered under §114.487(b) provides flexibility to operators while maintaining ozone reductions equivalent to those that otherwise would have been achieved under these rules. Equipment owners/operators that submit a plan demonstrating equivalent emission reductions may be exempted from §114.482 and §114.486 of the rules. Local stakeholders in the HGA area have expressed an interest in the creation of programs designed to provide incentives for the achievement of earlier and/or greater reductions than anticipated from currently proposed control measures. Such incentive programs could be effective technology promoting tools to obtain substantial innovation and ozone reductions in the most cost-effective manner possible. Possible components of one such program could be the provision of funds on a competitive basis to entities operating both on- and non-road NO_x sources to assist in the incremental costs of acquiring cleaner equipment (which could in turn encourage earlier implementation of new technologies, cleaner engines, and fuels). Other incentive programs could focus on tax incentives, subsidies, research and development, technological assistance, etc. The commission anticipates that such programs could be components of the HGA ozone nonattainment SIP, as enforceable commitments, as potential future substitute measures based on per-ton reduction cost and total funding associated with the final scope of the programs, or as alternative methods of compliance with proposed control strategies. Any incentive program or other alternative method of compliance must assure emission reductions equivalent to those that would otherwise have been achieved by these rules.

AGC-Texas, CCC, Mustang Tractor, and three individuals commented that this rule unfairly singles out or “targets” the construction industry.

The commission disagrees with this comment. The commission has not singled out the construction industry. The commission provided in the rule preamble a list of the equipment covered by these rules, and clarified that the rules apply to all operators of non-road, heavy-duty diesel construction and industrial equipment rated at 50 hp and above, with the exception of agricultural users, regardless of how the equipment is being used. For example, equipment such as bulldozers used in sanitary landfills, non-road cranes used in demolition, and rubber tire loaders used in manufacturing and industrial operations are subject these rules. Construction and industrial equipment were specifically proposed under these rules because of their significant contribution to of NO_x emissions to the HGA area. The commission is adopting other rules and enforceable commitments for the HGA area to regulate emissions from other types of non-road diesel equipment, as well as on-road diesel equipment and vehicles. Reducing emissions from non-road diesel equipment is also addressed with the accelerated purchase of Tier 2/Tier 3 heavy-duty diesel equipment rules and the diesel emulsion measure. Emissions from on-road and non-road diesel equipment are being addressed through the clean diesel fuel rules which will be effective in 2002 for the 95-county central and eastern Texas region. Another measure affecting other types of non-road diesel equipment is the NO_x reduction systems program. As is evidenced by the adoption of these measures, the commission is not singling out any one industry in its efforts to reduce ozone levels to bring the HGA area into attainment with federal ozone standards.

One individual commented that the number of diesel engines operating non-road on construction sites in the HGA area is insignificant compared to the number of diesel engine trucks operating on the road, and that these vehicles are allowed to operate all hours of the day without limitation.

The commission disagrees with this comment. All diesel-powered vehicles and equipment registered to be used on-road must use federally certified on-road diesel fuel. Additionally, on-road diesel vehicles and diesel equipment are being covered in the low emission diesel fuel rules for the central and eastern Texas region. Under those rules, all diesel-powered, compression-ignition engines, both on-road and non-road, will be required to use low emission diesel when refueling within the 95-county central and eastern Texas region. Other measures adopted on December 6, 2000 with the HGA SIP revision will also result in reduced emissions from on-road diesel vehicles. These measures include diesel emulsion, NO_x reduction systems, and vehicle idling restrictions. Therefore, emissions from on-road diesel trucks are already less polluting than those from non-road diesel equipment, and are less harmful to human health and the environment.

Two individuals commented that establishing the effective date for this rule far off into the future adds credence to the conclusion that this measure is meant to be simply for appearance's sake. Projects that have passed some critical investment or decision point could be grandfathered while all new projects could be subject to an earlier effective date.

The commission disagrees with this comment. The commission believes that setting a 2005 effective date will allow affected persons to have ample time to plan and prepare for the rules' implementation. This additional time will also allow manufacturers time to produce new cleaner-burning equipment, fuels, and retrofit technology, which would enable equipment operators to plan for and implement purchases of this technology before rules concerning equipment operating restrictions become effective. The emissions reduction plan offered under §114.487(b) allows

those equipment operators that submit a plan which demonstrates emission reductions equivalent to the reductions achieved for their fleet by the construction equipment operating restrictions rules to operate their affected equipment during the restricted hours. Therefore, if equipment operators are able to reduce emissions from their equipment by utilizing such technologies as retrofitting, cleaner-burning equipment, or cleaner fuels, which the effective date of 2005 would give manufacturers more time to make more widely available, then they would not be restricted from operating their equipment, and would not need to alter their schedules to accommodate the operating restrictions.

Infinity, AAA Asphalt, ARTBA, AGC-Houston, AGC-Texas, Balfour, Bell, Brett & Wolff, Brown & Brown, BCCA, CCC, Spring Valley, CAP, CWA, Demar, Dow, Reed, ED, ExxonMobil, Harris County, Hoar, HCIC, Houston MPO, Frankel, Kvaerner, Legacy, Legal Eagle, Manhattan, Mayor of Houston, MB Western, MMI, MCA, Mustang Tractor, NuHome, Nunez, Perry Homes, PolyTech, PHA, Protherm, Public Citizen, RAQCG, REI, Rohm and Haas, S&B, SBU Texas, Hann, TDIndustries, TAB, TxDOT, US Home, and 19 individuals made the following comments, except as noted.

The commission should eliminate the ban (operating restrictions) and replace it with an enforceable, market-based incentive program, such as California's Carl Moyer Program.

Equipment operators should have the option to use newer, more efficient equipment during all hours, which would provide long-lasting environmental benefits. Also, it would be more beneficial to require

emission-controlled or electric construction equipment or fleet emission standards rather than restrict the use of existing equipment.

The commission should replace the ban with other measures that would reduce pollution from much more significant sources at much less cost to the public, such as automobiles, cleaner fuels, reducing plant expansions in the area, limiting the use of restaurant drive-through lanes, shifting school schedules to mid-September through early June, coordinating traffic lights, and implementing a four-day work week with ten-hour days.

Replace the ban with a Carl Moyers-type program.

The commission does not believe it should eliminate the operating restrictions without a quantifiable, and enforceable replacement strategy that will provide ozone reductions equivalent to those achieved by these rules. The commission believes the rules should be maintained due to the high level of NO_x emissions currently generated by non-road equipment. The NO_x emissions from non-road equipment comprise 12% of the HGA area total NO_x emissions, which is a key component in the formation of ozone. Because of the significant contribution that the equipment affected by these rules makes to the HGA area ozone levels, it is essential that the construction equipment operating restrictions 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.

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 state legislative process and 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. Note that an exemption offered under §114.487(b) offers flexibility similar to the Carl Moyer program.

Local stakeholders in the HGA area have expressed an interest in the creation of programs designed to provide incentives for the achievement of earlier and/or greater reductions than anticipated from currently proposed control measures. Such incentive programs may be effective technology promoting tools to encourage substantial innovation and ozone reductions in the most cost-effective manner possible. Possible components of one such program could be the provision of funds on a competitive basis to entities operating both on- and non-road NO_x sources to assist in the incremental costs of acquiring cleaner equipment, which in turn could encourage earlier development of new technologies, cleaner engines, and fuels. Other incentive programs could focus on tax incentives, subsidies, research and development, technological assistance, etc. The commission anticipates that such programs could be components of the HGA ozone nonattainment

SIP, either as enforceable commitments, as potential future substitute measures based on per-ton reduction cost and total funding associated with the final scope of the programs, or as alternative methods of compliance with proposed control strategies.

Allow operator option to use more efficient equipment at all times.

The commission disagrees with these comments. Even newer, more efficient equipment produces sufficient emissions to significantly contribute to elevated ozone levels. The commission does not currently have a method for establishing or implementing emissions limits for construction or industrial equipment, and is preempted by federal rules from doing so. However, establishing an effective compliance date in 2005 will afford the commission additional time and opportunity to further study and refine the existing equipment and emissions inventories and modeling to determine the feasibility of implementing emissions limits for this type of equipment, both new and old, as a way to provide operators additional flexibility in complying with these rules. The 2005 compliance date will also allow research and development to continue into alternative emissions-reducing technologies for non-road, heavy-duty diesel equipment, such as electrification, which are not currently widely available to the average equipment owner/operator. In addition, the commission has offered an exemption under §114.487(b) which will allow equipment owners/operators who do implement the use of alternate emissions-reducing technologies and/or practices that reduce emissions beyond those of new equipment, and can demonstrate equivalent emission reductions from these measures, to operate that equipment during the restricted hours. This exemption allows equipment operators to take advantage of existing and emerging alternative emissions-reducing technology which would allow those operators to use their equipment during

the restricted hours if they are able to demonstrate equivalent emissions reductions. The commission does not believe it should eliminate the operating restrictions rules because of the significant contribution that non-road equipment makes to the HGA area high ozone levels. The NO_x emissions from non-road equipment comprise 12% of the HGA area total NO_x emissions. Because of the significant contribution that non-road equipment makes to the HGA area ozone levels, it is essential that the construction equipment operating restrictions 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.

Replace the ban with lower cost measures directed at more significant sources.

The commission does not believe it should eliminate the construction equipment operating restrictions without a quantifiable and enforceable replacement strategy that demonstrates proven ozone reductions equivalent to those achieved by these rules. The commission also does not believe it should do away with the operating restrictions because of the significant contribution that non-road equipment makes to the HGA area high ozone levels. The NO_x emissions from non-road equipment comprise 12% of the HGA area's total NO_x emissions, a key component in the formation of ozone. Because of the significant contribution that the equipment affected by these rules makes to the HGA area ozone levels, it is essential that the construction equipment operating restrictions rules be implemented along with other rules and measures included in this SIP revision in order for the HGA area to demonstrate attainment with the federal ozone standard. The restriction on hours of operation of non-road, heavy-duty diesel equipment is an essential component to the overall strategy to reduce peak ozone levels to enable the HGA area to attain

federal ozone standards. Local stakeholders in the HGA area have expressed an interest in the creation of programs designed to provide incentives for the achievement of earlier and/or greater reductions than anticipated from currently proposed control measures. Such incentive programs could be effective technology-promoting tools to encourage substantial innovation and ozone reductions in the most cost-effective manner possible. Possible components of one such program applicable to these rules could be the competitive provision of funds to entities operating both on- and non-road NO_x sources to assist in the incremental costs of acquiring cleaner equipment, which could encourage earlier development of new technologies, cleaner engines, and fuels. Other incentive programs could focus on tax incentives, subsidies, research and development, technological assistance, etc. The commission anticipates that such programs could be components of the HGA ozone nonattainment SIP, either as enforceable commitments, as potential future substitute measures based on per-ton reduction cost and total funding associated with the final scope of the programs, or as alternative methods of compliance with proposed control strategies. This SIP revision does contain a wide variety of measures to reduce pollution from the other sources mentioned in this comment. However, as explained above, the non-road equipment source category is a significant source of ozone-forming emissions, and therefore must be included in the state's efforts to reduce ozone.

One individual suggested that the operating restrictions be replaced with a program resembling a "no drive days" program, which would voluntarily restrict equipment operation only on certain days of the week, determined by the companies' geographic location or first letter of the company name.

The commission disagrees with this suggestion because EPA will not approve a voluntary measure as enforceable or quantifiable, two conditions which all approvable SIP measures must meet. In addition, the commission does not believe it should eliminate the construction equipment operating restrictions without a quantifiable and enforceable replacement strategy that demonstrates provides ozone reductions equivalent to those achieved by these rules. The commission does not believe it should eliminate the operating restrictions because of the significant contribution that non-road equipment makes to the HGA area high ozone levels. The NO_x emissions from non-road equipment comprise 12% of the HGA area's total NO_x emissions, a key component in the formation of ozone. Because of the significant contribution that non-road equipment makes to the HGA area ozone levels, it is necessary that the construction equipment operating restrictions 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. The restriction on hours of operation of non-road, heavy-duty diesel construction and industrial equipment is an essential component of the overall strategy to reduce peak ozone levels to enable the HGA area to attain federal ozone standards.

