The Texas Natural Resource Conservation Commission (commission) adopts new §114.452, Control Requirements; and §114.459, Affected Counties and Compliance Dates. The commission adopts these revisions to add new Division 6, Lawn Service Equipment Operating Restrictions, to Subchapter I, Non-road Engines; Chapter 114, Control of Air Pollution from Motor Vehicles; and to the associated state implementation plan (SIP). The commission adopts these amendments to Chapter 114 and corresponding revisions to the SIP in order to control ground-level ozone in the Houston/Galveston (HGA) ozone nonattainment area. The revisions are one element of the control strategy for the HGA Post-1996 Rate-of-Progress (ROP)/Attainment Demonstration SIP. Sections 114.452 and 114.459 are adopted *with changes* to the proposed text as published in the August 25, 2000 issue of the *Texas Register* (25 TexReg 8216).

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

The HGA ozone nonattainment area is classified as Severe-17 under the Federal Clean Air Act (FCAA) Amendments of 1990 (42 United States Code (USC), §§7401 et seq.), and therefore is required to attain the one-hour ozone standard of 0.12 parts per million (ppm) by November 15, 2007. In addition, 42 USC, §7502(a)(2), requires attainment as expeditiously as practicable, and 42 USC, §7511a(d), requires states to submit ozone attainment demonstration SIPs for severe ozone nonattainment areas such as HGA. The HGA area, defined by Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties, has been working to develop a demonstration of attainment in accordance with 42 USC, §7410. On January 4, 1995, the state submitted the first of its Post-1996 SIP revisions for HGA.

The January 1995 SIP consisted of urban airshed model (UAM) modeling for 1988 and 1990 base-case episodes, adopted rules to achieve a 9% ROP reduction in volatile organic compounds (VOC), and a commitment schedule

for the remaining ROP and attainment demonstration elements. At the same time, but in a separate action, the State of Texas filed for the temporary nitrogen oxides (NO_x) waiver allowed by 42 USC, §7511a(f). The January 1995 SIP and the NO_x waiver were based on early base-case episodes which marginally exhibited model performance in accordance with 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 timelines went through changes. Two national programs in particular resulted in changing deadlines and requirements. The first of these programs was the Ozone Transport Assessment Group (OTAG). This group grew out of a March 2, 1995 memo from Mary Nichols, former EPA Assistant Administrator for Air and Radiation, that allowed states to postpone completion of their attainment demonstrations until an assessment of the role of transported ozone and precursors had been completed for the eastern half of the nation, including the eastern portion of Texas. Texas participated in this study, and it has been concluded that Texas does not significantly contribute to ozone exceedances in the Northeastern United States. The other major national initiative that has impacted the SIP planning process is the revisions to the national ambient air quality standard (NAAQS) for ozone. The EPA promulgated a final rule on July 18, 1997 changing the ozone standard to an eight-hour standard of 0.08 ppm. In November 1996, concurrent with the proposal of the standards, the EPA proposed an interim implementation plan (IIP) that it believed would help areas like HGA transition from the old to the new standard. In an attempt to

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

The EPA issued revised draft guidance for areas such as HGA that do not attain the one-hour ozone standard. The commission adopted on May 6, 1998 and submitted to the EPA on May 19, 1998 a revision to the HGA SIP which contained the following elements in response to the EPA 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 the Subpart 2 of Title I of the FCAA to control ozone and its precursors have been adopted and implemented, or are on an expeditious schedule to be adopted and implemented.

In November 1998, the SIP revision submitted to the EPA in May 1998 became complete by operation of law. However, the EPA stated that it could not approve the SIP until specific control strategies were modeled in the attainment demonstration. The EPA specified a submittal date of November 15, 1999 for this modeling. In a letter to the EPA dated January 5, 1999, the state committed to model two strategies showing attainment.

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

The SIP revision was adopted by the commission on October 27, 1999, submitted to the EPA by November 15, 1999, and contained the following elements: photochemical modeling of potential specific control strategies for attainment of the one-hour ozone standard in the HGA area by the attainment date of November 15, 2007; an analysis of seven specific modeling scenarios reflecting various combinations of federal, state, and local controls in HGA (additional scenarios H1 and H2 build upon Scenario VIf); identification of the level of reductions of VOC and NO_x necessary to attain the one-hour ozone standard by 2007; a 2007 mobile source budget for transportation conformity; identification of specific source categories which, if controlled, could result in sufficient VOC and/or NO_x reductions to attain the standard; a schedule committing to submit by April 2000 an enforceable commitment to conduct a mid-course review; and a schedule committing to submit modeling and adopted rules in support of the attainment demonstration by December 2000.

The April 19, 2000 SIP revision for HGA contained the following enforceable commitments by the state: to quantify the shortfall of NO_x reductions needed for attainment; to list and quantify potential control measures to meet the shortfall of NO_x reductions needed for attainment; to adopt the majority of the necessary rules for the HGA attainment demonstration by December 31, 2000, and to adopt the rest of the shortfall rules as expeditiously as practical, but no later than July 31, 2001; to submit a Post-99 ROP plan by December 31, 2000; to perform a mid-course review by May 1, 2004; and to perform modeling of mobile source emissions using the EPA mobile source emissions model (MOBILE6), to revise the on-road mobile source budget as needed, and to submit the revised budget within 24 months of the model's release. In addition, if a conformity analysis is to be performed between 12 months and 24 months after the MOBILE6 release, the state will revise the motor vehicle emissions budget (MVEB) so that the conformity analysis and the SIP MVEB are calculated on the same basis.
In order for the state to have an approvable attainment demonstration, the EPA indicated that the state must adopt those strategies modeled in the November 1999 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 indicates a gap of approximately 91 tons per day (tpd) of NO_x reductions is necessary for an approvable attainment demonstration. The commission estimates that this measure will achieve a minimum of 0.23 tpd delay of NO_x until after noon. There will also be a 12.4 tpd delay in VOC emissions until after noon. Because the emission of NO_x and VOC, both precursors to the formation of ozone, will be delayed until after noon, this delay will lead to a reduction in ozone that is equal to approximately 4.6 tpd NO_x reduced. These reductions are a necessary measure to consider for closing the gap and successfully demonstrating attainment.

The emission reduction requirements included as part of this SIP revision represent substantial, intensive efforts on the part of stakeholder coalitions in the HGA area. These coalitions, involving local governmental entities,

elected officials, environmental groups, industry, consultants, and the public, as well as the commission and the EPA, worked diligently to identify and quantify potential control strategy measures for the HGA attainment demonstration. Local officials from the HGA area 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 air quality grid modeling, which because of its scientific and statutory grounding, is the chief policy tool for designing emission reduction strategies. The FCAA, 42 USC, §7511a(c)(2), requires the use of photochemical grid modeling for ozone nonattainment areas designated serious, severe, or extreme. The modeling has been conducted with input from a technical oversight committee. Commission staff have continued to improve the air quality modeling technology and refine emission inventory data. Numerous emission control strategies were considered in developing the modeling. Varying degrees of reductions from point sources, on-road and non-road mobile sources, and area sources were analyzed in multiple iterations of modeling, to test the effectiveness of different NO_x reductions. The attainment demonstration modeling and other analysis submitted for public hearing and comment concurrently with the HGA SIP show that a significant amount of NO_x reductions practicably achievable are necessary from ozone control strategies in order for the HGA nonattainment area to

achieve the ozone NAAQS by 2007, including reductions from surrounding counties included in the HGA consolidated metropolitan statistical area (CMSA).

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

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

The HGA ozone nonattainment area will need to ultimately reduce NO_x more than 750 tpd to reach attainment with the one-hour standard. In addition, a VOC reduction of about 25% will have to be achieved. Adoption of the lawn and garden service equipment operating restriction program will contribute to attainment and maintenance of the one-hour ozone standard in the HGA area.

The purpose of these rules is to establish a restriction on the use of handheld and non-handheld spark-ignition engines that operate at or below 25 horsepower (hp), or 19 kilowatts. This air pollution control strategy would delay the emissions of NO_x from these engines until later in the day, thus limiting ozone production. This control strategy is necessary for the HGA nonattainment area to be able to demonstrate attainment with the NAAQS for ozone.

These rules would implement an operating-use restriction program requiring that the handheld and non-handheld spark-ignition engines, rated at 25 hp and below, be restricted from use by commercial operators between the hours of 6:00 a.m. and noon, April 1 through October 31. The affected handheld equipment includes, but is not limited to, trimmers, edgers, chain saws, leaf blowers/vacuums, and shredders. Non-handheld lawn and garden equipment includes such devices as walk-behind lawnmowers, lawn tractors, tillers, and small generators. The affected area would include the following counties within the HGA nonattainment area: Brazoria, Fort Bend, Galveston, Harris, and Montgomery. Based on estimated population, estimated population growth, and emissions estimates 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 would be April 1, 2005.

The intent of these rules is to limit the use of handheld and non-handheld spark-ignition lawn and garden service equipment that operate at or below 25 hp between the hours of 6:00 a.m. and noon. Other lawn and garden service work not requiring the use of handheld and non-handheld spark-ignition lawn and garden service equipment remains unrestricted under these rules. That is, electric or man-powered lawn equipment may be used. It should be noted however that the regulated types of lawn and garden service equipment are banned from use by commercial operators during the hours specified regardless of how they are being used.

The amount of NO_x shifted will total 0.23 tpd. The non-road mobile source category is one of the few sources of ozone-causing emissions that are not currently regulated under rules adopted by the commission. Federal controls on handheld lawn and garden service equipment such as cleaner-burning engines have been adopted and been in effect since 1997. More stringent standards will be phased in beginning with the 2002 model year.

The California Air Resources Board (CARB) stated that "using a commercial chain saw - powered by a two-stroke engine - for two hours produces the same amount of smog-forming hydrocarbon emissions as driving ten 1996 cars about 250 miles each." By shifting the hours of use for handheld and non-handheld spark-ignition lawn and garden service equipment until after noon, NO_x emissions from such lawn and garden equipment will not mix in the atmosphere with other ozone-causing compounds until later in the day. 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 VOC is early in the day. By delaying the release of NO_x emissions from lawn and garden service equipment until later in the day, production of ozone will be stalled until optimum conditions no longer exist, thus avoiding the production of higher levels of ozone.

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

The commission also solicited comments on alternative applications of this rule including: innovative uses of technology, such as incentives to use ultra-low emission engines; alternative use restrictions, such as restricting use to every tenth day; and alternative restrictions on commercial use versus residential use, such as limiting the application of the rule to commercial services (which could be at residential property) or activities at commercial (versus residential) properties.

SECTION BY SECTION DISCUSSION

The new Division 6 is adopted regarding operating restrictions for commercial operators using lawn and garden service equipment powered by spark-ignition engines 25 hp or below.

The new §114.452(a) establishes operating restrictions for commercial operators' using lawn and garden service equipment. These rules restrict the operation by commercial operators of all handheld or non-handheld spark-ignition equipment 25 hp and below, between the hours of 6:00 a.m. and noon, during the time period between April 1 and October 31, except as specified in §114.452(b) and (c).

The new §114.452(b)(1) and (2) state that the use of spark-ignition engines under 25 hp are exempt from the requirements of these rules when used at a domestic residence by the owner of, or a resident at, that domestic residence, or when used by a non-commercial operator. New §114.452(b)(3) exempts any equipment used exclusively for emergency operations to protect human health and safety or the environment, including equipment being used in the repair of 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.

The new §114.452(c) states that commercial operators or persons who submit an approved emissions reduction plan are exempt from operating hour restrictions in 2005. The commission is requiring submission of the plans by May 31, 2003, to allow sufficient time to review and quantify the collective emission reductions the plans propose. The plans will be approved by the executive director and the EPA by May 31, 2004. The commission is requiring submission of the emissions reduction plans two 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. Approved plans would allow commercial operators to operate during the restricted hours. In order to be approved, a plan must demonstrate NO_x and VOC reductions equivalent to those required by the rules, and the plan must contain adequate enforcement provisions. The commission will develop guidance in order to assist commercial operators in the development of their specific emission reduction plans. The commission intends for this guidance to contain an EPA-approved list of actions and operational changes that commercial operators can implement in order to achieve equivalent emission reductions of NO_x and VOC. Commercial operators would be able to submit a plan that uses these pre-approved actions or changes instead of developing a plan that would require case-specific approval by the executive director and the EPA. Reliance on the

pre-approved measures will simplify the plan submittal process for commercial operators and will assist the executive director in the review and approval of each submittal. Commercial operators retain the option of developing their own plan which will be subject to executive director and EPA approval. The executive director may allow plans to be submitted after May 31, 2003. In any event, a plan must be approved prior to the use of that plan for compliance with the requirements of this division.

The new §114.452(d) states that a commercial operator is defined as any person who receives payment or compensation in exchange for operating lawn and garden service equipment powered by spark-ignition engines of 25 hp where the payment or compensation is required to be reported as income by the United States Internal Revenue Code. Generally speaking, this is any person who earns more than $400 a year using the aforementioned equipment. Furthermore, this term also includes any employees or contractors of any person as defined in the Texas Clean Air Act (TCAA), §382.003(10). This means that those entities like government bodies and/or businesses that sustain their own workforce to provide lawn and garden services are not exempt from these rules.

The new §114.459 specifies when the rule becomes effective (i.e., 2005), and the counties which are subject to the new requirements. The affected counties include 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 rule. This issue is discussed in greater detail in the ANALYSIS OF TESTIMONY section of this preamble.

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed this rulemaking action in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking does not meet 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.

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 in Chapter 114 are intended to protect the environment or reduce risks to human health from environmental exposure to ozone and, although no estimates of cost were available to the commission at the time of proposal of the rules, the commission does not believe work delays could affect a sector of the economy in an adverse, material way. These rules are intended to implement an operating-use restriction program requiring that lawn and garden service equipment powered by spark-ignition engines, 25 hp or below utilized by commercial operators, or for uses not exempt under §114.452(b), will be restricted from use between the hours of 6:00 a.m. and noon, April 1 through October 31. This program is part of the strategy to reduce the formation of ozone by delaying NO_x emissions from lawn and garden equipment until later in the day when optimum conditions for the formation of ozone no longer exist. The program was developed for the HGA ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. The commission does not believe that the businesses that provide lawn and garden services comprise a sector of the economy, nor does the commission believe that the rules will adversely affect in a material way, the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state.

These rules do not exceed an express standard set by federal law, since they implement requirements of the FCAA. Under 42 USC, §7410, states are required to adopt a SIP which provides for "implementation, maintenance, and enforcement" of the primary NAAQS in each air quality control region of the state. These rules were specifically developed as part of an overall control strategy to meet the ozone NAAQS set by the EPA under 42 USC, §7409. While 42 USC, §7410, does not require specific programs, methods, or reductions in order to meet the standard, state SIPs must include "enforceable emission limitations and other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance as may be necessary or appropriate to meet the applicable

requirements of this chapter," (meaning FCAA, Chapter 85, Air Pollution Prevention and Control). It is true that the FCAA does require some specific measures for SIP purposes, such as the inspection and maintenance program, but those programs are the exception, not the rule, in the SIP structure of the FCAA. The provisions of the FCAA recognize that states are in the best position to determine what programs and controls are necessary or appropriate in order to meet the NAAQS. This flexibility allows states, affected industry, and the public, to collaborate on the best methods for attaining the NAAQS for the specific regions in the state. Even though the FCAA allows states to develop their own programs, this flexibility does not relieve a state from developing a program that meets the requirements of 42 USC, §7410. In order to avoid federal sanctions, states are not free to ignore the requirements of 42 USC, §7410, and must develop programs to assure that the nonattainment areas of the state will be brought into attainment on schedule. Thus, while specific measures are not prescribed, both a plan and emission reductions are required to assure that the nonattainment areas of the state will be able to meet the attainment deadlines set by the FCAA. The EPA has provided the criteria for both the submission and evaluation of attainment demonstrations developed by states to comply with the FCAA. This criteria requires states to provide, in addition to other information, photochemical modeling and an analysis of specific emission reduction strategies necessary to attain the NAAQS. The commission's photochemical modeling and other analysis indicate that substantial emission reductions from both mobile and point source categories are necessary in order to demonstrate attainment. In this case, this rulemaking is intended to achieve reductions in ozone precursor emissions in the HGA nonattainment area. Specifically, as noted elsewhere in this rule preamble, the emission reductions associated with these rules are a necessary element of the attainment demonstration required by the FCAA.

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

During the 75th Legislative Session, Senate Bill (SB) 633 amended the Texas Government Code to require agencies to perform a regulatory impact analysis (RIA) of certain rules. The intent of SB 633 was to require agencies to conduct an RIA of extraordinary rules. With the understanding that this requirement would seldom apply, the commission provided a cost estimate for SB 633 that concluded "based on an assessment of rules adopted by the agency in the past, it is not anticipated that the bill will have significant fiscal implications for the agency due to its limited application." The commission also noted that the number of rules that would require assessment under the provisions of the bill was not large. This conclusion was based, in part, on the criteria set forth in the bill that exempted proposed rules from the full analysis unless the rule was a major environmental rule that exceeds a federal law. As discussed earlier in this preamble, the FCAA does not require specific programs, methods, or reductions in order to meet the NAAQS; thus, states must develop programs for each nonattainment

area to ensure that area will meet the attainment deadlines. Because of the ongoing need to address nonattainment issues, the commission routinely proposes and adopts SIP rules. The legislature is presumed to understand this federal scheme. If each rule proposed for inclusion in the SIP was considered to be a major environmental rule that exceeds federal law, then every SIP rule would require the full RIA contemplated by SB 633. This conclusion is inconsistent with the conclusions reached by the commission in its cost estimate and by the Legislative Budget Board (LBB) in its fiscal notes. Since the legislature is presumed to understand the fiscal impacts of the bills it passes, and that presumption is based on information provided by state agencies and the LBB, the commission believes that the intent of SB 633 was only to require the full RIA for rules that are extraordinary in nature. While the SIP rules will have a broad impact, that impact is no greater than is necessary or appropriate to meet the requirements of the FCAA.

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

The commission's interpretation of the RIA requirements is also supported by a change made to the Texas Administrative Procedure Act (APA) by the legislature in 1999. In an attempt to limit the number of rule

challenges based upon APA requirements, the legislature clarified that state agencies are required to meet these sections of the APA against the standard of "substantial compliance." Texas Government Code, §2001.035. The legislature specifically identified Texas Government Code, §2001.0225 as falling under this standard. The commission has substantially complied with the requirements of §2001.0225.

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

Comments received during the comment period regarding the draft RIA are addressed in the ANALYSIS OF TESTIMONY section of this preamble.

TAKINGS IMPACT ASSESSMENT

The commission evaluated this rulemaking action and performed an analysis of whether the rules are subject to Texas Government Code, Chapter 2007. The following is a summary of that analysis. The specific purpose of these amendments is to develop a new attainment demonstration SIP for the ozone NAAQS for HGA by adopting a lawn and garden service equipment operating-use limitation on engines 25 hp and below to delay NO_x emissions that

lead to high levels of ground-level ozone production. This rulemaking action will act as an air pollution control strategy to shift NO_x emissions necessary for the HGA ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. Adoption and enforcement of the rules will not burden private, real property as the rules only regulate handheld and non-handheld spark-ignition lawn and garden equipment rated at 25 hp or less.

Texas Government Code, §2007.003(b)(4), provides that Chapter 2007 does not apply to these adopted rules since they are reasonably taken to fulfill an obligation mandated by federal law. The requirements within this rulemaking were developed in order to meet the NAAQS for ozone set by the EPA under 42 USC, §7409. States are primarily responsible for ensuring attainment and maintenance of NAAQS once the EPA has established them. Under 42 USC, §7410, and related provisions, states must submit, for approval by the EPA, SIPs that provide for the attainment and maintenance of NAAQS through control programs directed to sources of the pollutants involved. Therefore, the purpose of this rulemaking is to implement a lawn and garden service equipment operating use limitation that is necessary for the HGA nonattainment area to meet the air quality standards established under federal law as NAAQS. Consequently, these rules meet the exception under §2007.003(b)(4).

In addition, 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 rule revisions do not directly prevent a nuisance or prevent an immediate threat to life or property, they do prevent a real and substantial threat to public health and safety and significantly advance the health and safety purpose. This action is taken in response to the HGA area exceeding

the NAAQS for ground-level ozone, which adversely affects public health, primarily through irritation of the lungs. The action significantly advances the health and safety purpose by reducing ambient VOC and ozone levels in HGA. Consequently, these rules meet the exemption in §2007.003(b)(13).