PHA supports the voluntary mobile source emissions program (VMEP) as an alternative to the operating restrictions. They stated that VMEP offers the most promise for actual air emission reductions in the HGA area in terms of new technologies and preemption issues.

The commission disagrees with this comment. The construction equipment operating restrictions cannot be used as a VMEP, which is a voluntary program, because the state needs the enforceable

emission reductions that the construction equipment operating restrictions rules provide in order to demonstrate attainment with the federal ozone standard.

TCC commented that provisions should be made for facilities included in the area's emissions cap and trade program to be able to include the emissions from the usage of construction and industrial equipment for maintenance and turn-arounds in the facilities' allocated cap, to enable facilities to operate affected equipment during the restricted hours.

The commission disagrees with this comment. Emissions from mobile sources and stationary sources differ in their potential to form ozone. Emissions from point sources are emitted higher into the atmosphere, while emissions from mobile sources are emitted at ground level. Therefore, these two types of emissions cannot be considered "equivalent" under the cap and trade program, prohibiting mobile source emissions from being included in a facility's allocations. However, facilities do have the option of applying for the exemption offered under §114.487(b), and if approved, would be permitted to operate their affected equipment during the restricted hours.

TCC also commented that smaller facilities not required to participate in the cap and trade program should be allowed to either voluntarily opt in to the cap and trade program to allow them to operate affected equipment during the restricted hours, or offset emissions from construction and industrial equipment used in maintenance/turn-around activities with MERCs or DERCs generated at the facility or purchased from another source in the eight-county nonattainment area as part of an emissions reduction plan.

Regarding smaller facilities or those facilities not required to participate in the cap and trade program, it is expected that the commission will add language to the rules to allow sources exempt from the cap and trade program to opt in. Regarding MERCs and DERCs, any source that reduces its emissions voluntarily and meets the requirements of the banking rules will be able to generate credits. The exemption offered in §114.487(b) gives facilities the option of offsetting emissions from heavy-duty diesel construction or industrial equipment by using credits as part of their emissions reduction plan, provided that the facility meets the requirements of the emissions banking and trading rules.

TxOGA commented that there will be little chance of oil and gas equipment operators being able to purchase emissions credits elsewhere because of the demand for such credits from other types of operations. For all practical purposes, the §114.487(b) option for an emissions reduction plan will not be available to these operators.

The commission disagrees that oil and gas operators will have difficulty purchasing emissions credits. The commission expects that as the demand for credits, and thus the price for credits, increases, the market will see a growth of applicants finding ways to generate additional credits. Also under these rules, more types of mobile sources will be able to generate credits, thus increasing their availability.

Infinity, AAA Asphalt, ARTBA, ABC, AGC-Houston, AGC-Texas, Balfour, Bearden, BFI, BorTunCo, BRC, Brown & Brown, BCCA, Casa Linda, CCC, Barker, Centex, Cherry, Simonton,

Conrad, CTI, Demar, Dina, Dow, Drews, Earth Material, Reed, Ella, Emerald, ED, Excalibur, GRBirdwell, GHBA, Hassell, Higgs, Hoar, Holmes, HCIC, HCA, IEC, JBS, J&S, Frankel, Trimm, Holland, Kvaerner, Legacy, Legal Eagle, Listo, Manhattan, MB Western, MMI, Mustang Tractor, N&S, NASA, NBG, NuHome, Nunez, Paisan, Hambrick, Pate & Pate, Phillips 66, PolyTech, Protherm, Reddico, Representative Hope, Rohm and Haas, S&B, Sandlin, Slack, Sprint Sand, Hann, TDIndustries, TAB, TxDOT, TxOGA, Union Pacific, USACE, US Home, WM, and 29 individuals commented that this rule will create safety hazards, as much of the work will be done under diminished light conditions, resulting in reduced safety, increased accident rate, and increased costs to the clients. Working under lower light conditions with decreased visibility will also result in lower quality of work and will likely cause errors and material failures. Use of certain equipment, such as large cranes, cannot be performed safely at night. Increased fatigue could cause more accidents. Increased hazards will increase the cost of builders' risk and health insurance. It is dangerous to work in the heat of the day in Texas. Increased nighttime road work will result in increased motor vehicle accidents as well as increased worker fatalities in work zones.

The commission recognizes that these rules may result in increased exposure to elevated temperatures and increased fatigue and risk for accidents and injury. However, operators would be expected to take all necessary measures to protect the health and safety of their employees and educate them about potential risks. The commission does not have the capability nor authority to directly regulate worker safety. The ultimate responsibility of the commission with these rules is to maintain and improve air quality and public health for all citizens in the HGA area. Regarding the safety concerns of working in the evening hours with decreased visibility, the change to the

time period between April 1 though October 31 will extend the daylight hours during the period of the year the rules will be in effect. The increased daylight hours will minimize any potential risks or quality problems associated with low visibility. In addition, the commission expects that affected companies will take necessary measures to ensure the quality of finished products, in order to retain customers and attract new business. The commission recognizes that insurance costs may increase due to the increase in activity during the late afternoon and evening hours, and that affected businesses may have to pass these costs on to their customers. However, the commission believes that companies can address customer dissatisfaction over higher costs by explaining that the cost increases were necessary to enable the company to comply with regulations that will ultimately improve the customers' air quality and health.

Demar, Reed, Hoar, Kvaerner, Manhattan, MB Western, MMI, NASA, Paisan, PolyTech, Protherm, Rohm and Haas, TDIndustries, and two individuals commented that the proposal directly violates Occupational Safety and Health Administration (OSHA) regulations.

The commission disagrees with this comment to the extent it suggests that the Commission has jurisdiction over OSHA regulations. While the commission is charged with protection of human health and the environment, this responsibility applies to external environmental matters relating to outdoor air quality, waste and water. The Commission does not have authority over issues of worker safety, especially with respect to the administration of OSHA regulations.

ARTBA, AGC-Texas, Bearden, BorTunCo, BCCA, Barker, CTI, Earth Material, Excalibur, HCIC, HCA, NBG, Pate & Pate, Reddico, and five individuals commented that the impact on the minority community is too great. Both minority workers and minority-owned businesses will be impacted disparately.

The commission maintains that the rules as adopted will not have a disparate impact on persons based on race, color, or national origin. The basis for the rules is protection of human health and the environment, and shifting the operation of construction and industrial equipment from 6:00 a.m. until noon during the ozone season is anticipated to provide reductions in the formation of ozone in the area. Although it is not clear what, if any, legal standard the commenter allege the commission would violate in adopting the rules, some state that the rules would "disproportionately impact" minorities. This is clearly a reference to Title VI of the Civil Rights Act of 1964. In order for the commission to be shown in violation of Title VI, a disproportionately negative impact to minorities must be shown; however, any potential negative impacts that may result from implementation of this rule will be borne equally by all operators of equipment governed by the rules without any differentiation by race, color, or national origin. These rules are facially neutral and apply equally to all operators of the types of equipment affected by these rules.

Infinity, AAA Asphalt, ARTBA, ABC, AGC-Houston, AGC-Texas, AAR, ASLRRA, Balfour, Bearden, Bell, BorTunCo, BRC, Brown & Brown, BCCA, Casa Linda, CCC, Barker, Centex, Cherry, La Porte, Simonton, Spring Valley, CAP, Clear Lake COC, Conrad, CTI, Dayton Pipe, Demar, Dina,

Dow, Drews, Earth Material, Reed, Ella, Emerald, Excalibur, ExxonMobil, GR Birdwell, GEHC, GHBA, Harris County, Hassell, Higgs, Hoar, Holmes, HCIC, HCA, IEC, JBS, J&S, Frankel, Trimm, Holland, Kvaerner, Legacy, Legal Eagle, Listo, Manhattan, MB Western, MMI, Commissioner Metter, MSC, Mustang Trailer, N & S, NBG, NuHome, Nunez, Paisan, Hambrick, Pate & Pate, Phillips 66, PolyTech, PHA, Protherm, Reddico, Rohm and Haas, S & B, Sandlin, Slack, Hann, TDIndustries, TAB, CSE, TxDOT, TxOGA, Union Pacific, UT, US Home, Vernor, WM, and 42 individuals commented that this rule will have a detrimental impact to the Houston economy and/or its citizens' and workers' quality of life. Individuals forced to work in the evenings would no longer be able to spend that time with their families, and working parents would have limited to no daycare options. This rule will slow or halt the growth of industry and business, especially small businesses. The rule will place the region's businesses at a competitive disadvantage. The construction labor market is already suffering from shortages. Many workers would be forced to leave the industry or be unemployed to avoid working a non-traditional work day. The economic impact seems high compared to the value received.

PHA commented that according to a study conducted by Air Maritime Industry Strategy Group (AMISG), the operating restrictions will result in $178 million in additional costs related to Houston and Galveston port operations, either to the shipper through increased berthing costs or to the ports through lost business. Thousands of Texas businesses are dependent upon the Houston and Galveston ports in order to receive critical components necessary for their operations. Their inability to receive cargo for six hours each day could force them to shut down operations due to the lack of materials. This could in turn have a ripple effect through the local and state economy.

Union Pacific commented that they operate loading/unloading equipment throughout the HGA area at service and repair areas, servicing and fueling centers, classification and switch yards, and most importantly, at the Port of Houston. If products cannot be unloaded at intermodal terminals at the port for transport by rail until noon, schedules will be significantly affected, thereby affecting the flow of commerce and impacting the economy.

The commission recognizes that compliance with these rules may create short term losses in productivity, which may result in increased project duration and costs and negative 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 and quality-of-life 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. The restriction on hours of operation of non-road, heavy-duty diesel construction and industrial equipment is 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 may not be easy to implement and may cause many of the affected entities to have 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. Equipment owners/operators seeking relief from these rules may choose to apply for an exemption under §114.487(b). If the application is approved, the owner/operator would be allowed to continue to operate during the

restricted hours. For those businesses that are unable to qualify for an exemption under the rules, or that choose not to pursue an exemption, the commission anticipates that they will develop creative solutions to continue their operations unimpeded. The commission also recognizes that these rules may cause certain disruptions to the personal and social lives of affected employees. However, the restriction on hours of operation of non-road, heavy-duty diesel construction and industrial equipment is an essential component of the overall strategy to reduce peak ozone levels to enable the HGA area to attain federal ozone standards. The area's failure to attain these standards will significantly impact the area economy, and therefore the quality of life of its citizens and communities. The restriction on hours of equipment operation prescribed by these rules is based upon well established chemistry and modeling that demonstrates that shifting morning NO_x emissions to later in the day minimizes the likelihood that those emissions will later form harmful ground level ozone.

The port and rail industries may apply for an exemption under §114.487(b) and submit an emissions reduction plan, which must demonstrate emission reductions equivalent to those that would be achieved for the port and rail industries fleets of affected equipment from implementing the construction equipment operating restrictions rules. If the port and rail industries are able to demonstrate equivalent emission reductions from alternate means, these industries would be able to operate their non-road, heavy-duty diesel construction and industrial equipment during the restricted hours, thereby reducing concerns regarding economic and quality of life impacts.

Infinity, ARTBA, AGC-Houston, AGC-Texas, Balfour, Bearden, BorTunCo, Casa Linda, CCC, Barker, Centex, La Porte, Missouri City, Simonton, Conrad, CTI, Drews, Earth Material, Ella, Emerald, Excalibur, Hassell, Higgs, Holmes, HCA, J&S, Frankel, Trimm, Holland, Legacy, Legal Eagle, N&S, NASA, NBG, NuHome, Paisan, Pate & Pate, Perry Homes, PHA, Sandlin, Slack, Hann, TAB, TxDOT, US Home, WM, and 12 individuals commented that a significant loss in construction productivity would result due to loss of morning hours when the weather is more conducive to higher productivity, and fewer hours in which to work. This loss in productivity will result in project delays, increasing project costs.