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. Comments received during the comment period regarding the takings impact assessment (TIA) are addressed in the ANALYSIS OF TESTIMONY section of this preamble.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission determined that this rulemaking action 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 §281.45(a)(3) and 31 TAC §505.11(b)(2), relating to actions and rules subject to the CMP, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission reviewed this action for consistency with the CMP goals and policies in accordance with the rules of the Coastal Coordination Council, and determined that the action is consistent with the applicable CMP goals and policies. The CMP goal applicable to this rulemaking action is the goal to protect, preserve, and enhance the diversity, quality, quantity, functions, and values of coastal natural

resource areas (31 TAC §501.12(1)). No new sources of air contaminants will be authorized and NO_x air emissions will be reduced as a result of these rules. The CMP policy applicable to this rulemaking action is the policy that commission rules comply with regulations in 40 Code of Federal Regulations (CFR), to protect and enhance air quality in the coastal area (31 TAC §501.14(q)). This rulemaking action complies with 40 CFR 50, National Primary and Secondary Ambient Air Quality Standards, and 40 CFR 51, Requirements for Preparation, Adoption, and Submittal Of Implementation Plans. Therefore, in compliance with 31 TAC §505.22(e), this rulemaking action is consistent with CMP goals and policies.

The commission solicited comments on the consistency of the proposed rules with the CMP during the public comment period. No comments were received during the comment period regarding the CMP.

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 number of commenters who provided oral testimony and/or submitted written testimony is 341. The following persons generally supported the proposal: British Petroleum-Amoco (BP) and 13 individuals. The following persons generally opposed the proposal: Liberty County EMS, Montgomery County Soil and Water Conservation, State Representative John Culberson, and 30 individuals. The following persons suggested changes

to the proposal as stated in the ANALYSIS OF TESTIMONY section of this preamble: AAA Asphalt Paving Inc. (AAA), Air Cooled Engine Co. (ACEC), Amarillo Outdoor Power Equipment (AOPE), Baker Botts LLP (Baker Botts), Bell Janitorial (Bell), Bio Energy Landscape & Maintenance (Bio Energy), Business Coalition for Clean Air (BCCA), Citizens for a Better Environment (CBE), City of Beasley (Beasley), City of Galveston Public Works, City of Houston Mayor Brown, 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), Cornelius Nurseries, Inc. (Cornelius), Dayton Area Chamber of Commerce/Dayton Pipe Company (DACC/Dayton Pipe), Engine Education and Training Council (EETC), Engine Warehouse Inc. (EWI), Environmental Defense (ED), Excalibur Construction, Inc. (Excalibur), ExxonMobil Corporation (ExxonMobil), Frazier Lawn Service, Inc. (Frazier), Friendly Robotics, Galveston-Houston Association for Smog Prevention (GHASP), Grandparents of East Harris County (GEHC), Greenscape, HARC Center for Global Studies (HARC CGS), Harris County Judge Robert Eckels, Harris Landscape, The Hispanic Community of Texas Citizens for a Sound Economy (TCSE-HC), Houston-Galveston Metropolitan Planning Organization's Transportation Policy Council (Houston MPO), Johnson Saw & Lawnmower Sales & Service (Johnson), League of Women Voters of Texas (LWV-TX), Lynn's Landscaping, Inc. (Lynn's), Mayor Louise Richman - City of Spring Valley, Houston Metropolitan Transit Authority (Metro), Montgomery County (Montgomery Co.), Mothers for Clean Air (MCA), Mustang Mowing and Landscape Service (Mustang Mowing), National Aeronautics and Space Administration (NASA), Onalaska Equipment Rental and Repair, L.L.C. (Onalaska), Outdoor Power Equipment Institute (OPEI), Pampered Lawns, Pate and Pate Enterprises, Inc. (Pate & Pate), Personal Expressions Landscaping, Inc. (Personal Expressions), Phillips 66 Company (Phillips 66), Portable Power Equipment Manufacturers Association (PPEMA), Poulan Weedeater (Poulan), Public Citizen, Regional Air Quality Consensus Group (RAQCG), Ray's Nursery (Ray's), Reliant Energy, Inc. (REI), Rental Distributing Co. (RDC), Service Dealers Association (TSDA), Sierra Club Galveston Region (Sierra-Galveston), Sierra Club Houston Regional Group (Sierra-Houston), Small

Business United of Texas (SBU Texas), Society of St. Vincent de Paul (SVP), State Representative Robert Talton, TNRCC Public Interest Counsel (PIC), Texas Association of Builders (TAB), Texas Citizens for a Sound Economy (CSE), Texas Department of Transportation (TxDOT), Texas Lawn and Landscape, Texas Nursery & Landscape Association (TNLA), Tropical Landscape Services, Inc. (TLS), EPA, Wakefield Landscape Service (Wakefield), Wesley Community Center, and 224 individuals. ExxonMobil, Phillips 66 and REI supported the comments submitted by the BCCA; therefore, references to BCCA will include references to these commenters. Lynn's, TLS, and Cornelius Nurseries supported the comments of TNLA, therefore, references to TNLA will include references to these commenters.

ANALYSIS OF TESTIMONY

BP and thirteen individuals commented that they supported the rules as proposed. Liberty County EMS, Montgomery County Soil and Water Conservation, State Representative John Culberson, and 30 individuals commented that they opposed the rule as proposed.

Two individuals expressed support for limiting the lawn mowing ban to commercial users only. Public Citizen and one individual commented that the rule should apply to both commercial entities and individuals. TNLA, Harris Landscape, Lynn's, AAA, Bell, Mustang Mowing, and two individuals commented that this rule should not be applied to commercial lawn and garden companies. One individual commented that individuals should be exempted from this rule.

The rule has been revised in response to these comments. The adopted rule exempts any use at a domestic residence by the owner of, or a resident at, that domestic residence or any use by a non-

commercial operator. The rule also exempts any use that is exclusively for emergency operations to protect human health and safety or the environment, including equipment being used in the repair of 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. The commission made this change in the adopted rule to reduce the effect of the rule on individual home or property owners while maintaining a level of ozone reduction that allows the HGA area to demonstrate attainment of the ozone standard. The emission inventory maintained by the commission indicates that commercial operators are the source of the majority of weekday emissions from this type of equipment. The rule has a new definition of commercial operator. A commercial operator is defined as any person who receives payment or compensation in exchange for operating lawn and garden service equipment powered by spark-ignition engines of 25 hp or below where the payment or compensation is required to be reported as income by the United States Internal Revenue Code. This term also includes any employees or contractors of any person as defined in the TCAA, §382.003(10). This term is intended to cover lawn and garden service companies. The term also references the definition of "person" from the TCAA in order to include, for example, any employees or contractors of governmental entities, or corporations, that might employ or hire their own lawn and garden service staff.

The adopted rule does allow commercial operators who submit an emissions reduction plan by May 31, 2003, (which is approved by the executive director and the EPA no later than May 31, 2004) to be exempt from operating hour restrictions upon implementation of these rules in 2005. Thus, they would be permitted to operate during the restricted hours. The executive director may

allow plans to be submitted after May 31, 2003. 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 and VOC reductions equivalent to those required by the rules being requested for exemption, and must contain adequate enforcement provisions.

Two individuals stated that any proposal which relies solely on the use of new technology to lower pollution will not work. One individual commented that the commission should not implement rules that are not based on proven technologies.

This rule does not call for the use of new or unproven technology. The purpose of the rule is to prohibit the use of lawn and garden equipment powered by small, spark-ignition engines 25 hp and below from 6:00 a.m. to 12:00 p.m. from April 1 to October 31 of each year except for domestic use and emergency operations. The concept of shifting emissions until the afternoon has been demonstrated to provide benefits in reducing ozone formation.

Dayton Pipe commented that Liberty County should be excluded from the HGA SIP stating that Liberty County does not contribute to Houston's ozone problem. An individual opposed implementation of the rules in Chambers and Liberty Counties. Montgomery County asked to be excluded from the proposed air pollution measures on the basis that doing so would not make any measurable difference in the Houston ozone problem.

The FCAA Amendments of 1990 provided new requirements for areas that had not attained the NAAQS for ozone, carbon monoxide, particulate matter, sulfur dioxide, nitrogen dioxide, and lead,

and new requirements for SIPs in general. The EPA was authorized to designate areas failing to meet the NAAQS for ozone as nonattainment and to classify them according to severity. Section 107(d)(4)(A)(iv) of the FCAA mandated that areas designated as serious, severe, or extreme for ozone that were within a metropolitan statistical area (MSA) or CMSA must have boundaries that include the entire MSA or CMSA. This requirement is supported by the legislative history for the FCAA Amendments in Senate Report No. 101 - 228, page 3399, "Because ozone is not a local phenomenon but is formed and transported over hundreds of miles and several days, localized control strategies will not be effective in reducing ozone levels. The bill, thus, expands the size of areas that are defined as ozone nonattainment areas to assure that controls are implemented in an area wide enough to address the problem." The FCAA Amendments did provide the ability to exclude portions of the entire MSA or CMSA prior to designation, if the state conducted a study that the EPA agreed proved that the geographic portion did not contribute significantly to violation of the NAAQS.

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

emissions; there is an approved maintenance plan for the area; and the state has met all requirements for the area under FCAA, §110 and Part D.

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

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

At the time the 1990 FCAA Amendments were enacted, the focus on controlling ozone pollution was centered on local controls. However, for many years an ever increasing number of air quality professionals have concluded that ozone is a regional problem requiring regional strategies in addition to local control programs. As nonattainment areas across the United States prepared attainment demonstration SIPs in response to the 1990 FCAA Amendments,

several areas found that modeling attainment was made much more difficult, if not impossible, due to high ozone and ozone precursor levels entering from the boundaries of their respective modeling domains, commonly called transport. Recent science indicates that regional approaches may provide improved control of ozone air pollution.

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

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, 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 where emission reduction measures are most needed and where emission reduction measures will be most effective in order to demonstrate attainment. Based on estimated population, estimated population growth, and estimated emissions developed using EPA-

approved methodologies, the commission has concluded that the sum of the 2007 projected emissions from lawn and garden service equipment in Chambers, Liberty, and Waller Counties is less than 3% of the total lawn and garden service equipment projected emissions in the eight-county area. The effect of shifting lawn and garden service equipment emissions in these three counties has been modeled, therefore the commission believes that including these counties in the adopted rule will have practically no beneficial impact on peak ozone levels. Further, these three counties are primarily rural in nature thus, the commission believes that lawn and garden service equipment emissions are more widely dispersed geographically and are unlikely to significantly influence the urban ozone plume. The commission does not, however, believe it is appropriate to exclude Montgomery County.

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 population of the remaining counties in the HGA nonattainment area is Brazoria, 236,372; Galveston, 249,898; Montgomery, 295,263; Fort Bend, 356,555; and Harris, 3,275,630, for a total of 4,413,718. The total estimated population of the entire HGA nonattainment area is 4,538,022. Thus, the estimated population of Liberty, Chambers, and Waller Counties is 2.74% of the population in the HGA nonattainment area.

The total emissions from all of the HGA nonattainment counties for lawn and garden service equipment is 1.16 tpd of NO_x and 41.2 tpd of VOC. The estimated actual emissions from lawn and garden service equipment for Liberty County is 0.0 tpd of NO_x and 0.548 tpd of VOC; for Chambers

County it is 0.0 tpd of NO_x and 0.235 tpd of VOC; and for Waller County it is 0.0 tpd of NO_x and 0.202 tpd of VOC. The effect of shifting these emissions will result in equivalent emission reductions of 0.0 tpd of NO_x and 0.16 tpd of VOC in Liberty County; 0.0 tpd of NO_x and 0.07 tpd of VOC in Chambers County; and 0.0 tpd of NO_x and 0.06 tpd of VOC in Waller County. Based on estimated population, estimated population growth, and emissions estimates developed using EPA-approved methodologies, the commission believes it is appropriate to exclude Chambers, Liberty, and Waller Counties from the adopted rule.

The same is not true, however, with respect to Montgomery County which the commission believes should be retained in the adopted rule. Based on estimated population, estimated population growth, and emissions estimates developed using EPA-approved methodologies, the commission concluded that the sum of the 2007 projected emissions from lawn and garden service equipment in Montgomery County is 11.8% of the NO_x and 13.6% of the VOC of the total lawn and garden service equipment projected emissions in the eight-county area. The effect of shifting lawn and garden service equipment emissions in this county has been modeled, therefore the commission believes that retaining Montgomery County in the adopted rule will have a measurable, beneficial impact on peak ozone levels. Montgomery County is not primarily rural in nature, thus lawn and garden service equipment emissions are not as widely dispersed geographically as those same emissions are in Chambers, Liberty, and Waller Counties, and are likely to 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 population in the HGA nonattainment area.

Based on population, the county is over two times as large as Liberty, Chambers, and Waller combined. Its NO_x emissions are significantly greater than the three counties being excluded from the adopted rule. The estimated actual emissions from lawn and garden service equipment in Montgomery County is 0.137 tpd of NO_x and 5.607 tpd of VOC. The effect of delaying these emissions is expected to result in equivalent emission reductions of 0.03 tpd of NO_x and 1.68 tpd of VOC.

Sierra-Houston resubmitted comment letters dated August 2, 1999, January 31, 2000, and February 24, 2000, concerning already-completed rulemakings and SIP revisions which Sierra-Houston had initially submitted during the comment period for these previous rulemakings and SIP revisions.

These comments were addressed in the ANALYSIS OF TESTIMONY section of the preambles to the earlier rulemakings and SIP revisions which were published in previous issues of the *Texas Register*.

GEHC, MCA, and 13 individuals stated that facilities that predate the commission's air permitting requirements (i.e., those that are "grandfathered") should be subject to the NO_x emission specifications. GHASP commented that all grandfathered facilities should be investigated to be certain that they are properly so designated since many of these facilities have made modifications. State Senator Carlos Truan commented that a problem with the proposed rules is that they do not deal with grandfathered facilities and that the commission has let these facilities avoid permitting through the use of standard exemptions.

The commission made no change in response to the comments. The adopted rules that apply to facilities, for example the Chapter 117 NO_x requirements and the Chapter 115 VOC requirements, apply to both permitted and non-permitted ("grandfathered") sources in HGA. The commission agrees that it is appropriate to pursue cost-effective measures to reduce pollution; however, any such measures must be within the statutory authority of the commission. The TCAA does not authorize the commission to require grandfathered sources to obtain permits in order to operate, or to prohibit operation of those sources. A grandfathered facility is one that existed at the time the Texas Legislature amended the TCAA in 1971. These facilities were not required to comply with (i.e., were grandfathered from) the then new requirement to obtain permits for construction activities. Whenever a grandfathered facility is modified (as that term is defined in the TCAA) then it is required to comply with the TCAA permitting requirements in order to be authorized to construct and operate that modification. If a grandfathered facility has never been modified, it continues to be authorized by the TCAA to operate without a permit. Further, the definition of "modification" specifically excludes changes to facilities that are authorized by an exemption, i.e., any facility, including a grandfathered facility, can make a change using a commission exemption (now permit by rule) and this change is not considered to be a modification that would trigger the permitting requirements of the TCAA. During the 76th Texas Legislative Session in 1999, the issue of grandfathered sources was addressed by two different legislative programs. Senate Bill 766 was passed which provided a framework for a voluntary permitting program for grandfathered sources under the TCAA, and SB 7 which requires mandatory permitting and emission reductions from electric generating facilities. The commission continues to pursue enforcement action against companies who are not in

compliance with the permitting requirements of the TCAA. However, SB 766 does provide for amnesty from enforcement for facilities eligible to participate in the voluntary emission reduction permit program as long as a permit application is received before the TCAA deadline of September 1, 2001.

LWV-TX commented that the rule, while it may cause a public backlash, allows enough time for the replacement of old equipment with newer, less polluting equipment by homeowners and lawn services.

The commission revised the adopted rule to allow domestic and emergency use of use lawn and garden service equipment powered by small, spark-ignition engines 25 hp and below from April 1 to October 31 of each year. The adopted rule specifically prohibits commercial operators and persons not exempt under §114.452(b) from using the lawn and garden service equipment during the specified time periods unless they submit an emissions reduction plan by May 31, 2003 that will provide equivalent reductions of NO_x and VOC. The executive director may allow plans to be submitted after May 31, 2003. 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 agrees that the April 1, 2005 compliance date should provide enough time for commercial operators to make the necessary adjustments in order to comply with the rules.

Sierra-Houston and seven individuals commented that they believed that this rule should include a complete ban on leaf blowers. Sierra-Houston added that leaf blowers create noise and water pollution and that users of leaf blowers blow organic debris into the storm sewer and that this will load up streams with organic matter that

will cause oxygen depletion and fish kills. One individual commented that if this rule is applied to the HGA, then there should be a rule to limit the use of drive-through windows. One individual commented that a ban should be placed on all gasoline-powered golf carts in favor of electric. Two individuals commented that they do not like loud lawn equipment in the morning. TAB, Lynn's, Harris Landscape, and TNLA commented that the rule would increase noise pollution because it compresses the work day.

Because the proposed rule did not address drive-through windows, or gasoline powered golf carts, the commission is unable to revise the rules at adoption to include limitations to address these issues. Further, the proposed rule did not address a ban on leaf blowers; therefore, the commission is unable to adopt such a ban at this time. This adopted rule will prohibit the use of leaf blowers and equipment like it, until afternoon during the specified time periods. The commission realizes that idling vehicles are contributors of emissions and is concurrently adopting a rule which will limit the amount of time that very large, heavy-duty vehicles may idle. Leaf blowers are noisy; however, the commission does not have the statutory authority to address issues related to noise pollution. This rule will shift lawn maintenance activity into the afternoon hours and should cause a decrease in lawn maintenance noise in the morning hours. The commission disagrees that the compression of the work day will increase noise pollution.

One individual commented that there should be "significant" emission reductions from this rule if it is to be implemented, and three individuals wished to know what benefits would be gained by this proposal. OPEI, PPEMA, Texas Lawn and Landscape, and three individuals commented that limiting lawn mower emissions would result in small reductions of NO_x. PPEMA and one individual commented that this rule is not necessary in

terms of the amount of pollutants that are being reduced. Ray's and six individuals commented that they would like to know what the percentage of improvement would be attributable to the proposed rule.

The commission believes the emission reduction that will result from these rules is significant. The commission estimates that this measure will achieve a minimum of 0.23 tpd delay of NO_x until after noon. There will also be a 12.4 tpd delay in VOC emissions until after noon. Because the emission of NO_x and VOC, both precursors to the formation of ozone, will be delayed until after noon, this delay will lead to a reduction in ozone that is equal to approximately 4.6 tpd NO_x reduced. The HGA area exceeds the federal ambient air quality standard for ground-level ozone, which adversely affects public health, primarily through irritation of the lungs. The CARB has stated that "using a commercial chain saw powered by a two-stroke engine for two hours produces the same amount of smog-forming hydrocarbon emissions as driving ten 1996 cars about 250 miles each." According to EPA estimates, in many large urban areas, pre-1997 lawn and garden equipment accounts for as much as 5% of the total man-made hydrocarbons that contribute to ozone formation. The commission expects that reducing emissions from these small engines will help to alleviate the formation of ground-level ozone resulting in a decrease of air pollution-related health problems for urban residents.

One individual commented that proper maintenance of lawn equipment must be part of the solution.

The commission agrees with this comment and encourages operators of this equipment to practice regular maintenance. Poor maintenance of internal combustion engines can contribute to emissions of VOC and NO_x.

One individual asked why the commission chose to implement the lawn mowing rule in 2005, rather than earlier.

The commission chose to implement the lawn equipment time-shift rule in 2005 so that this rule may coincide with the new Division 9, Houston/Galveston Construction Equipment Operating Restrictions; to Subchapter I, Non-road Engines; Chapter 114, Control of Air Pollution from Motor Vehicles that is being adopted concurrently with these rules. Additionally, by having the rules take effect in 2005, this allows commercial operators and persons not exempt under §114.452(b) to adjust to the impending change in schedule. That is, commercial operators can determine whether they would like to alter their fleets to include manual or electric-power lawn and garden service equipment or submit an emission reduction plan under §114.452(c).

One individual commented that the rule is only being proposed because the companies being regulated do not have influence over the commission.

Industry of all size, as well as individuals, are being asked to lower emissions for the benefit of cleaner air in the HGA area. For instance, large industries such as power companies, will be required to reduce their NO_x emissions by 90%. Individuals will also be required to conform to

lower speed limits, and to comply with Inspection/Maintenance programs for automobile exhaust systems.