The commission recognizes that compliance with these rules may create short-term losses in productivity, which in turn may result in increased project duration and costs. However, the commission anticipates that affected companies will find and make the necessary adjustments to minimize these impacts, especially considering the far more substantial impacts that would result from the failure of the HGA area to attain federal air quality standards that these rules are designed to help achieve. The restriction on hours of equipment operation is an essential component of the overall strategy to reduce peak ozone levels to enable the HGA area to attain the federal ozone standard. 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.

TCC commented that many plants use craftsmen for maintenance and turn-arounds whose schedules are dictated by union contracts. If regulations impose restrictions on operating equipment from 6 a.m. to noon, some plants could lose as much as half of their maintenance day.

The commission anticipates that affected facilities will conduct contract negotiations with the unions to enable union workers to complete their assigned duties on a schedule that would also allow the facilities to comply with the equipment operating restriction and maintain operations. The commission anticipates that the unions will also work with the affected facilities to resolve any scheduling issues and come to a mutually-agreeable arrangement. Additionally, facilities that obtain an exemption under §114.487(b) will be able to continue to operate during the restricted hours, thereby eliminating any need to modify union contracts.

TxDOT requested that the commission add an exemption for projects currently under contract and scheduled for completion before the rule implementation date. Without this exemption, TxDOT would have to modify all existing contracts to ensure that any projects that are not completed on schedule (by the rule implementation date) comply with the rule, although only a few projects may actually extend beyond the implementation date.

The commission does not believe that modifying existing contracts would be overly burdensome, and therefore does not agree that an exemption should be added for projects with existing contracts. TxDOT can modify its existing contracts by adding standard language that would

ensure compliance with the applicable rules if the project extends past the rule implementation date.

BRC, Casa Linda, Barker, Centex, Dayton Pipe, Dow, Drews, Ella, Emerald, GHBA, Higgs, Holmes, IEC, Sandlin, TAB, TCC, TxDOT, US Home, and three individuals commented that suppliers would have to alter their delivery schedules to the evening hours, affecting their economic viability and adding to noise and pollution in the evening. Deliveries would have to be turned away because forklifts could not be operated to off-load delivered materials. The disruption in the flow of goods and services could cost millions of dollars and impede interstate commerce.

The commission disagrees with these comments. Non-diesel powered forklifts are common in many warehouses, and are not subject to the operating restrictions under these rules. Consequently, the commission believes that by 2005 affected operators will have had the time to plan for the replacement, as necessary, of their diesel-powered forklifts with non-diesel-powered models. In addition, the commission anticipates that suppliers of goods and services to companies affected by these rules may shift their hours of operation or modify their operations accordingly to retain customers and maintain their businesses. This will enable affected companies to both comply with the rules and continue to operate.

Missouri City and three individuals commented that this rule should only be in effect when weather forecasts call for high ozone, not every day, or only during the months when ozone is highest, i.e., July and August.

The commission disagrees with this comment. In order to achieve the ozone reductions necessary to demonstrate attainment with federal standards, the operating restrictions must be in place from April 1 through October 31. The risk to human health and the environment would outweigh the benefits gained by lifting the ban on days when ozone exceedances are less likely to occur, especially considering the difficulties that would exist with tracking and enforcement. The commission believes the rules must be in effect during the entire ozone season, rather than only during certain months, because conditions can be present at any time during that season for the formation of high levels of ozone.

One individual commented that this rule should be applicable statewide and not just in certain areas.

The commission disagrees with this comment. Construction and industrial equipment inventories and emission inventories do not support the implementation of these rules on a state-wide basis. These inventories and associated modeling show that the vast majority of construction and industrial 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, justify implementing rules to control the emissions of ozone forming compounds from heavy-duty diesel construction and industrial equipment in the DFW and HGA areas only, rather than statewide. However, these rules do not

preclude other areas considering controls on heavy-duty diesel construction and industrial equipment from implementing similar locally-regulated or voluntary programs to achieve similar benefits.

ABC, AGC-Houston, AGC-Texas, Balfour, BFI, BorTunCo, BCCA, Conrad, CTI, CWA, Dina, Earth Material, ED, Excalibur, HCA, IEC, Trimm, Holland, Listo, MCA, MCSWCD, NMA, NSWMA, NBG, Pate & Pate, Phillips 66, PHA, Montgomery County, S&B, Sierra - Houston, TCC, TxDOT, Union Pacific, WM, and 12 individuals commented that the analytical basis for the rule is flawed and should be re-analyzed. They also stated that the proposal offers no environmental benefit, the commission failed to provide adequate scientific and technical justification for the proposal, and that control measures should reduce emissions, not just shift those emissions to later in the day. The current SIP guidelines are based on inaccurate estimates of the non-road vehicle inventory. TxDOT and Sierra - Houston questioned the accuracy of the construction equipment inventory used in the modeling for the HGA area SIP.

The commission disagrees with these comments. The commission has 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 maximizes the accuracy of the modeling of the affected industries' contribution to the air quality problem, as well as the necessary ozone reductions that this rule is 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 state-of-the-art photochemical methodologies to develop this rule. The Comprehensive Air Model with Extensions (CAMx) model that was used is the latest version of the photochemical model recognized by the EPA for SIP modeling. Also, 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, EPA-21A-2001, November 1991). 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). Technology reduction factors were then 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 to update the attainment modeling (1993 base case and 2007 future case) for the Houston area because that model utilizes the best available science with regard to emission factors and treatment of activity (equipment usage rates) data. The NONROAD model works similar to 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 and industrial 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), the Eastern Research Group (ERG) conducted a detailed survey of construction and industrial 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 EPA's 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 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 and industrial 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 and industrial 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, the Houston Construction Industry Coalition (HCIC). The HCIC, along with their representative Starcrest Consulting, were 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 and industrial 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 has greatly reduced the uncertainty in construction and industrial equipment emissions, the commission continually seeks to improve its inventories. Delaying the rule effective date to 2005 will afford the commission additional time and opportunity to further address concerns with all aspects of the existing emissions inventory and modeling and make any necessary adjustments to the construction and industrial equipment inventory.

AGC-Houston commented that the ramifications of greater NO_x emissions produced throughout the evening hours are unclear for the region and bordering areas.

The commission disagrees with this comment. By shifting the emissions into the evening, the shifted NO_x will be prevented from reacting photochemically on the day of the emissions. It is typical and predictable that NO_x emissions remaining after sundown tends to disperse overnight

into areas of lower emissions (usually rural), where they are less likely to lead to high ozone concentrations.

Montgomery County and MCSWCD commented that removing Montgomery County from the proposed additional air pollution measures will not make any measurable difference in the Houston ozone problem, and that eliminating Montgomery County from the construction equipment operating restrictions would result in a difference of less than 1/50th of 1% of NO_x, which is equivalent to less than 1/200th of a part per billion (0.005 ppb) of ozone. One individual commented that Chambers and Liberty Counties should not be included in this plan.

The commission continues to believe that in most cases the most effective method of achieving attainment in the HGA nonattainment area is the implementation of controls and strategies throughout the nonattainment area. Much of the HGA control strategy is based on this concept; however, 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 areas of the state. Because of this flexibility, the commission can determine which emission reduction measures are most needed and where those emission reduction measures will be the most effective in helping to demonstrate attainment. Based on estimated population, estimated population growth, and estimated emissions developed using EPA-approved methodologies, the commission concluded that the sum of the 2007 projected NO_x emissions from non-road, heavy-duty diesel construction and industrial equipment in Chambers,

Liberty, and Waller Counties amounts to just under 2% of the total of those emissions in the eight-county area. The effect of shifting non-road, heavy-duty diesel construction and industrial equipment emissions in these three counties has been modeled, therefore, the commission believes that including these counties in the adopted rules will have practically no beneficial impact on peak ozone levels. This is due in part to the fact that these three counties are primarily rural in nature. The commission believes that non-road, heavy-duty diesel construction and industrial equipment emissions are more widely dispersed geographically, and are therefore unlikely to significantly influence the urban ozone plume. The commission does not, however, believe it is appropriate to exclude Montgomery County from these rules.

Based on the January 1, 2000 population estimates compiled by the Texas State Data Center, the population of Chambers County is 26,409; Waller County is 29,208; and Liberty County is 68,687; for a total of 124,304. The estimated populations of the remaining five counties in the HGA nonattainment area are: Brazoria - 236,372; Galveston - 249,898; Fort Bend - 356,555; Harris - 3,275,630; and Montgomery - 295,263; for a total of 4,413,718. The total estimated population of the entire HGA nonattainment area is 4,538,022. Thus, the population of Liberty, Chambers, and Waller Counties combined is only 2.74% of the population of the entire HGA nonattainment area.

The total NO_x emissions from all of the HGA nonattainment counties for non-road, heavy-duty diesel construction and industrial equipment is 31.54 tpd. The estimated actual NO_x emissions from non-road, heavy-duty diesel construction and industrial equipment for Liberty County is

0.22 tpd, for Chambers County is 0.21 tpd, and for Waller County is 0.19 tpd. The effect of shifting these emissions will result in equivalent NO_x emission reductions of 0.05 tpd in Liberty County, 0.04 tpd in Chambers County, and 0.04 tpd in Waller County, for a total reduction of 0.13 tpd. These reductions together amount to less than one-half of 1% of the total of those emissions in the eight-county area. Based on this data the commission believes it is appropriate not to include Chambers, Liberty, and Waller Counties in the adopted rules.

The same is not true, however, with respect to Montgomery County, which the commission believes should be retained. Based on estimated population, estimated population growth, and estimated emissions developed using EPA-approved methodologies, the commission concluded that the sum of the 2007 projected NO_x emissions from non-road, heavy-duty diesel construction and industrial equipment in Montgomery County is just over 4% of the total of those emissions in the eight-county-area (compared to less than one-half of 1% for Chambers, Liberty, and Waller Counties combined). The effect of shifting non-road, heavy-duty diesel construction and industrial equipment emissions in this county has been modeled, therefore the commission believes that retaining Montgomery County in these rules will have a measurable and beneficial impact on peak ozone levels. Montgomery County is not primarily rural in nature, thus non-road, heavy-duty diesel construction and industrial equipment emissions are not as widely dispersed geographically as in Chambers, Liberty, and Waller Counties, and therefore are more likely to negatively influence the urban ozone plume. Based on data compiled by the Texas State Data Center, Montgomery County is the third largest county in the HGA nonattainment area with an estimated population of 295,263, or about 6.51% of the total population of the HGA

nonattainment area. The county has more than twice the population of Chambers, Liberty, and Waller Counties combined. Its NO_x emissions are also significantly greater than the total of those three counties, with estimated emissions of NO_x from non-road, heavy-duty diesel construction and industrial equipment in Montgomery County equaling approximately 1.28 tpd. The shifting of these emissions is expected to result in equivalent emission reductions of 0.27 tpd of NO_x.

AAA Asphalt, ARTBA, AGC-Texas, Balfour, Brown & Brown, CWA, Demar, Reed, Hassell, Hoar, J&S, Kvaerner, Manhattan, MB Western, MMI, NSWMA, Phillips 66, PolyTech, PHA, Protherm, Rohm and Haas, S&B, TDIndustries, TxOGA, USACE, WM, and five individuals commented that this rule would result in an increased use of electricity and costs for lighting and generators, which cause pollution, as construction groups are required to work in the evening to make up for lost morning hours.