Pate and Pate and CAP commented that the rule has not been attempted anywhere in the United States. They also commented that the rule will result in an average increase of 10% in their payroll and that the rule may cause many workers to become unemployed. Missouri City commented that this rule will create higher costs associated with the change in work schedule and the hiring of part-time employees. TNLA, Harris Landscape, and Lynn's commented that landscape workers often hold two jobs and this would not allow them to work at their night jobs. ACEC, AOPE, BCCA, TNLA, CSE, EETC, RDC, TSDA, OPEI, PPEMA, DACC/Dayton Pipe, NASA, Lynn's, Bio Energy, Frazier, Mustang Mowing, Spring Valley, ExxonMobil, Harris Landscape, Wakefield, Ray's, Wiccacon, Johnson Saw, Texas Lawn and Landscape, and 27 individuals commented that they felt that the rule proposal would have too much of a negative impact on the lawn mowing industry. TNLA and Harris Landscape added that this proposal could create an unfair competitive advantage for those who choose to ignore it. TAB commented that the rule would give a competitive advantage to doing business outside of HGA. ExxonMobil commented that it does not support the use of temporal restrictions on the use of non-road equipment such as lawn service equipment and that the rules would be extremely disruptive to business and industry in the region and will place the region at a competitive disadvantage relative to other parts of the country. One individual requested to know the "economic trade-offs" involved in the rule proposal, and the "major assumptions used" for the proposal. Mustang Mowing and two individuals commented that sales tax revenue will be lost. RDC, TNLA, Harris Landscape, Lynn's, Minnesota City, Pate and Pate, Mustang Mowing, Wakefield, Ray's, and four individuals commented that this rule will leave less time for companies to work, thus cutting into their profits earned. RDC commented that they would be forced to cut wages or increase prices to consumers. Greenscape commented

that they begin mowing at 7:30 a.m. and finish near 4:30 p.m. each weekday, with employees taking several breaks during the hottest part of the day. This schedule meets the budgets of their customers and provides employees with full time employment. Harris County Judge Robert Eckels and City of Houston Mayor Brown commented that the rule does not reduce pollution in a cost-effective or acceptable manner for the residents, business, or government in the Houston region. Greenscape commented that equipment has been purchased over the years with an eight-hour day as the basis for the costs. Losing half a day will cut productivity and sales. Hiring more employees would be more than their limited profit margin could bear and that they could be forced out of business. Financial committments made to creditors would likely not be met if the time restrictions were implemented. The rule sacrifices the health of landscape businesses (with statewide sales of nearly $4.4 billion per year) as well as their employees for the convenience of others. TSDA, TNLA, Harris Landscape, Lynn's, Wakefield, and two individuals commented that the basis and analysis for the rule is flawed.

Although it is true that this strategy has not before been implemented, the commission believes that it is reasonable, based on known and credible science, to regulate the use of lawn and garden service equipment powered by small, spark-ignition engines 25 hp and below from April 1 to October 31 of each year in order to meet the federal ozone NAAQS.

The commission disagrees that this strategy is unproven, untested, or is not based on sound science. It has been well established by the scientific community that emissions of NO_x released during the late morning hours contribute more to ozone formation than do emissions at other times of the day. This is because 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, and the critical time for the mixing of NO_x and VOCs is early in the day. By delaying the hours of operation for lawn and garden service 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 delayed until later in the day when optimum ozone formation conditions no longer exist, ultimately reducing the peak level of ozone produced.

Consequently, and understanding that a certain amount of lawn and garden service equipment emissions are unavoidable, the commission believes that delaying NO_x emissions from the morning hours until after noon, during the prime ozone forming months, is an effective and well-reasoned strategy that uses good science to good effect.

The commission recognizes that compliance with this rule may cause losses in productivity and revenue and require commercial operators to seek creative solutions in order to remain competitive. The commission also recognizes that members of the affected workforce may choose to seek other jobs with different hours. 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. 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, these rules are necessary in order to demonstrate compliance with the ozone standard.

As with any rule, the commission expects that there will be noncompliance by an undetermined number of regulated entities. The commission believes that most commercial operators will willingly comply with the regulation. Those who do not will be subjected to the appropriate enforcement procedures. Economic gain as a result of the violation is a factor in setting penalties.

The adopted rule includes an option for commercial operators to submit an emission reduction plan that, if approved, will allow the operator to use the prohibited equipment in the morning hours. The commission believes that this flexibility will enable commercial operators to remain competitive. Further, the adopted rule does not ban all work in the morning hours, rather, it prohibits the use of certain equipment. Commercial operators will be able to use electric or manual powered equipment before noon. This rule will result in the equivalent of approximately 4.6 tons every day of NO_x-equivalent emissions reductions in the entire Houston/Galveston area. The commission believes this to be a significant reduction of harmful emissions in an area of the state classified as "severe nonattainment."

SBU Texas commented that it does not believe a serious attempt was made to determine the actual economic impact of the rule on small businesses. More needs to be done to justify the economic impact of the rules on small businesses. The rules should concentrate on implementing cost-effective measures that balance

competing interests and proven methods that achieve results. Johnson Saw commented that the rule would seriously affect small business owners in the lawn and garden fields of operation. Bio Energy and Mustang Mowing commented that the lost hours for working will require the doubling of equipment and vehicles used which will cause prices to be higher, resulting in lost contracts, with the potential of bankrupting smaller companies. Mustang Mowing, Bio Energy, and two individuals added that larger companies would then pick up the business from the small businesses and that this rule will create monopolies as smaller lawn maintenance businesses find it impossible to compete. If there are not enough small businesses, there will not be enough companies to fill the demand for services. The monopolies could charge whatever they want for their services and they will be able to pay their workers less because of the large availability of unemployed workers. As a result of the loss of small businesses, sales tax revenue will be lost. One individual commented that the rule will hurt the small businessman. One individual commented that the rule would dictate the time that small businesses could start their business. Pate and Pate commented that the rule was rejected in California due to the burden it would have placed on small business. Johnson Saw commented that the rule would seriously affect small business owners in the lawn and garden fields of operation.

For several years, the commission's Small Business Assistance program has provided help to small businesses in the areas of permitting, compliance, and pollution prevention. Through this experience, the commission has gained an understanding of the needs of small businesses and the impacts that additional regulation can have on a small businesses. However, because of the need to obtain significant reductions in the HGA nonattainment area, the commission is unable to exempt small businesses from compliance with the rules. Even though a business may be small, it may not have a small amount of emissions, thus it is important that the emissions from

small businesses be included in these rules and in the SIP in order for the HGA area to reach attainment. In order to provide as much flexibility as possible to all businesses that must comply with the rules, the commission has revised the HGA SIP to allow for the inclusion of economic incentive programs as a component of the HGA SIP for future consideration.

The proposal preamble acknowledged that there may be fiscal implications for small businesses as a result of the adoption and enforcement of the rules. The proposal noted that the economic impacts were not anticipated to be significant and that they would not likely extend beyond any impact due to the shift in work schedules and possible implications from work delays. The commission did state that additional employees might have to be hired or additional equipment might be purchased. The commission received comments stating that equipment for commercial lawn and garden operations is replaced regularly on a two- to four-year cycle. Based on this information, the commission believes that capital expenditures resulting from commercial operators' compliance with the modified rule are within the normal replacement schedule of their equipment and will not require the doubling of equipment or vehicles. For example, replacement of existing inventories with electric equipment will allow operators to continue their operations in the morning hours. The commission believes that replacement of equipment could allow commercial operations to continue to operate with the same number of employees after the 2005 implementation date. Further, additional comments indicate that the primary expense for these businesses is labor. The adopted rule allows commercial operators and persons to submit emission reduction plans by May 31, 2003, for approval by the executive director and the EPA no later than May 31, 2004. If an acceptable plan is submitted, commercial

operators will be exempt from operating hour restrictions upon implementation of these rules in 2005 or thereafter, and will be able to operate during the restricted hours. This would also eliminate or reduce the need for increased labor costs. The executive director may allow plans to be submitted after May 31, 2003. 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 believes that these options will allow small businesses to continue to compete with larger operations. These alternatives would enable small businesses to take advantage of economic incentive programs which are developed in the future. The commission will continue to work with small business representatives to identify options for compliance which may currently exist or which may become available in the near future.

Lynn's, TNLA, NASA, City of Simonton, Society of St. Vincent De Paul, Pate and Pate, Harris County Judge Robert Eckels, City of Houston Mayor Brown, BCCA, Harris Landscape, Pampered Lawns, Personal Expressions, and nine individuals expressed concern for lawn maintenance worker's general welfare. NASA expressed concerns for the safety and health of its onsite personnel since their workers would be working in the hottest part of the day. The City of Simonton, Society of St. Vincent De Paul, and RDC commented that the rule would have workers trying to maintain the same number of properties in half the normal time during the hottest part of the day and this would put the workers at a serious health risk. TNLA commented that the rule would require employees to work in excessive heat. TAB commented that workers would be subject to heat exhaustion. AAA expressed concerns about stress on crews due to hot temperatures, not only during the summer months but year round. Working after daylight hours will increase the chance of accidents. Cornelius commented that workers will be at a greater risk of heat stroke and that, according to OSHA (the Occupational Safety and Health Administration), employers

should schedule these types of jobs for the cooler part of the day. This is a point widely taught in employee training meetings on preventing heat stress. Excalibur and Pate and Pate commented that the proposed workday shift poses an adverse health and safety threat to workers and that shifting work to the evening hours is irresponsible and unnecessary and poses a tremendous threat to the safety of workers and the public. Lynn's commented that landscape employees will suffer in terms of health if they have to start work at noon during daylight savings time. Mustang Mowing commented that the rules will result in increased incidences of dehydration, heat exhaustion, heat stroke, and skin problems related to mid-day sun exposure, including but not limited to melanoma. Spring Valley commented that the 125 part per billion, one-hour ozone standard is a health based standard and that no analysis was presented on the risks to human health and safety of operating lawn service equipment in the heat as required by the rule. The City of Simonton commented that the proposed rule is not reasonable and is dangerous to the health of workers. ED commented that this strategy fails to recognize that workers start work at dawn and quit at two or three to avoid hot temperatures. BCCA commented that it is concerned that the shift of this vigorous outdoor activity to the late afternoon and early evening hours present a safety hazard to lawn service workers. Greenscape commented that restrictions on hours of operation would be hard on employees and would cause an increase in costs for consumers since the health risks would require higher prices to cover the potential risks. RDC commented that lawn maintenance workers would experience health risks. One individual commented that there would be an increased risk of skin cancer for workers if they are obligated to perform their duties after 12:00 p.m. NASA, AAA, ED, RDC, BCCA, REI, OPEI, AOPE, TSDA, EETC, TNLA, TAB, CSE, City of Galveston Public Works, ExxonMobil, Phillips 66, Bell, Cornelius, Pate and Pate, Mustang Mowing, Spring Valley, Beasley, Lynn's, Wakefield, Missouri City, Harris Landscape, Briggs & Stratton, Ray's, Wesly, Wiccacon, Texas Lawn and Landscape, and 73 individuals commented that proposing an operating delay on lawn equipment

until after 12 p.m. during the hottest months of the year would be unhealthy, especially for the elderly and/or infirm.

The commission agrees that this rule could negatively affect some in the lawn care industry in terms of working conditions. The commission recognizes that this rule may result in increased exposure to elevated temperatures, increased fatigue, and perhaps increased health care costs for employers and employees. However, operators of lawn equipment would be expected to take all necessary measures to protect their health and safety and educate themselves about potential risks as the commission presumes they do currently. The ultimate responsibility of the commission in terms of this rule is to maintain and improve the air quality and public health in the HGA. This rule would do that by creating a reduction in NO_x equal to approximately 4.6 tpd. These reductions are a necessary measure for successfully demonstrating attainment. While high temperatures can be dangerous to many in the Houston/Galveston area, every citizen in the area, especially asthmatics, the very young, and the very old, are vulnerable to the effects of ground level ozone. The commission is aware of the economic and other difficulties this rule will impose on businesses and individuals, and is adopting it with an extended compliance schedule so that lawn and maintenance businesses may supplement their equipment with electric or manual powered units or develop an emissions control plan.

TNLA, Harris Landscape, Lynn's, Mustang Mowing, Excalibur, Pate and Pate, TCSE-HC, and two individuals commented that the restriction would have a negative economic impact on the minority community employed in the lawn service industry. CAP, Lynn's, BCCA, OPEI, Spring Valley, Harris County Judge Robert Eckels, City of

Houston Mayor Brown, and 13 individuals expressed concern for the low-income community employed in the lawn service industry. TNLA commented landscape workers often hold two jobs so this would impact the ability of these workers to continue in the second job and that the proposal would place an undue burden on the Hispanic community because 85-90% of the landscape workforce is Hispanic. Employees of landscape firms are semi-skilled laborers for whom a day or week or no work may mean the difference between living above or below the poverty line. Spring Valley and CAP commented that the proposed rule does not contribute to attainment of the ozone standard at the lowest economic and social cost because the proposal places a significant burden on many of HGAs most vulnerable workers. Mustang Mowing commented that the proposed ban could have widespread and negative effects on unskilled workers and on minority workers. Two individuals commented that pay would be cut in half for workers. Excalibur and Pate and Pate commented that the workday shift would fall disproportionately on the minority community and that minority families will feel a disproportionate impact. Seven individuals commented that the restriction would have a negative economic impact on the minority and/or low-income community employed in the lawn service industry. BCCA commented that it is concerned that the impacts of the rule will fall disproportionately on small and historically disadvantaged business owners. The commission maintains that the rule as adopted will not have a disparate impact on persons based on income level, race, color, or national origin. The basis for the rule is protection of human health and the environment, and shifting emissions from lawn and garden service equipment from 6:00 a.m. to 12:00 p.m. has been demonstrated to provide benefits in reducing ozone formation. Although it is not clear what, if any, legal standard the commentors allege the commission would violate in adopting the rule, some state that the rule 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. As for potential negative impacts of the rule, these are clearly borne equally by all commercial operators and their employees governed by the rule without any differentiation by race, color, or national origin. The ultimate responsibility of the commission with these rules is to maintain and improve air quality and public health in the HGA area. This rule would do that by creating a reduction in NO_x equal to approximately 4.6 tpd. These reductions are a necessary measure for successfully demonstrating attainment.

The adopted rules provide that commercial operators can submit an emission reduction plan, that if approved, will enable the operators to use the prohibited equipment during the morning hours. The commission received comments stating that equipment for commercial lawn and garden operations is replaced regularly on a two- to four-year cycle. For example, this would allow operators to replace a substantial portion of their current inventory with electric equipment prior to the 2005 rule implementation date. Because the adopted rules do not prohibit all lawn and garden service activities, just the use of certain equipment, during the morning hours, commercial operators would be able to use the replaced equipment in the morning. This would reduce any negative impacts on employees.

Lynn's, Spring Valley, Harris Landscape, Ray's, and four individuals commented that this rule will cut into the "family time" of lawn and garden workers because these workers will have to spend more hours away from home working to make up for the time they will lose between 6:00 a.m. and 12 p.m. TNLA, Excalibur, Pate and Pate, and AAA commented causing workers to work into the evening hours will have an impact on the time that can be spent with their families. Excalibur and Pate and Pate commented that workers might choose to leave the

industry or be forced into unemployment to avoid the extended hours. CAP, Harris County Judge Robert Eckels, and Spring Valley commented that the proposed rule does not contribute to attainment of the ozone standard at the lowest social cost because the proposal places a significant burden on many of HGA's most vulnerable workers. TAB commented that thousands of individuals who are accustomed to being at home with their families in the evenings would no longer have that option causing a tremendous negative impact on those families.

The commission recognizes that these rules may initially cause certain disruptions to the personal and social lives of affected employees, however the rules have been revised to provide flexibility for commercial operators. The adopted rules do not prohibit all lawn and garden services from being done in the morning hours, rather it prohibits the use of lawn and garden service equipment that is powered by small spark ignition engines of 25 hp or less. Work can still be done in the morning for activities that do not require the use of the prohibited equipment or electric or manual powered equipment may be used. Further, commercial operators may submit an emission reduction plan that, if approved, would allow the commercial operator and its employees to continue to work in the morning hours using the prohibited equipment. The restriction on hours of operation of certain lawn and garden service equipment is an important component in 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.

GEHC, Cornelius, Wakefield, and 15 individuals commented that limiting lawn mower emissions would result in only small reductions of NO_x, and that the real source of most emissions was large industry. One individual commented that their mowing does not have the same effect as the pollution created by refineries in the Pasadena area. PPEMA commented that lawn and garden equipment engine are minor contributors to the VOC and NO_x inventory in the HGA, and that NO_x emissions from two-stroke handheld products are extremely low. TSDA commented that it is not appropriate to group lawn and garden equipment emissions with other types of equipment, like construction equipment. According to EPA, four-stroke lawn and garden engines account for only 1% of the total VOC emissions, which is far less than what was estimated in the proposal. TSDA noted that all small engines account for less than 1% of all hydrocarbons in the air. TSDA disagreed with the preamble statement based on CARB data that a chain saw running for two hours would produce more hydrocarbons than ten 1996 cars driving 250 miles each. TSDA stated this is physically impossible since a chain saw would use about two pints of gasoline and the cars would use about 100 gallons. No engine burning two pints of gasoline could out pollute 100 burned gallons of gas.

The commission agrees that the largest stationary sources of NO_x are point sources such as power plants and refineries. However, non-road mobile sources are also significant contributors of NO_x emissions and are a factor to be considered in reaching attainment. Lawn and garden equipment accounts for approximately 41 tpd of VOC. Small engines are the largest VOC emitters in the non-road category. Lawn and garden equipment accounts for 37% of the 2007 HGA eight-county area non-road VOC total and recreational boating accounts for an additional 23% on weekdays, and on weekends their share is much higher. This total includes emissions from four-stroke and the higher emitting two-stroke engines. The other 40% is spread among many

categories. The 41.2 tpd of VOCs from lawn and garden equipment account for approximately 6.5% of the total anthropogenic eight-county VOCs. This rule will result in a reduction in ozone that is equal to approximately 4.6 tons per day of NO_x emissions and 12.4 tpd in VOC emissions for the HGA nonattainment area during the specified time period. The CARB has stated that "using a commercial chain saw powered by a two-stroke engine for two hours produces the same amount of smog-forming hydrocarbon emissions as driving ten 1996 cars about 250 miles each." Model year 1996 cars are equipped with advanced fuel injection systems and sophisticated three-way catalysts that enable the cars to burn nearly all of their fuel, and the catalyst to oxidize a large fraction of what is not consumed. A two-stroke chainsaw, with a simple carburetor, low-compression ratio, and no catalyst, can emit a proportionally vast amount of VOC as an unburned mix. According to EPA estimates, in many large urban areas, pre-1997 lawn and garden equipment accounts for as much as 5% of the total man-made hydrocarbons that contribute to ozone formation. The commission expects that reducing emissions from small engines will help to reduce the formation of ground-level ozone, thus resulting in a decrease of air pollution-related health problems for urban residents. The commission believes this to be a significant reduction of emissions in an area of the state classified as "severe" in terms of ozone nonattainment. By shifting the hours of use for handheld and non-handheld spark-ignition lawn and garden service equipment until after noon, NO_x emissions from such equipment will not mix in the atmosphere with other ozone-causing compounds until later in the day. The commission agrees that one individual's gardening routine does not emit the same types and/or amounts of pollutants as an oil refinery. However, when combined, the thousands of small spark-ignition engines used throughout the five specific counties in the HGA subject to the adopted rule do emit high levels of

NO_x and VOCs. Additionally, it cannot be said that point sources will not be affected by the rules being adopted by the commission at this time. The commission is adopting rules which will require point sources in the HGA to lower emissions by 90%. The ultimate responsibility of the commission in terms of this rule is to maintain and improve the air quality and public health in the HGA. These reductions are a necessary measure for successfully demonstrating attainment in HGA.

RAQCG, AAA, SBU Texas, Mustang Mowing, BCCA, REI, Phillips 66, ExxonMobil, MCA, Public Citizen, Harris County Judge Robert Eckels, City of Houston Mayor Brown, GHASP, and 19 individuals believe the commission and/or EPA should require makers of lawn equipment to produce cleaner-burning engines. One individual commented that the commission should mandate the use of electric mowers in the HGA starting on October 1, 2003. BCCA commented that the commission and the EPA should work to develop and implement the next generation of lower-emitting lawn service equipment, and press for its early introduction into the Texas market. Three individuals suggested that distributors of lawn equipment should not be allowed to sell heavy polluting lawn equipment. One individual commented that this rule will stimulate lawn care companies to utilize clean-burning equipment. Sierra-Houston commented that the commission should require that some or all lawn and garden equipment be electric-powered.

The commission did not propose the control measures mentioned by the commenters and therefore cannot adopt them in this rulemaking. However, the EPA has adopted rules that require stringent emission standards for non-road small spark ignition handheld engines, such as trimmers, brush cutters, and chain saws. The second phase of the EPA rulemaking will reduce

VOC and NO_x by an additional 70% beyond the current Phase 1 standards. The new standards will be phased in beginning with the 2002 model year. These new EPA rules will require manufacturers to develop engines that will emit significantly less emissions.

AOPE, TSDA, and three individuals commented that small, spark-ignition engines under 25 hp are being improved yearly and therefore believe that the rules are not necessary.