The commission disagrees with this comment. Emissions from generators, classified as "commercial equipment," are not considered to be a significant contribution to the HGA area ozone levels. While the commission recognizes that increased emissions may occur at night from artificial lighting, as well as the compensatory use of additional equipment in the afternoon, those emissions would occur well past the critical time period during which ozone-forming emissions combine to eventually form ozone. Therefore, these emissions would not cause a significant increase in peak ozone levels.

WM, BFI, and NSWMA commented that emissions will likely increase from the additional waste collection vehicles that will be required to transport waste within the reduced operating hours and that will be waiting in queue to unload. BFI commented that emissions will also likely increase from the operation of additional landfill equipment to accomplish tasks in an abbreviated time period.

The commission disagrees with these comments. While the commission recognizes that increased emissions may occur in the afternoon from the compensatory use of additional equipment in the afternoon, those emissions will occur well past the critical time period during which ozone-forming emissions combine to form ozone, and therefore are not expected to cause a significant increase in peak ozone levels.

PHA commented that implementing the construction ban for port operations will actually increase NO_x and ozone in the Houston Ship Channel rather than reduce it. The port needs to operate 24 hours a day. The ships would be forced to idle while waiting for the construction and industrial equipment to perform their needed functions on them. The backlog of idling ships will add to the NO_x emissions at the port. On average, ships require 24 to 56 hours for loading and unloading. Each ship will therefore sit idle for at least one cycle of the ban. The emissions associated with the additional idling, and the trickle-down effect on the efficiency of port operations will outweigh any ozone benefit from shifting loading/unloading equipment emissions to the afternoon and evening. Not only would the overall NO_x emissions at the port and ship channel increase, but the NO_x emissions occurring in the morning hours would also increase. According to a study conducted by the Air Maritime Industry Strategy Group (AMISG), the inability to load/unload cargo from the ships will result in an increase in morning NO_x

emissions from trucks and ships. Shore-side power alternatives for vessels were researched extensively in California but found to be unfeasible.

The commission disagrees with these comments. The port could shift the hours of operation from the current 7:00 a.m. - 7:00 p.m. schedule to noon - midnight. This shift in activity would not cause the backlogs and related increase in emissions from truck idling or vessel dwell times and temporary berthing associated with trying to maintain the current schedule of operations under the equipment operating restrictions. If the port is not able to completely shift operations to after noon, the port could work with the companies representing the general cargo and container vessels to achieve a workable schedule of loading/unloading operations that also enables the port to comply with the equipment operating restrictions. The commission expects that the port can successfully work with its customers to shift its schedule of operations or coordinate scheduling to accommodate the operating restrictions, and change its business practices to ensure a decrease in emissions. The commission acknowledges that less cargo may be handled at the port because some customers will elect to take their cargo to other ports outside of the HGA area. The port may be able to qualify for an exemption under §114.487(b) of the rule. If the port is able to demonstrate equivalent emission reductions from alternate means, it would be able to continue its operations during the restricted hours, thereby reducing concerns regarding economic impacts.

ARTBA, AGC-Houston, AGC-Texas, Bearden, TxDOT, and ten individuals commented that this measure will add to endless road work and lengthen completion times. Increased pollution will result from increased congestion.

The commission disagrees with these comments. It is already common practice to perform high-volume highway construction during off-peak travel hours during the night and on weekends. Because highway construction often occurs during off-peak periods, when traffic is lighter, there should be no increase in traffic congestion. The commission expects that entities performing highway construction will modify their schedules to minimize any project delays associated with these rules.

TxDOT, Houston District, stated that they have contractual restrictions on highway lane closures during peak traffic hours (typically 7:00 a.m. - 9:00 a.m. and 3:00 p.m. - 5:00 p.m.), and some contracts require operations to cease by sunset. These TxDOT restrictions, coupled with these rule restrictions, would severely limit the time available to perform road construction.

The commission expects that any contractual conflicts will be resolved in the common interest of achieving the federal ozone standard. If this standard is not achieved, the federal government could withhold funding for highway repairs and construction, which represents a much greater impact on the completion of road construction projects than the equipment operating restrictions.

AGC-Houston, AGC-Texas, BRC, Centex, Cherry, GHBA, Holland, N&S, Phillips 66, Reddico, TxOGA, and three individuals commented that noise pollution in residential areas in the evenings would be a problem, and that there are restrictions against such “after hours” activity in most municipalities.

The commission acknowledges this comment and that equipment operators may desire to work later hours to compensate for time lost in the early morning. If this is true, communities may wish to reevaluate their current ordinances and determine what is best for their community. Because maintaining and improving air quality, for which these rules are designed, is vital to the health and welfare of all the citizens in the HGA area, local entities have a vested interest in taking measures necessary to enable compliance with the rules.

AGC-Texas, BFI, BorTunCo, Casa Linda, Centex, CAP, Conrad, CTI, Dina, Drews, Earth Material, Ella, Emerald, ED, Excalibur, Harris County, Higgs, Holmes, HCA, Liberty County, NBG, Pate & Pate, Public Citizen, Sandlin, Sierra - Houston, Sprint Sand, TAB, US Home, and 14 individuals commented that this rule will be unenforceable, especially considering the number of employers using the affected types of equipment in the HGA area. Enforcement would most likely trickle down to local government, which does not have funding or manpower to handle this responsibility. One consequence would be no uniformity of enforcement.

The commission disagrees with these comments. Enforcement of the rules will be achieved in two ways: 1) on-site inspections, and 2) facility records reviews. The commission anticipates that the primary method of enforcement will be through records reviews. Additionally, compliance will be determined by on-site investigations, both routinely scheduled and in response to complaints. 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

commission will continue to work closely with local entities in a cooperative effort to maximize its compliance and enforcement efforts.

AAR, ASLRRA, La Porte, CWA, Dow, Enterprise, Kinder Morgan, Lyondell-Citgo, Pasadena/Donohue, Phillips 66, PHA, Rhodia, TCC, Union Carbide, Union Pacific, and two individuals commented that the restrictions would limit businesses' ability to efficiently perform maintenance operations, and industrial processing operations, efficiently complete planned unit outages (turn-arounds), and operate safely. Equipment used for these purposes, such as front-end loaders and forklifts, should be exempt - specifically, ". . . equipment used in a manufacturing process as part of normal operations; equipment used in manufacturing, production, shipping, and receiving activities; equipment used for routine or scheduled maintenance and/or construction activities at manufacturing facilities; and equipment used in the moving of materials at a manufacturing plant."

PHA commented that the commission should consider an exemption for port loading/unloading equipment based on the NO_x emissions increase (both overall and in the morning hours) and the economic factors discussed in previous comments. Specifically, PHA requested that §114.487(a) be revised to add the following clause: "3) Equipment used for cargo handling (including but not limited to loading and unloading) at a port or marine terminal facility."

Pasadena/Donohue commented that without the ability to use front-end loaders, pulping operations at paper mills would not be able to operate during the restricted hours, as well as recycled paper repulping operations, effectively shutting down the entire paper recycling mill.

TCC, TxOGA, and Phillips 66 commented that there are many pieces of heavy equipment at refineries, petrochemical plants, oil production facilities, pipeline operations and terminals, which are used for maintenance and on-going production or operation. The rule must clarify for operators that this is not "construction equipment" and that these should be specifically exempt from the requirements of §114.482.

The commission acknowledges that the operating restrictions could impact industrial maintenance and process operations for affected entities throughout the HGA area. However, the types of diesel equipment used for these purposes are considered "industrial equipment," and are subject to this rule in the same way and for the same reasons as construction equipment. Diesel-powered industrial maintenance and process operation equipment are significant contributors to high ozone levels in the HGA area. It is therefore important to restrict the use of this equipment, along with construction equipment, in order to reduce ozone levels in the HGA area, and to enable the area to attain the federal ozone standard. The commission does not believe it can exempt this equipment from the rules and still meet the federal ozone NAAQS. However, much of the equipment used for industrial maintenance and process operations, such as forklifts, is already powered by propane engines, or other types of engines not subject to these rules. Facilities using such alternative equipment would not be restricted from operating during the restricted hours. Also, facilities can shift their schedules for routine maintenance and planned unit outages to accommodate the restriction on equipment operation during the morning hours. The commission anticipates that facilities which operate continuously will modify their operations to enable them to comply with the rules while minimizing any potential disruptions in operations and production.

Furthermore, facilities that qualify for an exemption under §114.487(b) would be able to continue to operate during the restricted hours. Equipment used at refineries, petrochemical plants, oil production facilities, pipeline operations and terminals for maintenance and production or operation is also considered "industrial equipment," subject to these rules.

Phillips 66 and TxOGA recommended adding the following language in §114.487, Exemptions: In paragraph (a) add: "3) equipment used exclusively in the exploration, production, processing, or transportation of crude oil, condensate, or petroleum products."

TxOGA and Houff commented that it would not be possible to maintain the levels of oil and gas production, transportation, processing, and manufacture of refined products to meet the nation's energy needs if the six-hour ban on startup and operation of non-road diesel equipment is applied to heavy equipment used "within the process" or for ongoing maintenance of operating units at these facilities. For example, drilling operations are typically 24-hour-a-day operations, and shutdowns will endanger the wellbore. In addition, sustaining oil and gas well production requires that wells periodically be pulled for subsurface equipment repair; such operations need to be performed when problems occur and cannot be deferred to the winter months without a loss in production.

The commission acknowledges that the operating restrictions could impact the oil and gas industry throughout the HGA area. However, because of their significant contribution to high ozone levels in the HGA area, equipment used at refineries, petrochemical plants, oil production facilities, pipeline operations, and terminals for maintenance and production or operation are considered

"industrial equipment," subject to the operating restrictions in the rule. It is necessary to restrict the use of industrial equipment in order to reduce ozone levels in the HGA area. The commission expects that oil and gas facilities can schedule their operations and maintenance to accommodate the restriction on equipment operation during the morning hours while maintaining adequate production. The commission anticipates that facilities which operate continuously will modify their operations to enable them to comply with the rules while minimizing any potential disruptions in operations and production. Additionally, oil and gas facilities have the option of applying for an exemption under §114.487(b) which, if approved, could allow them to continue operations during the restricted hours.

TXI commented that the 6:00 a.m. to noon ban on the operation of non-road diesel construction equipment will make it very difficult, if not impossible, to mine and stockpile sufficient clay for the year-round operation of lightweight aggregate kilns. Furthermore, the ban would disrupt the loading of product to customers such as ready-mix concrete companies. The clay can only be mined during the relatively dry part of the year, which coincides with the time period of the equipment ban. TXI requested that the commission revise the proposed equipment operation ban to alleviate hardships that will result to lightweight aggregate kiln operators and other businesses. TXI also requested that the commission exempt lightweight aggregate kiln operators from this rule who can demonstrate that it is necessary to their business activities to operate the affected equipment during the equipment ban period. Alternatively, TXI suggested that the commission revise the ban to restrict its applicability to a narrower range of equipment, thereby lessening the hardship that will result from the rule.

The commission disagrees with these comments. The commission believes that the lightweight aggregate kiln industry will be able to shift daily mining schedules to the afternoon and evening to accommodate the restriction on equipment operation during the morning hours. The commission anticipates that facilities will modify their operations to enable them to comply with the rules while minimizing any potential disruptions in operations and production. Also, facilities that meet the exemption offered in §114.487(b) would be able to continue to operate during the restricted hours. The commission recognizes that compliance with these rules may cause some scheduling and logistical difficulties. However, the commission expects that affected companies will be able to find and make the necessary adjustments to minimize these impacts, especially considering the far more substantial impacts that would result from the failure of the HGA area to attain federal air quality standards. The restriction on the hours of operation of construction and industrial equipment is an essential component of the overall strategy to reduce peak ozone levels in the HGA. Therefore, the commission does not believe it should exclude the lightweight aggregate kiln industry from these rules. It is important that all affected industries that contribute significantly to the elevated ozone levels in the HGA nonattainment area participate equally in the prevention and reduction of those levels of ozone. The commission does not believe it should reduce the applicability of the rules to cover less equipment, because it is essential to include all construction and industrial equipment in the operating restrictions in order to achieve adequate ozone reductions to enable the HGA area to attain the ozone standard. Although some of the rules included in the current SIP attainment strategy may present some short-term implementation difficulties, and may even require certain long-term operational adjustments, the commission believes that these changes are necessary for the protection of human health and the environment

in the HGA area, and are an indispensable part of the effort to achieve attainment of the federal ozone NAAQS.