The commission agrees that small, spark-ignition engines under 25 hp are being improved but disagrees that this improvement justifies not adopting the rules. The commission continues to believe that the adopted rule is a necessary component of the HGA SIP demonstration. The commission cannot eliminate the adopted rule without an established, quantifiable, and enforceable replacement strategy that demonstrates proven ozone reductions equivalent to those achieved by these rules. The commission cannot do away with the operating restrictions because of the significant contribution of emissions from lawn and garden service equipment to the HGA area high ozone levels. NO_x is a key component in the formation of ozone. Because of this significant contribution that the equipment affected by these rules make to the HGA area ozone levels, it is essential that the small spark-ignition engine 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, spark-ignition engines 25 hp and under is an essential component to the overall strategy to reduce peak ozone levels to enable the HGA area to attain federal ozone standards.

AOPE commented that this rule would affect anyone who utilized a small engine such as plumbers and carpet cleaning companies.

The commission agrees that if plumbers and carpet cleaning companies use handheld equipment such as trimmers, edgers, chain saws, leaf blowers/vacuums, and shredders or non-handheld lawn and garden equipment such as walk-behind lawnmowers, lawn tractors, tillers, and small generators, they would be affected by the adopted rule.

Mustang Mowing and four individuals commented that electric lawn equipment is not a viable option. Three individuals commented that they felt that electric lawn equipment was an excellent alternative to gas-powered equipment. One individual stated that electric-powered lawn equipment costs too much in comparison to gasoline-powered equipment. One individual commented that their lawn servicing company which used push mowers, rechargeable weed eaters, and blowers purchased at Sears were less expensive than gas-powered equipment. The individual also commented that this equipment needed less maintenance and was less dangerous. Workers reportedly enjoyed the lighter weight of the equipment, and the customers were pleased with its performance.

The commission disagrees that electronic lawn and garden service equipment is not a viable alternative to small spark-ignition engines. This equipment can be purchased at most stores where gas-powered mowers can be found. This equipment is quiet, lightweight, and can perform the same duties as gas-powered equipment without any emissions of NO_x or VOC. The commission agrees that the initial purchase of electric-powered equipment is more expensive

than gasoline-powered equipment. However, the commission believes that this increase will be offset through the life of the equipment due to reduced fuel and maintenance costs. It is not a requirement of this rule that one purchase electric lawn equipment only. There are electric and manual powered versions of edgers/trimmers, lawn mowers, and chain saws.

Mustang Mowing, TLS, Ray's, City of Galveston Public Works, and five individuals commented that they did not understand how shifting the time period during which lawn equipment may be used will benefit air quality. CBE, MCA, TNLA, Harris Landscape, TAB, ED, OPEI, Lynn's, Sierra-Houston, Briggs & Stratton, and five individuals commented that the rules do not eliminate emissions, only shifts them to another time. ED commented that the proposal does not reduce total NO_x emissions. On ozone episodes when an air mass leaving HGA re-circulates back into the region, the benefits of the time shift in the release of the emissions may have little or no benefit. The commission should reevaluate this strategy under re-circulation conditions. Plus, the strategy will have little or no value in reducing ozone levels downwind of HGA. Sierra-Houston also commented on re-circulation and noted that this proposal could make ozone formation potential worse because emissions will not actually be reduced but will simply feed ozone precursor clouds with additional pollutants over time. MCA commented that there must be real emission reductions and that postponing emissions to later in the day is not a real reduction. Spring Valley, Mayor Louise Richman - City of Spring Valley, and one individual commented that these rules should only be applied during those months when it is absolutely necessary (i.e., limit the ban to days with high ozone generation potential). One individual commented that this rule should require that lawns only be mowed every other week. One individual asked why this ban would take place during daylight-saving time. One individual commented that the commission should allow mowing from September through May 11, 6:00 a.m. to 12 p.m.

It has been well established by the scientific community that emissions of NO_x released during the late morning hours contribute more to ozone formation than do emissions at other times of the day. This is because 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, and the critical time for the mixing of NO_x and VOCs is early in the day. By delaying the hours of operation for certain lawn and garden service 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. The commission believes that delaying NO_x emissions from the morning hours until after noon, during the prime ozone forming months, is an effective and well-reasoned strategy that uses good science to good effect. To achieve the greatest benefit the rules must be in effect during the entire ozone season, because conditions can be present at any time during that season for the formation of high levels of ozone. The commission acknowledges that re-circulation occurs and can be a factor in escalating daily ozone levels in Houston. As re-circulation occurs, emissions are brought back into the HGA area on a daily cycle depending on meteorological events such as a land/sea breeze. As this cycle occurs daily, the time of day of the emissions makes little difference on whether the contaminants will be returned on the subsequent day. The intent of this adoption is to reduce the amount of time that sunlight has to react with ozone precursor gases on. Therefore, the commission believes that re-circulation is not a significant factor in the effectiveness of this adopted rule.

If the commission were to only permit the use of lawn equipment every other week throughout the entire day, or only on ozone action days, the emission reduction benefit of the rule would be diminished. The commission lacks sufficient historical data on ozone action day prediction, as well as the technology to improve upon prediction accuracies, to warrant changing the rules to only be enacted on ozone action days. That is, the time shift does not allow the use lawn equipment in the morning hours because this is the primary time during which ozone-forming emissions mix with sunlight to create ground-level ozone. It would also be difficult for commercial operators to comply with the rule if the time periods for compliance were different from week to week. It is important that the restriction on the use of lawn and garden service equipment be in effect everyday from April 1 until October 31 since this is when HGA experiences the greatest impact from ozone formation.

EPA commented that it understands that 100% rule effectiveness has been assumed for the proposed rule. Since this will take a substantial commitment of resources to approach that level of effectiveness, the commission should document the resources that will be allocated for this measure to achieve the full 100% projected benefit. Otherwise, a more realistic level of rule effectiveness should be assumed. The PIC commented that it questioned the likelihood of achieving 100% compliance with the proposed rule. The PIC seeks a clarification regarding whether the commission prediction that the lawn equipment operating restrictions will reduce NO_x emissions in the affected area by 0.58 tpd is based on a presumption of 100% compliance. If the commission prediction is based on 100% compliance, the PIC suggests that the estimated annual NO_x reduction be recalculated to reflect the potential for noncompliance with the rule. TNLA commented that the proposal is unlikely to have a positive

impact since it relies solely on modifying the behavior of potentially over a million operators of outdoor power equipment and does not result in any actual emission reductions. TNLA noted that EPA discounts SIP emission credits based on rule effectiveness, compliance uncertainty and programmatic uncertainty so it is reasonable to assume that a rule based solely on behavior modification will not be given full SIP credit. TNLA again suggested adopting the California spill-proof gasoline container rule as a cost effective means of obtaining over 70 tpd of reduction of reactive organic emissions, which, in California, is expected by 2010.

The adopted rule does not prohibit the use of lawn and garden service equipment at a domestic residence by the owner of, or a resident at, the residence, nor does it prohibit use by a non-commercial operator. The adopted rule applies to commercial operators and persons who do not meet an exemption under §114.452(b). The adopted rule includes an option for commercial operators to submit an emission reduction plan that, if approved, will allow the operator to use the prohibited equipment in the morning hours. The commission believes that this flexibility will enable commercial operators to remain competitive and will encourage compliance with the rules. Further, the adopted rule does not ban all work in the morning hours, rather, it prohibits the use of certain equipment. Commercial operators will be able to use electric or manual powered equipment before noon. The commission believes that commercial operators will make the necessary adjustments required to comply with the adopted rules. The commission has re-evaluated the rule effectiveness for these rules and continue to believe that the rule effectiveness will be 100%, especially since the rules now apply only to commercial operators. The commission will enforce the rules using its existing enforcement program, including working with local programs to ensure the highest possible compliance rate.

TSDA, Wesley, and EETC commented that due to the fact that this rule does not allow the use of any type of lawn equipment before 12:00 p.m., except for manual and electric equipment, they cannot utilize natural gas-burning mowers which have very low emissions.

The commission agrees that natural gas-burning mowers have low emissions. However, any emissions from lawn and garden service equipment that is powered by small spark ignition engines of 25 hp or less, will contribute to the formation of ozone. Commercial operators may chose to lower emissions by other means based on the new provision in §114.452, which allows commercial operators to use the restricted equipment if they submit an approvable emission reduction plan that will reduce an equivalent amount of emissions. An acceptable plan might be one that is based on using natural gas-burning mowers during the restricted time period.

RAQCG, ED, CAP, TNLA, TLS, OPEI, PPEMA, TAB, TSDA, EETC, Sierra-Galveston, Sierra-Houston, Lynn's, Excalibur, La Porte, Pate and Pate, Spring Valley, Harris County Judge Robert Eckels, Harris Landscape, City of Houston Mayor Brown, Missouri City, State Representative Robert Talton, Wesley, and 27 individuals commented that the proposed rule would be very difficult, if not impossible to enforce, thereby being ineffective. Sierra-Houston commented that the rule is virtually unenforceable since the commission and local air pollution agencies do not have the investigators to ensure that the rules are enforced. County Commissioner Malcolm Purvis, asked who would be responsible for enforcing the rule, how the rule will be enforced, the cost of enforcement, and how many people this will require. Spring Valley commented that municipalities are concerned about requirements that their overworked and understaffed local police departments will be required to enforce the rule and asked if municipalities are not required to enforce the rule, what agencies will be responsible for enforcement? Lynn's

commented that the rule cannot be enforced and therefore will not do any real good in reducing air pollution. TNLA commented that there is no reasonable way to enforce the rule and noted that when laws are considered to be excessively onerous by the public, they are usually ignored. PPEMA commented the rule would be difficult to enforce. TAB, Pate and Pate, and Excalibur commented that the rule is unenforceable and that enforcement would most likely fall to local governments which are lacking in funding and manpower. This will result in nonuniform enforcement, if there is enforcement at all. ED commented about the ability to enforce the rule since there are scores of independent lawn and garden companies in HGA. To enforce a rule concerning starting times for this work will require a lot of police issuing tickets and resources may be better spent preventing crime. One individual commented that this rule would create a new class of lawbreakers. Three individuals commented that new revenue would have to be raised to fund the enforcement of this new regulation. Mustang Mowing commented that extra money will have to be spent to enforce the ban, including extra police officers. This spending could be applied to other more useful measures of reducing pollution like better mass transit programs. Sierra-Galveston commented that the SIP calculates unrealistic NO_x reductions from a ludicrous restrictions like the lawn ban. People are going to mow their lawns whenever they please. Mustang Mowing and three individuals commented that having to raise new revenue to fund the enforcement of this new regulation would be problematic.