WM, NSWMA, and BFI commented that equipment used at solid waste management facilities should be exempted for the following reasons. 1) Public safety will be impacted because waste collection vehicles will be forced to pick up trash in the early evenings when more residents are home and children are playing on streets in area neighborhoods, and odor and vector problems could arise from waste accumulating at homes and businesses. 2) Spotters' ability to identify unacceptable hazardous waste at landfills will be hampered without the use of spreading equipment. 3) The inability to compact waste during the busiest hours of operation will significantly decrease the density of waste and lead to a more rapid consumption of landfill capacity, decreased landfill stability, increased settling, and increased risk of cap and liner failure. 4) Accumulated waste at the landfill working face or tipping floor will make it difficult to control odors, windblown trash, birds, rodents, flies, and potentially the spread of disease. 5) Limited operational capacity at landfills may result in increased disposal at unregulated facilities. 6) Costs of landfill development will increase as work would have to occur outside of normal business hours.

Public safety will be impacted.

The commission disagrees with this comment. These rules do not restrict the hours of operation of waste collection vehicles, as these are on-road vehicles, and the rules apply only to non-road equipment. For those facilities that elect to delay waste collection, the commission expects that they will take the necessary steps to ensure the safety of customers, such as informing residents in

advance of operational changes by such methods as distributing notices to customers alerting them to changing hours of operation. The commission recognizes that facilities may elect to delay collection activities to limit waste accumulation at landfills, and that solid waste placed at curbside may sit for longer periods of time before collection. However, the commission disagrees that a collection delay will necessarily result in additional odor, litter, and vector problems as collection delays should be minimal. In addition, waste disposal companies could eliminate problems associated with waste accumulation at homes and businesses by informing customers of scheduling changes and of the need to delay setting out their waste for collection. In addition, waste management facilities have the option of applying for an exemption under §114.487(b) which, if approved, would allow operations during the restricted hours, thereby eliminating any need to modify waste collection schedules.

Spotters' inability to identify their waste.

The commission disagrees with this comment. The commission expects that facilities will develop alternative procedures to ensure the effective identification of unacceptable wastes. In addition, facilities will have the option of applying for an exemption under §114.487(b) which, if approved, would allow continued operations during the restricted hours, thereby reducing any potential problems associated with the need to use spreading equipment.

Inability to compact waste.

The commission disagrees with this comment. Facilities can minimize many of these potential problems by making scheduling, design, and operational. As stated above, facilities will have the

option of applying for an exemption under §114.487(b) which, if approved, would allow continued operations during the restricted hours, thereby reducing any potential problems associated with the need to compact waste.

Unacceptable accumulations of waste: orders, vector attraction

The commission disagrees with this comment. Although waste may be accepted during the period during which the affected equipment is restricted from operating, the commission assumes landfill operators will appropriately cover the working face of their landfills in accordance with all permit and rule requirements, including those in 30 TAC §330.115, Fire Protection; §330.117, Unloading of Waste; §330.129, Control of Windblown Waste; §330.125, Air Criteria; §330.126, Disease and Vector Control; §330.132, Compaction; §330.133, Landfill Cover; and §330.136, Disposal of Special Wastes. Facilities can minimize any potential impacts of the rules through design and operational changes, including additional road and working face lighting, traffic control, segregation of commercial and private vehicle disposal areas, and use of personnel to specify dumping locations. The commission expects that waste disposal facilities will make the necessary scheduling, design, and operational changes to minimize these potential problems, and avoid permit violations. In addition, facilities will have the option of applying for an exemption under §114.487(b) which, if approved, would allow continued operation during the restricted hours, thereby eliminating any potential problems associated with the need to process waste during morning collection hours.

Limited operational capacity at landfills.

The commission disagrees with this comment and believes that professional waste haulers are unlikely to divert their loads to "unregulated facilities." The commission also does not believe that any potential shift in operations under these rules will negatively affect the ability of individuals to legally dispose of their trash at regulated facilities. In addition, facilities will have the option of applying for an exemption under §114.487(b) which, if approved, would allow continued operation during the restricted hours, thereby reducing any potential problems associated with any limited operational capacity, and illegal disposal at unregulated facilities.

Landfill development costs increase.

The commission disagrees with this comment. The commission expects that affected facilities will develop strategies to accommodate any shift in business hours, in order to perform required functions to ensure that the facilities continue to operate according to permit conditions, while complying with the restriction on equipment use. In addition, facilities will have the option of applying for an exemption under §114.487(b) which, if approved, would allow continued operations during the restricted hours, thereby reducing any potential problems associated with the costs of landfill development.

NSWMA commented that by not processing the accumulated exposed waste in a timely manner, there could be an increase in the atmospheric release of VOCs from the waste, which reduces the air emission benefits from not operating the equipment.

The commission disagrees with this comment. The operating restrictions, while offering some shifting of VOC emissions, are primarily a NO_x-shifting strategy. The commission expects that waste disposal facilities will make the necessary scheduling, design, and operational changes to minimize any potential problems from the inability to process waste. In addition, facilities have the option of applying for the exemption offered under §114.487(b), and if approved, would be permitted to operate their affected equipment during the restricted hours, eliminating any potential problems associated with the inability to process waste.

NSWMA also commented that the time a solid waste facility accepts waste cannot be extended in most cases because: 1) a facility's permit may limit the hours of operation to sometime in the afternoon or early evening; and 2) many contracts require the transporter to collect the waste at certain times, typically between the hours of 7:00 a.m. and 7:00 p.m.

The commission disagrees with comment 1). The commission recognizes that operators of permitted MSW facilities may find that conditions have changed such that operating hours and procedures specified in the approved facility permit (including the Site Operating Plan) need to be revised. Changes to operating hours of less than one hour beyond the hours specified in the approved facility permit are considered non-substantive changes and are processed by the commission MSW Permits Section as Class I permit modifications. Changes to operating hours of more than one hour beyond the hours specified in the approved facility permit are considered substantive changes and are processed by the MSW Permits Section as minor or major amendments, depending upon the length of extension requested. Changes to operating hours that

extend the hours by more than one hour, but less than two hours are processed by the MSW Permits Section as minor permit amendments and changes of more than two hours are processed as major permit amendments. Changes to non-substantive permit terms and procedures are processed by the commission MSW Permits Section as Class I modifications under 30 TAC §305.70, Recordkeeping Class I Modifications, while changes to substantive terms are processed as a minor or major permit amendment under 30 TAC §305.62, Amendments. The commission believes that the commission MSW Permits Section has adequate staff and resources to process amendment or modification requests, that would result from implementation of these rules, within required processing time frames. Facilities that are contractually obligated to collect waste between 7:00 a.m. and 7:00 p.m may need to increase the number of collection vehicles to collect the same volume of waste in the compressed time period. The commission expects that these facilities will develop a method to comply with both their contracts and the equipment operating restrictions.

The commission also disagrees with comment 2). The construction equipment operating restrictions rules do not directly affect the operational hours of the waste collection and transporter equipment, as this equipment is on-road, and the rules only apply to non-road, heavy-duty diesel equipment; therefore, contracts with waste collectors/transporters would not be impacted. The commission also notes that because the effective date of these rules is not until 2005, facilities should have sufficient time to work out any desired changes to existing, new, or renewed contract terms and conditions. Facilities will have the option of applying for an exemption under §114.487(b) which, if approved, would allow continued operations during the

restricted hours, thereby reducing any potential problems associated with permitting or waste collection.

TFA and TLC commented that if the operating restrictions apply to timber harvesting equipment, harvesting operations would be shut down and serious restrictions would be placed on the ability to deliver logs from the woods to the processing mills. Timber harvesting and transportation equipment should be exempted from these restrictions.

Equipment used to transport harvested timber is not affected by the construction equipment operating restrictions rules because it is on-road equipment. The construction equipment operating restrictions rules only apply to non-road, heavy-duty diesel equipment. Therefore, the operation of transportation equipment would not be restricted. Equipment such as chainsaws, shredders, fellers, bunchers, and skidders used in the timber industry are classified as "logging equipment" and are not subject to the equipment operating restrictions. However, equipment such as loaders, (including skid steer loaders used with sheer heads) and bulldozers are classified as "construction equipment" and are subject to the operating restrictions. It is necessary to restrict the use of construction and industrial equipment from all affected industry sectors in order to reduce ozone levels in the HGA. Accordingly, the commission does not believe it should exclude this type of equipment from these rules. Companies can shift their operating schedules to accommodate the restriction on equipment operation during the morning hours. Companies can also modify their operations to minimize losses in productivity by utilizing equipment not affected by the operating restrictions to perform necessary operations, or by using artificial lighting to

enable work to continue into the evening hours. Also, companies that obtain an exemption under §114.487(b) would be able to continue their operations during the restricted hours. The commission recognizes that compliance with these rules may cause short-term losses in productivity. However, the commission anticipates that affected companies will make the necessary adjustments to minimize these impacts, especially considering the far more substantial impacts that would result from the failure of the HGA area to attain federal air quality standards that these rules are designed to help achieve. The restriction on hours of operation is an essential component of the overall strategy to reduce peak ozone levels in the HGA Although some of the rules included in the current SIP attainment strategy may present some short-term implementation difficulties, and may even require certain long term operational adjustments, the commission believes that these changes are necessary for the protection of human health and the environment in the HGA area, and are an indispensable part of the effort to achieve attainment of the federal ozone NAAQS.

Kossman commented that implementation of the operating restrictions would have devastating results in their attempts to follow stringent federal guidelines pertaining to sowing grass seed and planting sod for erosion control, as those operations must be performed during the first few hours of the day after daybreak.

The commission disagrees with this comment. Equipment used in erosion control reseeding and sodding operations, such as tractors and hydroseeders, are classified as "agricultural equipment," and therefore are not subject to the equipment operating restrictions.

Union Carbide commented that air compressors and portable electric generators are used to provide fresh air and lighting for confined space work. When work is not occurring, it is often necessary to keep air compressors working to keep a fresh air supply going into the confined spaces. Moving the work schedule to start at noon means that real work may not begin until much later if the confined space has heated significantly from the sun.

TCC commented that the commission should clarify that, for purposes of the construction equipment operating restrictions requirements, "utility equipment," such as air compressors and welding machines, is not included in "construction equipment." In addition, the commission should clarify that the rule is not intended to regulate ship on-board diesel pumps or on-board diesel generators at chemical plant docks.

One individual commented that his company wouldn't be able to use their air compressors, water pumps, and welding machines.

The commission concurs with these comments. Equipment items such as air compressors, welding machines, pumps, and generators are classified as "commercial" equipment and are not subject to the operating restrictions. This rule applies only to construction and industrial equipment. The commission has clarified the types of equipment that are affected by the rules by listing construction and industrial equipment types in the rule preamble.

The Galveston office of the USACE commented that these rules would have a devastating impact on deep and shallow draft navigation in the HGA area, and increase ship channel maintenance dredging costs. The impact is due to the dredges being precluded from beginning operation until the backlog of ship traffic that was not able to operate from 6:00 a.m. to noon clears.

The commission disagrees with this comment. The construction equipment operating restrictions rules do not apply to marine vessels. This rule is applicable only to non-road, heavy-duty diesel construction and industrial equipment with engines rated at 50 hp and greater. The marine activity the individual describes would will not be impacted by this rule, nor will the activity of the dredging equipment as it relates to the deep draft vessel operation. However, dredging equipment would still be subject to the rule's time of day operating restrictions to the extent that equipment qualifies as "construction" or "industrial equipment."

Chambers County and two individuals commented that diesel restrictions would affect farmers in the Chambers County area very unfavorably.

The commission disagrees with this comment. The construction equipment operating restrictions rules do not apply to agricultural equipment. Therefore, the operating restrictions would not affect farmers unless they were using construction or industrial equipment which is subject to the rules. In any event the commission decided, for the reasons previously discussed, not to include Chambers County in the adopted rules.

Dow, Rhodia, TCC, and Union Carbide commented that equipment used for "emergency operations" should be exempted, and "emergency" should be redefined in the rule as "any operation necessary to protect public health, welfare, or the environment, to ensure continued safe operations." Kinder Morgan requested that the commission provide an exemption from the operating restrictions for activities required in emergency situations, including emergency repairs to gas pipeline facilities. AAR, ASLRRA, and Union Pacific commented that railroad signal failures need to be fixed immediately or accidents could occur. Safety concerns could also arise from the railroad's inability to conduct rail/right-of-way maintenance activities and loading/unloading activities. La Porte commented that the proposed emergency exemption is vague, and interprets it as being restricted to life-threatening emergencies. This definition would exclude maintenance and repair of essential city services and infrastructure, all of which are regulated by the commission and the EPA. This definition would prohibit the maintenance and repair of major water leaks, sewer stoppages, water distribution and wastewater collection systems, wastewater treatment, street repair and construction, and storm water system maintenance and construction, some of which would place La Porte in direct violation of permits and regulations administered by the commission and the EPA. La Porte suggested that the definition of "emergency" be clarified to include "maintenance and repairs of essential public infrastructure that protects the health, safety, and welfare of the public." Enterprise commented that this proposal would jeopardize safety by hindering a company's ability to respond to upsets and other occurrences that, while not emergencies in and of themselves, could develop into emergencies if not promptly addressed.

The commission concurs with these comments, and revised the rule language of the current exemption in §114.487(a)(1) to include: "equipment being used for emergency operations to protect public health and safety or the environment, including equipment being used to repair facilities, devices, systems, or infrastructure that have failed or are in danger of failing in order to prevent immediate harm to public health, safety, or the environment." For purposes of this section, the term "public" includes employees at affected entities. It should be noted that the exemption in §114.487(a)(1) does not cover equipment being used for routine maintenance of facilities, devices, systems, or infrastructure, as those activities are not of an emergency nature and are not essential to preventing immediate harm to public health, safety, or the environment. The commission expects that affected entities will adjust maintenance schedules accordingly or modify operations to accommodate the operating restrictions, while ensuring the continued safety of the public and the environment. The commission anticipates that public entities can resolve any issues regarding conflicts with commission permits or regulations relating to maintenance of infrastructure. Also, facilities that are able to obtain an exemption for routine maintenance activities under §114.487(b) will still be able, during the restricted hours, to continue to perform those activities.

TGC, GPA, and Kinder Morgan fully supported the exemption contained in §114.487(a)(1) for the protection of public health and safety or the environment. While not explicitly stated, these entities believe that emergency pipeline repairs are covered by this exemption due to the public need and necessity of the transmitted gas. If this assumption is incorrect, these entities respectfully requested

clarification of this point. TxDOT also supported the exemption for emergency operations, as well as the exemption for wet concrete operations.

The commission agrees in part and disagrees in part with the commenter's interpretation of the rule with respect to emergency pipeline repairs. Emergency pipeline repairs are covered under this exemption, not because of the public need of the transmitted gas, but because of the potential danger to human health and the environment from a damaged or malfunctioning pipeline. The commission acknowledges TxDOT's support of the exemption for emergency and wet concrete operations.

Phillips 66, TxOGA, and one individual commented that the definition of "construction equipment" needs to be clarified.

The commission agrees with the commenter and wishes to clarify that both construction and industrial equipment are subject to the rules. The commission has therefore included the term "industrial" in the preamble and rules in each instance where the type of equipment affected is mentioned, and has also added to the preamble a list of the specific types of equipment included in the categories "construction and industrial equipment" that are subject to these rules.

One individual commented that the emissions reduction plan exemption should include a broad number of options, not just related to the heavy equipment itself.

The commission disagrees that the exemption does not allow for a broad range of possibilities. The emissions reduction plan exemption does not restrict what strategies are available to the requestor so long as those strategies are quantifiable and have demonstrable and constant emission reductions. Equipment owners/ operators are encouraged to pursue options such as employee trip reduction measures and other related measures to meet their necessary emission reductions.

Chevron, Phillips 66, PHA, TCC, TxOGA, and one individual commented that the commission should change the submission date for the emissions reduction plan to one year prior to the rule compliance date, rather than three years prior. Phillips 66 and TxOGA commented that the requirement to submit the emissions reduction plan three years prior to the compliance date is unreasonable, because the type and amount of equipment in use could change dramatically in that time frame and significant rework will be required. The requirement should be shortened to approximately six months (or one year maximum) prior to the compliance deadline.

The commission disagrees with this comment. The commission is requiring submission of the emissions reduction plans three years prior to the compliance date to allow adequate time for review of the plans, both by the commission and the EPA, and to allow the commission to ensure that the collective emission reductions achieved by the plans are equivalent to the ozone reductions achieved by implementation of the rules. This determination will require time-consuming modeling work, which requires that the plans be submitted as far in advance of the compliance date as was established in the rules. Regarding the concern about changes in equipment fleets during the time between submission of the plans and the compliance date, the calculations in the

plans will actually be based on the owner/operator's best estimate of their fleet as it exists on the rule implementation date, April 1, 2005. Therefore, any changes that occur to equipment fleets before that date will not affect the calculations used to determine an owner/operator's exemption status.

Phillips 66 and TXOGA also commented that the guidance document mentioned in the proposal should be available 12 months prior to the emissions reduction plan submission date.

The commission agrees with this comment. The guidance document will be available May 31, 2001 to aid owners/operators in preparing their emissions reduction plans. The guidance document will outline requirements for the emissions reduction plan exemption in detail. A working draft is currently available, and the commission is accepting comments from all interested parties on the draft guidance document through May 1, 2001. The commission is also holding workshops for all interested parties to give input into the development of the guidance document, to help develop a useful guidance document and a workable approach for meeting the exemption, and to ensure that the final document is as useful and helpful as possible in enabling all entities interested in pursuing an exemption to successfully doing so.

Chevron requested clarification of the criteria and standards that will be applied in demonstrating to the executive director an alternative, equivalent emissions reducing measure under §114.487(b). Phillips 66 and TxOGA commented that the requirements for meeting the alternative emissions reduction plan exemption need to be outlined within the rule.

The guidance document that will be available May 31, 2001 will outline requirements for the emissions reduction plan exemption in detail. The commission does not believe that it is necessary to amend the rule itself, since this guidance document will thoroughly outline the requirements for an emissions reduction plan exemption. A working draft is currently available, and the commission is accepting comments from all interested parties on the draft.

Phillips 66 and TxOGA commented that a quantification of NO_x reductions are required since the claims of ozone reduction by this rule are not easily quantified at the equipment or site level.

Commission modelers have calculated the equivalent reductions in NO_x emissions from shifting NO_x emissions attributable to non-road, heavy-duty diesel construction and industrial equipment from morning until after noon. For the HGA area, NO_x emissions from non-road, heavy-duty diesel construction and industrial equipment comprise 3.3 % of the area's total NO_x emissions. Implementation of the construction equipment operating restrictions rules would result in a shift of 7.9 tpd in NO_x emissions. This shift in NO_x emissions is equivalent to a 6.7 tpd reduction in NO_x. The guidance document scheduled to be released by May 31, 2001 will provide instructions on how equipment owners/operators can calculate ozone reductions needed to qualify for the exemption for their individual fleet of equipment.

TxDOT commented that they appreciate the exemption offered for emissions offsets, but have concerns about the feasibility of obtaining these reductions. TxDOT's review of the attainment demonstration and rule packages indicated that the 6.7 tpd NO_x equivalent in the construction shift rule represents a

37% reduction above the Tier 2/Tier 3 and fuel credits. TxDOT's interpretation of the emission offset exemption is that construction equipment can continue to operate if NO_x emissions can be reduced 37% above the reductions obtained from fuels, diesel emulsions, and Tier 2/Tier 3 equipment. TxDOT requested clarification on the validity of those assumptions.

The 37% reduction estimate obtained by TxDOT represents the reductions expected to be achieved for the fleet of construction and industrial equipment for the entire HGA area. In order for an individual entity such as TxDOT to meet the emissions reduction plan exemption, the plan must demonstrate reductions in NO_x emissions equivalent to the reductions that would result from the implementation of either or both rules on their individual fleet of equipment. Therefore, the reductions required for an individual fleet should only be a fraction of the 37% of the total reductions. The procedure for quantifying the required fleet emission reductions under the emissions reduction plan exemption will be further explained and clarified in the guidance document that the commission is preparing. The guidance document will be available on May 31, 2001 to aid owners/operators in preparing their emissions reduction plans. A working draft is currently available from the commission, and the commission is accepting comments from all interested parties on the draft guidance document. The commission is also holding workshops for all interested parties to give input into the development of the guidance document, to help develop a useful guidance document and a workable approach for meeting the exemption, and ensure that the final document is as useful and helpful as possible in enabling all entities interested in pursuing the exemption in successfully doing so.

TxOGA commented that most oil and gas operators in the HGA area, simply because their operations do not generate large volumes of NO_x, will not have the ability to make offsetting NO_x emission reductions elsewhere in their operations.

The commission disagrees with this comment. The commission intends to work cooperatively with all affected entities, large and small, that wish to pursue the emissions reduction plan exemption, to give them equal ability to utilize the exemption. The commission is developing a guidance document that will be available May 31, 2001 to aid owners/operators in preparing their emissions reduction plans. The guidance document will outline requirements for the emissions reduction plan exemption in detail. A working draft is currently available from the commission, and the commission is accepting comments from all interested parties on the draft guidance document. The commission is also holding workshops for all interested parties to give input into the development of the guidance document, to help develop a useful guidance document and a workable approach for meeting the exemption, and ensure that the final document is as useful and helpful as possible in enabling all entities interested in pursuing the exemption in successfully doing so.

Phillips 66 and TxOGA commented that the requirement in §114.487(b) to demonstrate NO_x reductions equivalent to those required by §114.472 as well as §114.482 is not justified, because an owner/operator's equipment may not be subject to both rules; therefore, the owner/operator should not be required to demonstrate emission reductions for a rule to which he or she is not subject. If the

requirement is intended to exempt the equipment from §114.472 as well as §114.482, the rules need to be revised to do so.

The preamble to the construction equipment operating restrictions rules for the HGA area clarifies that the emissions reduction plan must describe in detail how the operator will modify behavior or fleet of equipment to reduce NO_x emissions by the implementation date in 2005 by a target amount equivalent to the reductions that would result from the implementation of either or both rules on their individual fleet of equipment. Owners or operators may apply for an exemption from either the construction equipment operating restrictions rules or the accelerated purchase of non-road, heavy-duty diesel equipment rules, or from both sets of rules. The commission has also revised §114.487(b) of the rule as follows to clarify that equipment owners/operators may apply for exemption from either one or both rules: "Operators that submit an emissions 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 operating hour restrictions upon implementation of these rules in 2005, and will be permitted to operate during the restricted hours. 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 NO_X reductions equivalent to those which would otherwise have been required under the rules, and must also contain adequate enforcement provisions. The operators may submit a plan for exemption from the control requirements of §114.472 of this title (relating to Control Requirements), §114.482 of this title, or both."

PHA commented that EPA approval of an emissions reduction plan should not be necessary. The commission has the requisite authority to approve the plans and should not require EPA approval. Therefore, PHA requested that §114.487(b) be revised to delete the phrase "and the EPA" with regard to approval of the plans.

The commission disagrees with this comment. The EPA review of the emissions reduction plans is required to ensure that the SIP is complete, approvable, and enforceable.

Dow and TCC suggested that the commission delete the requirement for maintaining daily operating records including equipment start and end times, as this requirement is overly burdensome with no environmental benefit. The commission should consider alternate measures to document compliance such as requiring operator training, or posting of allowable usage on the equipment.

The commission disagrees with this comment. The information needed for the operating records can be easily recorded and assembled. Additionally, the records retention requirement should not be overly burdensome. In addition, companies that obtain an exemption under §114.487(b) will need to maintain records to demonstrate compliance with the terms of the exemption. The name of the equipment operator is required because it gives the agency with jurisdiction to review the records the necessary witness link to verify the authenticity of the records during a records review. The commission believes it is necessary to require the recording of the hours of operation of each piece of equipment to enable the air pollution program with enforcement jurisdiction the ability to determine a company's compliance with the rules. The commission expects that affected

entities will develop procedures suitable to their specific operations that will make this recordkeeping as workable as possible.

TCC commented that the commission should revise §114.486(b) as follows: ". . . any records required to be maintained in accordance with this section within 5 *working* days of a written request . . .." The TCC stated that companies should be given five working days to complete a request.

The commission agrees with this comment, and has revised the rule to incorporate the suggested change.

TGC commented that the commission should allow exemptions on a case-by-case basis for those sources that conduct the majority of their ozone-precursor forming operations outside of the ozone season. These primarily "winter-operated" facilities could only be allowed to operate during the restricted period by purchasing allowance credits from other sources.

The commission disagrees with this comment. The construction equipment operating restrictions rules do not restrict the operation of heavy-duty diesel construction and industrial equipment from November through March. Although certain facilities conduct the bulk of their business operations during the months outside of the "ozone season," some of their operations are nonetheless conducted during the ozone season months. These operations, to the extent they involve non-road, heavy-duty diesel construction or industrial equipment, still generate ozone-forming NO_x emissions. The commission cannot, therefore, use the TGC argument as a valid

basis for exempting their construction and industrial equipment operations. However, TGC has the option of applying for an exemption under §114.487(b) which, if approved, would allow operations during the restricted hours of the "ozone season."

TxOGA commented that the rule should allow flexibility such that heavy equipment usage for actual "construction of new facilities" could be included in the new source review planning for the facility during permitting. Facilities could opt to construct during non-ozone season periods or offset the required emission reductions for the construction period by using DERCs to utilize a proposed alternative reduction at the plant site, either via curtailment of a source or reduction within the heavy equipment inventory at the site.

This rule does not restrict the operation of heavy-duty diesel construction and industrial equipment from November through March. Furthermore, under §114.487(b), a facility could be able to use DERCs as an alternate strategy for an emissions reduction plan. If the facility's plan was approved, it would be able to continue its operations during the restricted hours of 6:00 a.m to noon.

Solutia commented that the commission should allow hourly NO_X emission reductions from combustion unit shutdowns (for maintenance turnarounds) to offset the hourly NO_X emissions resulting from the operation of construction equipment during the proposed restriction period.

The commission disagrees with this comment. The commission cannot allow credits generated from stationary point sources to be used to offset emissions from mobile sources, as the emissions from these two sources differ in their potential to form ozone. Emissions from point sources are emitted higher into the atmosphere, while emissions from mobile sources are emitted at ground level. Therefore, these two types of emissions cannot be considered "equivalent" for purposes of banking, trading, or offsetting. However, facilities do have the option of applying for an exemption under §114.487(b) which, if approved, would allow continued operations during the restricted hours.

ARTBA, AGC-Texas, BFI, BCCA, ExxonMobil, GRBirdwell, HCIC, Kinder Morgan, Listo, PHA, SBU Texas, Union Pacific, WM, and two individuals commented that the commission proposed the draft SIP without a complete analysis and consideration of its economic feasibility and impacts. The plan lacks the required RIA, and was proposed without adequate notice, an adequate takings impact assessment, and an adequate small and micro-business assessment. The commission also failed to request a local employment impact statement from the Texas Workforce Commission. The proposed rule and the rulemaking process is procedurally defective because the commission erroneously concluded that adoption of the workday shift does not require an RIA. This conclusion is erroneous because the workday shift exceeds express requirements of state law, is not specifically required by federal law, and is adopted solely under the general powers of the agency. The workday shift is not a requirement of federal law because, as the commission acknowledges in the preamble (25 TexReg 8244) to the rules, the FCAA specifically defers to states in selection of measures to demonstrate attainment which is what the federal law does require. The workday shift is a measure that is the

choice of the commission and is in no sense a requirement of federal law. There being no specific authority for the workday shift under state law, its only possible statutory basis is the commission's general powers. Because none of the exceptions apply, the commission is required to perform a RIA incident to the adoption of a major environmental rule in accordance with Texas Government Code, §2001.0225. The commission concedes that the workday shift is such a rule (25 TexReg 8244). Moreover, the commission was required to incorporate a draft impact analysis into the notice of the proposed rule. The commission devotes a single conclusory paragraph (25 TexReg 8243) to the potential impacts. This paragraph has limited cost figures that are attributed to the TxDOT and an unsupported estimate of an increment cost associated with the rule. The paragraph does not substantively address the requirements of §2001.025(c). The proposed rulemaking is thus procedurally defective. The commission failed to make the required initial determination of whether the rule has the potential to affect a local economy before proposing the rule for adoption, apparently ignoring that there is a great potential for the rules to adversely affect the local economy. BCCA commented that none of the plan's Small and Micro-Business Assessments applied the mandated cost comparison standards.

Regulatory Impact Analysis

The Texas Government Code, §2001.0225 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. Texas Government Code, §2001.035. These rules do not exceed an express standard set by federal law because the construction equipment operating restrictions 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). The FCAA 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 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. In order to avoid federal sanctions, states 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 strategies necessary to attain the NAAQS. The commissions 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 shift the morning NO_x emissions thereby limiting the formation of after noon peak ozone levels Specifically, as noted elsewhere in this rule preamble, the limitation in after noon peak ozone production associated with these rules is a necessary element of the attainment demonstration required by the FCAA.

During the 75th Legislative Session, Senate Bill (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 that 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 Legislative Budget Board (LLB). Since the legislature is presumed to understand the fiscal impacts of the bills it passes, and that presumption is based on information provided by state agencies and the LBB, the commission believes that the intent of SB 633 was only to require the full RIA for rules that 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 the FCAA. In other words, the proposed rules are intended to meet federal and state law, and does 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." Texas Government Code, §2001.035. The legislature specifically identified §2001.0225 as falling within this standard. The commission has substantially complied with the requirements of §2001.0225.

Rules adopted for inclusion in the SIP fall within the exception in Texas Government Code, §2001.0225(a), because they are required by federal law. The commission performed photochemical grid modeling which predicts that NO_x emission shifting, such as that required by these rules, will result in reductions in ozone formation in the HGA ozone nonattainment area. This rulemaking does not exceed an express requirement of state law. This rulemaking is intended to 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. The rulemaking does not exceed a standard set by federal law, does not exceed an express requirement of state law (unless specifically required by federal law), and does not exceed a requirement of a delegation agreement. The rulemaking was not developed solely under the general powers of the agency, but rather was specifically developed to meet the federal NAAQS

under the authority of the Texas Clean Air Act (TCAA), §§382.011, 382.012, 382.017, 382.019, and 382.039.

Takings Impact Assessment

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 or an appurtenance thereto.

In its analysis, the commission also found that the rules are exempt from Texas Government Code, Chapter 2007 pursuant to §2007.003(b)(4) because it is 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. This rulemaking therefore meets the requirements of §2007.003(b)(4). For these reasons the rules do not constitute a takings under Chapter 2007 and do not require additional analysis.

The purpose of the comment period is for the public to provide the commission with information to say why they agree or disagree. To simply state that the proposal did not meet the statute or that compliance with the proposed rules is not technically or economically feasible does not

provide the commission with sufficient information to propose changes or alternative strategies. 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 or technical feasibility estimates does not render notice inadequate.

Small Business Analysis

The commission disagrees with the commenters and believes that it has complied with Texas Government Code, §2006.002. Under that section the commission is required to prepare a statement of the effect of the rules on small businesses, including an objective assessment of the cost of compliance.

The purpose for performing the small business analysis and preparing the resulting statement is twofold. First, it puts the affected community on notice of the proposed rulemaking so that it can evaluate any potential fiscal impacts and then provide that information to the commission for its consideration prior to the commission's consideration of adoption of the rules. The second purpose of the analysis is to prevent the agency from adopting rules that would be unjustifiably burdensome to small businesses, while not similarly impacting large businesses.

In keeping with the statutory requirement a cost analysis was performed on these rules, and a statement of the analysis was published in the *Texas Register* concurrent with the proposed

rulemaking. At the time the analysis was performed little was known or reasonably knowable with respect to the potential cost of compliance for small or large businesses. Because the proposed rules did not impose any emission standard or require the purchase or acquisition of any type or category of technology, there were no cost figures or even cost estimates to plug into any economic calculations, and therefore it was not feasible for the agency to calculate any meaningful potential impact on any business, small or large. This conclusion is supported by the fact that no comments were received from any potentially affected person besides a general assertion that the analysis was insufficient. No explanation of how the analysis was insufficient was provided, and in fact, no data was given at all with respect to any economic impact on any potentially affected business.

Nevertheless, this lack of available economic data did not stop the agency from doing its best to assess any potential economic impacts of the rules on potentially affected businesses. While it is true that the commission was unable to establish any definite cost figures, it did suggest, in the published rule proposal, that small and micro-businesses "may have significant fiscal implications" even though the amount could not be determined. The commission did attempt to extrapolate, however, potential fiscal implications as a result of comments received from North Central Texas Council of Governments (NCTCOG) and TxDOT on the DFW construction shift proposal. Based on these comments, the commission believes that costs associated with delays and extended construction schedules could potentially be in the range of 15% - 20%.

Local Employment Impact

The commission agrees with the commenters that the proposed rule may affect a local economy; however, it 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 the 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 Texas Workforce Commission before the agency files notice of the proposed rule with the secretary of state. The APA requires the Texas 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 rule might affect a local economy, and sent the proposed rule and other requested information to the Texas Workforce Commission. The commission received a letter from the Texas Workforce Commission, indicating that the Texas Workforce Commission did not have the ability to determine the potential local employment impacts from the proposed rules.

ARTBA, AGC-Texas, AAR, ASLRRA, BFI, BCCA, EMA, ExxonMobil, Harris County, HCIC, Union Pacific, and two individuals commented that the restrictions exceed federal mandates and statutory authority without proper justification and are therefore federally preempted and unlawful. The commission lacks statutory authority to impose the workday shift on all the equipment covered by the rule. The residual air quality benefit does not pass the practical and economically feasible test that commission rules must meet. An agency such as the commission must have legislative authority for its regulatory actions. The commission cites as statutory authority for the construction workday shift, the Texas Water Code, §5.103 (authority to adopt rules necessary to carry out its purposes and duties under

the Water Code and other laws of the state), the TCAA, §§382.011 (authority to control the state's air), 382.012 (authority to develop a general, comprehensive plan for the control of the state's air), 382.017 (authority to adopt rules consistent with the policy and purposes of the TCAA), 382.019 (authority to adopt rules to control and reduce emissions from engines used to propel land vehicles), and 382.039 (authority to develop and implement transportation control programs and other measures necessary to demonstrate attainment and protect the public from exposure to hazardous air contaminants from motor vehicles). There is no specific statutory authority for imposition of the workday shift. The only statutory provision cited by the commission that deals with emissions from vehicles is §382.019 which is entitled "Methods Used to Control and Reduce Emissions From Land Vehicles". Section 382.019(a) reads as follows: "The commission may by rule provide requirements concerning the particular method to be used to control and reduce emissions from engines used to propel land vehicles." Subsection (a) is not authority to impose the workday shift because it is limited by its terms to controlling and reducing emissions from engines used to propel land vehicles. A prohibition against the operation of diesel engines in the morning hours affects the timing of emissions from engines, and it may in a general sense control emissions, but such a prohibition does not specifically control and reduce them. The prohibition neither imposes limits upon emissions nor does it reduce them. "Reduce" is the word the Legislature used in §382.019(a). Unless that word is written out of the sentence, actions taken pursuant to §382.019 must "reduce" emissions. Notwithstanding the rationale for the workday shift (theoretical reduction of ozone by shifting NO_X emissions), the statutory authority in §382.019 is to reduce "emissions." The same emissions of NO_X (including particulates and other materials produced by operation of diesel engines) are emitted either before or after noon; moving them to a different part of the day does not limit or reduce them. The language used in §382.019(a) is "control and reduce." This

phrase is conjunctive; it does not say control or reduce. Both components must be present to be an exercise of the authority of §382.019(a). The commission can only regulate emissions from engines that propel land vehicles. The actions taken by the commission under §382.019(a) can lawfully only apply to specific engines, "those used to propel land vehicles." This limitation on the power of the commission is unambiguous. If an engine is not used to propel land vehicles, the commission has no authority to regulate with respect to that engine. However, the proposed workday shift covers a broader universe of engines. Some units of covered equipment cannot move at all without being towed or hauled on a trailer. These include crushing and processing equipment, signal boards, cement and mortar mixers (those not truck mounted), and others. Still other items of equipment can, in the broad sense, move as a result of their engine being operated but such movement is incidental to the device's function. Examples of these devices include: plate tampers, compactors and rammers, pavers, trenchers, boring rigs, concrete saws (movement regulates the speed of the blade through the material being sawed), surfacing equipment, excavators, and certain cranes (which must be repositioned). The devices just listed do not make use of an engine and transmission to move or propel themselves in any normal sense and are not within the language of §382.019(a), and the first list is certainly not. This point is reinforced by the definition of the term "motor vehicle," found in the Texas Transportation Act: *Motor vehicle - Any self propelled device powered by an internal combustion engine and designed to operate with four or more wheels in contact with the ground, in or by which a person or property is or may be transported, and is required to be registered under Texas Transportation Code (TTC), §502.002, excluding vehicles registered under TTC, §502.006(c).* The equipment discussed earlier in this paragraph is not designed to move people or property as its primary function and is not required to be registered. The conclusion drawn is that any attempted regulation by the commission of equipment,

the movement of which is an incidental result of its engine, is outside the authority of the commission. Adoption of such a regulation would exceed the authority of the commission. The additional authorities, over and above TCAA, §382.019 cited by the commission, do not help establish power to regulate beyond the power to control and limit emissions from engines that propel land-based vehicles. The additional authorities are general provisions that cannot overcome the limits of §382.019. Specific authority to regulate may not be embellished through the expansion of general powers. Implied power is only permissible when it is first concluded that the legislature obviously intended the agency to have it. The language used in TCAA, §382.019 is measured and grants the ability to regulate in certain ways (control and limit emissions) as to certain devices (engines) used for certain purposes (propelling land vehicles). Little is left to the imagination and nothing else is "obviously" inferred. The critical point is that the commission may not regulate engines that do not *propel* land vehicles. Once those devices that are not within the authority are removed from the inventory, the NO_X emissions equivalent is reduced, and the modeled benefit of ozone reduction becomes minimal.

In addition to Texas Health and Safety Code, §382.019, the commission 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 the commenter, 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 this rule. 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.

BFI commented that this rule violates the TCAA. Similar to its failure to conduct an analysis compliant with the Texas Government Code, the commission failed to conduct an analysis sufficient to determine the economic feasibility of the six-hour ban and the public health and general welfare impacts of that proposal as required by TCAA, §382.001 and §382.002.

The commission disagrees with the commenters and has made no change in response to these comments. The proposed rules contained an analysis of information available to the commission regarding the costs and benefits of the proposed rules. This information met the statutory requirements of the TCAA and the Texas APA because the information provided in the proposed rule was sufficient for commenters to submit alternative assessments of the costs and benefits.

BFI also commented that the six-hour ban violates the Supremacy Clause of the United States Constitution. Under the FCAA, the only two permissible means by which states may establish emission control standards for non-road engines and vehicles are the adoption of federal engine emission requirements, or the adoption of California standards. Congress has occupied the field of emission standards for non-road engines and vehicles and simultaneously prohibited parallel and/or contradictory state regulations in that particular field. By adopting this proposal, the commission has unlawfully adopted non-road engine and vehicle emission requirements that expressly conflict with and are thus preempted by §209 of the FCAA (42 USC, §7543(e)) and the Supremacy Clause of the United States

Constitution (art. 6, cl. 2). Recent decisions by the federal courts have confirmed that the FCAA preemption provisions apply to the full range of non-road engines and vehicles that will be affected by the proposals at issue, and that the emission-related requirements established under the proposal clearly constitute the type of requirements that states are expressly preempted from adopting. See Engine Manufacturers Ass'n v. U.S. EPA, 88 F.3d 1075 (D.C. Cir. 1996) and American Automobile Mfrs. Ass'n v. Cahill, 152 F.3d 196, 200-01 (2d Cir. 1998).

The commission disagrees that these rules are preempted by federal law because they do not propose to "adopt or attempt to enforce any standard relating to the control of emissions," of any non-road engine or vehicle as described in Section 209 of the FCAA. Instead, these rules will establish time-of-day use restrictions on certain non-road diesel and industrial equipment rated at 50 hp or more, between the hours of 6:00 a.m. and noon, from April 1 through October 31. The rules do not in any way apply an emission control or emission standard to any of the subject equipment, and therefore do not create any emission-related requirements. Accordingly, the rules are not preempted under the FCAA. Because there is no preemption under federal law, these rules also do not violate the Supremacy Clause of the Constitution.

AAR, ASLRRA, and Union Pacific commented that the commission lacks authority to restrict the ability of railroads to maintain their rights-of-way and operate intermodal facilities, as per the Interstate Commerce Commission Termination Act, which gives the Surface Transportation Board exclusive jurisdiction over railroad transportation, including construction activities.

The commission disagrees with this comment and believes there is no conflict between the scope of these rules and the scope of the jurisdiction actually conferred to the Surface Transportation Board by the Interstate Commerce Commission Termination Act.

ARTBA, AGC-Texas, BFI, BCCA, and HCIC commented that the FCAA expressly prohibits Texas from claiming the intended SIP credit for the temporal emissions shift (dispersion techniques) in this proposal. "Dispersion techniques" are defined as "any intermittent or supplemental control of air pollutants varying with atmospheric conditions." This proposal is a classic "dispersion technique" because it shifts emissions in time to take advantage of varying atmospheric conditions.

Ozone is formed through chemical reactions between natural and man-made emissions of VOC and NO_x in the presence of sunlight. Higher ozone levels occur most frequently on hot summer afternoons. The critical time for the mixing of NO_x and VOCs is early in the day. By delaying the hours of operation for construction equipment and delaying the release of NO_X emissions until after noon during the ozone season, the NO_x emissions will not mix in the atmosphere with other ozone-forming compounds until after the critical mixing time has passed. Therefore, production of ozone will be stalled until later in the day when optimum ozone formation conditions no longer exist, ultimately reducing the peak level of ozone produced.

This strategy is not dependent on atmospheric conditions to reduce ozone formation, as such strategies are disfavored by FCAA, §7423. Instead, the strategy creates reductions in the amount of NO_x added to the atmosphere by construction equipment during the time of day when those

emissions have been shown to contribute to exceedances of the ozone NAAQS. Use of "time of day" restrictions such as this for NAAQS compliance strategies was supported by the EPA in their off-road mobile source rules.

AGC-Texas, Baker Botts, Harris County, Union Pacific, and two individuals commented that the EPA should accept responsibility for the late promulgation of federal standards for non-road engines. The federal standards and their implementation schedule are key in the effort to address emissions from construction equipment. The commission has been forced to consider onerous strategies with regard to these engines that are not economically feasible. The commission should demand accountability from the EPA and be able to take credit for these reductions.

Baker Botts commented that the commission should incorporate into the SIP a greater level of reductions from federally preempted sources, such as low-sulfur diesel, non-road Tier 2/Tier 3 heavy-duty engine standards. The EPA delays in effectively regulating federally preempted sources have prompted the commission to propose technically and economically infeasible emission reductions from those sources in HGA that the state has authority to regulate to make up for the missing reductions. Based on established legal precedent, the commission and EPA have inherent authority to implement the intent of the FCAA by balancing federal and state reductions in the SIP approval process. The HGA situation warrants a flexible approach, due to both the uncertainties in acknowledging the role of NO_x reductions, and the EPA delays in adequately controlling the federally preempted sources as required by the FCAA.

Union Pacific commented that the EPA believes that a strong federal program that addresses remanufacturing and in-use compliance best achieves the necessary emission reductions. Also, a patchwork of state and local regulations would be inefficient and hinder the EPA's ability to implement a uniform national control program.

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 EPA is not currently considering accelerating implementation schedules for existing federal rules. The commission is working with 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 EPA to determine an appropriate federal contribution credit available for the HGA SIP.

STATUTORY AUTHORITY

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

SUBCHAPTER I: NON-ROAD ENGINES

DIVISION 9: HOUSTON/GALVESTON CONSTRUCTION EQUIPMENT OPERATING RESTRICTIONS

§§114.482, 114.486, 114.487, 114.489

§114.482. Control Requirements.

No person shall start or operate any non-road diesel construction or industrial equipment, of 50 horsepower and above, between the hours of 6:00 a.m. and noon, from April 1 through October 31, in the counties listed in §114.489 of this title (relating to Affected Counties and Compliance Dates.)

§114.486. Recordkeeping Requirements.

(a) Any person that operates construction or industrial equipment described in §114.482 of this title (relating to Control Requirements) in those counties listed in §114.489 of this title (relating to Affected Counties and Compliance Dates) is subject to requirements of this section.

(b) Such person described in subsection (a) of this section shall provide to the executive director, or other air pollution program with jurisdiction, any records required to be maintained in accordance with this section within five working days of a written request from the executive director, or other air pollution program with jurisdiction.

(c) Such person described in subsection (a) of this section shall maintain daily operating records on the job site. These records must be maintained for a minimum of two years. The records at a minimum must contain:

(1) date(s) of operation;

(2) start and end times of daily operation;

(3) types of equipment being used; and

(4) name(s) of the equipment operator(s).

§114.487. Exemptions.

(a) The following uses of construction and industrial equipment are exempt from §114.482 and §114.486 of this title (relating to Control Requirements; and Record keeping Requirements) in the counties listed in §114.489 of this title (relating to Affected Counties and Compliance Dates):

(1) equipment used exclusively for emergency operations to protect public health and safety or the environment, including equipment being used to repair facilities, devices, systems, or infrastructure that have failed, or are in danger of failing, in order to prevent immediate harm to public health, safety, or the environment; and

(2) equipment used for mixing, transporting, pouring, or processing of wet concrete provided such equipment is actually processing wet concrete.

(b) Operators who submit an emissions 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 operating hour restrictions upon implementation of these rules in 2005, and will be permitted to operate during the restricted hours. 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 the rules being requested for exemption, and must contain adequate enforcement provisions. The operators may submit a plan for exemption from the control requirements of §114.472 of this title (relating to Control Requirements), §114.482 of this title, or both.

§114.489. Affected Counties and Compliance Dates.

Effective April 1, 2005, affected persons in the following counties shall be in compliance with §§114.482, 114.486, and 114.487 of this title (relating to Control Requirements; Recordkeeping Requirements; and Exemptions). These include Brazoria, Fort Bend, Galveston, Harris, and Montgomery Counties.