The commission agrees that the rule, as proposed, presented enforcement challenges for the commission, cities, and local programs. However, the commission believes that the adopted rule will be less of an enforcement challenge since it now applies only to commercial operators. The commission believes that these entities will take appropriate measures to comply with the adopted rules. As with all of its rules, the commission will enforce the requirements after the

rule compliance date and take appropriate action for noncompliance situations. The rules are enforced by staff in the commission's regional offices, as well as local air pollution control programs. Local governments have the same power and are subject to the same restrictions as the commission under TCAA, §382.015, Power to Enter Property, to inspect the air and to enter public or private property in its territorial jurisdiction to determine if the level of air contaminants in an area in its territorial jurisdiction meet levels set by the commission. Local governments are not required to enforce commission rules but may sign cooperative agreements with the commission to enforce the rules under TCAA, §382.115, Cooperative Agreements. Local programs can also enforce commission rules without signing a cooperative agreement. The authority of local governments to enforce air pollution requirements is specified in detail in TCAA, §§382.111 - 382.115, and local governments can institute civil actions in the same manner as the commission pursuant to Texas Water Code (TWC), §7.351. The commission will work with local officials to ensure enforcement of the SIP and SIP rules. The commission has existing relationships with pollution control authorities in the City of Houston, Harris County, and Galveston County for enforcement of other commission rules. The agency will continue enforcement relationships with these entities and develop relationships with other local officials as needed to create effective enforcement mechanisms for the SIP and SIP rules. The commission expects to enforce this rule with existing personnel and does not anticipate any increase in enforcement costs.

Five individuals commented that this rule could interfere with their ability to comply with local lawn control rules which require their lawns to be maintained to certain standards.

The commission is not banning lawn maintenance activities altogether, merely shifting the time period during which lawn work may be conducted with small spark-ignition engines under 25 hp. There are alternatives to using this type of gasoline-powered equipment, including the use of electric or manual equipment.

One individual requested that the commission encourage stores to stock electric- and manual-powered lawn equipment. One individual commented that they cannot find a store from which to purchase manual mowers.

Electric and manual mowers are available at many of the major hardware stores. The commission supports the manufacture and sale of low- and zero-emission technology currently. The commission anticipates that stock of electric and manual powered equipment will grow as demand increases.

RAQCG, BCCA, REI, HARC CGS, Friendly Robotics, Bell, ExxonMobil, Houston MPO, Phillips 66, Spring Valley, Harris County Judge Robert Eckels, City of Houston Mayor Brown, Cornelius, and 14 individuals requested that the commission provide monetary incentives for the purchase of clean-burning lawn equipment. CAP, Harris County Judge Robert Eckels, and Spring Valley commented that the proposal should be deleted from the SIP and replaced with a publically acceptable alternative that is achievable and enforceable. This proposal should be included in the economic incentive programs that are being developed for HGA. Public Citizen commented that they would support the Carl Moyer program as is employed in California whereby an enforceable, market-based incentive program is utilized.

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.

The commission acknowledges the recommendation for a Carl Moyer-type program to accelerate the development and introduction of emissions-reducing technology for small, spark-ignition equipment 25 hp and under, but must rely on the Texas Legislature for approval and grant funding to further such a project. The commission staff will continue to study issues, interim solutions, and the feasibility of implementing a similar state-wide pilot program.

In addition, 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 adopted 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 competitive provision of funds 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.

SBU Texas commented it would support modifications of the proposal that would give businesses a choice, for example, limited use of equipment as proposed or the use of more efficient, less polluting equipment. Choices could bring about even less pollution by providing an incentive to buy newer, more efficient equipment. The proposed rules leave in place much of the older equipment to operate during permitted hours. Spring Valley commented that there is no flexibility in the proposed rule to allow development of alternative emission reduction plans to this mandate. TNLA, TSDA, EETC, Harris Landscape, Lynn's, Spring Valley, Houston MPO, and one individual commented that the lawn industry has not been offered the same opportunity to present alternative plans that every other regulated industry was offered. Metro recommended that an exemption be provided for those entities that produce an approved emissions reduction plan. TSDA commented that the rule should provide alternatives, including consideration of using propane or alternative fuels. Public Citizen, La Porte, Pate and Pate, and one individual expressed support for a plan whereby those that use alternative fuels (e.g., LPG, CNG), and/or cleaner-burning equipment be exempted from the rule.

The adopted rule has been revised to provide an option in §114.452(b) for commercial operators to submit an emissions reduction plan by May 31, 2003, which must be approved by the executive director and the EPA no later than May 31, 2004. If the plan is approved, a commercial operator would be exempt from the operating hour restrictions upon implementation of these rules in 2005, and would be permitted to operate during the restricted hours. The commission is requiring submission of the emissions reduction plans two 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. In order to be approved, the plan must demonstrate NO_x and VOC reductions equivalent to those required by the rules being requested for exemption, and must contain adequate enforcement provisions. The executive director may allow plans to be submitted after May 31, 2003. In any event, a plan must be approved prior to the use of that plan for compliance with the requirements of this division. This alternative to submit an emission reduction plan would also enable commercial operators and persons to take advantage of an economic incentive program which is to be developed in the future. The commission will continue to work with industry representatives to identify options for compliance which may currently exist or which may become available in the near future. The commission does not believe it is appropriate to exempt users of alternative fuels or cleaner burning equipment from the adopted rules and instead have included the option to submit an emission reduction plan. An emission reduction plan could be submitted that includes the use of cleaner burning equipment, and alternative fuels, including propane.

Houston MPO commented that the rule should have the ability to create alternatives in order to offset the mandates. The mechanism to provide the creation of the offsets should be through the Voluntary Mobile Emission Program and/or Economic Incentive Program. TNLA, Harris Landscape, Lynn's, and 2 individuals suggested that the commission replace this rule with a voluntary program to lower emissions from this equipment. The EPA commented that because of the level of resources necessary, even if a more realistic rule effectiveness level is assumed, this program might be more appropriately implemented as a voluntary measure. RAQCG commented that the lawn equipment measures should be included in a voluntary emission incentive program. BCCA commented that the commission should develop a program which provides for voluntary emission reduction incentives instead of adopting the rule. For example, lawn service operators and citizens could receive a rebate for the incremental cost of electric or low-emissions lawn service equipment in exchange for scrapping old equipment, thus accelerating the turnover of newer technology in the region.

The EPA provides for the inclusion of voluntary programs or measures as part of the attainment demonstration, but limits the amount of emission reduction credit that may be claimed from such measures, due to the fact that the programs are not enforceable mechanisms. In accordance with EPA policy, the commission has included some voluntary programs as part of the HGA SIP. The Houston Galveston Area Council (HGAC) is the entity responsible for the development and implementation of these programs, which are detailed in the HGA SIP. The Voluntary Mobile Source Emission Reduction Program (VMEP) is part of the Houston-Galveston nonattainment area's attainment demonstration that the HGAC will be implementing. HGAC will be responsible for the development and implementation of all VMEP initiatives in the Houston-Galveston area. If this rule became voluntary it could not be counted as an enforceable

measure obtaining emission reductions for the demonstration of attainment. As stated elsewhere in this preamble, the emission reductions associated with this rule are necessary for the attainment of the NAAQS in the HGA area. It is possible for voluntary measures to be made enforceable through agreements and in that case they can be counted toward the SIP. The commission encourages efforts to reach enforceable agreements as suggested by the representative for the Mayor of Houston, and looks forward to working with all interested participants. The commission does not believe it can eliminate the operating restrictions in the adopted rule because of the significant contribution that lawn and garden equipment makes to the HGA area ozone levels. Because of this significant contribution that the equipment affected by these rules make to the HGA area ozone levels, it is essential that the 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.

RDC, PPEMA, City of Simonton, Poulan, and ten individuals commented that the rule will harm homeowners. For instance, people will be left without service, or be forced to pay more for services. One individual commented that this rule will pose an unnecessary health risk to their family because they will have to breathe the fumes of the gardeners' machines in the evening.

The adopted rule does not require a total ban on the use of small spark-ignition lawn and garden service equipment, rather, it prohibits the use of this equipment from 6:00 a.m. until noon from April 1 until October 31. Further, commercial operators are able to use electric or manual powered lawn and garden service equipment and may submit an emissions reduction plan which would

allow them to operate in the morning hours. Therefore, the commission does not believe that homeowners will be left without service. The commission agrees that increased costs for lawn service may be a result of this rule. However, it is more likely that lawn mowing companies will be able to accommodate the needs of all of their clients in a cost-effective manner by the time this rule is implemented in 2005. The commission believes that the ability to use electric equipment or an alternative plan will keep the need to perform lawn and garden work in the evening hours to a minimum.

HARC, CGS, and two individuals suggestioned that those in the HGA area use landscaping which requires less maintenance.

The commission supports the use of such techniques, also known as xeriscaping. The use of xeriscaping - utilizing plant life which is adapted to the weather conditions common to the region - saves money, water, time, and effort. Most relevant to this discussion however is the fact that lawns planted with particular grasses adapted to the weather of Texas can go for much longer periods of time without the need to be mowed, hence reducing the need for the use of gasoline-powered engines which contribute to ground-level ozone pollution.

Wakefield and three individuals commented that this rule should be applied to the entire state.

The commission appreciates the commenters' support for state-wide applicability of the rules. The commission notes, however, that it is not obligated to adopt all rules statewide in order to

satisfy its commitments under the SIP, nor is the commission required to do so under the FCAA. Three of the adopted measures contain emission reduction strategies that have been proposed for statewide applicability: California large-spark ignition engines; emissions banking and trading program (that portion of the adopted rule which relates to the trading of emission reduction credits and discrete emission reduction credits); and low-emission diesel fuel (that portion of the proposed rule which relates to on-highway fuel).

In evaluating whether to implement all of the rules statewide, the commission took into account many concerns, including, but not limited to, the need for the marketplace to be able to respond to regulation, the possible impacts on transport and distribution systems, the possibility of increased costs and financial burdens on regulated entities, and regional needs and issues associated with state-wide mandates. The commission analyzed where emission reduction measures are most needed and where emission reduction measures will be most effective in order to demonstrate attainment.

One individual commented that these rules are being set up to embarrass Texas and the Governor, and that the State Legislators and Congress should investigate these plans.

The commission disagrees with this statement. The commission intent is to comply with the timelines provided in 1990 FCAA amendments and subsequent EPA guidance for submitting rules to demonstrate ozone attainment in HGA. Accordingly, Texas has committed to adopting the majority of the necessary rules for the HGA attainment demonstration by December 31, 2000.

One individual requested that an exemption be made for those people who could not mow after noon for health reasons.

The adopted rule exempts any use at a domestic residence by the owner of, or a resident at, that domestic residence and any use by a non-commercial operator.

One individual suggests that the commission study the strategies that California has utilized to control ground-level ozone.

The commission is aware of the ozone control programs utilized by the State of California and has one rule based directly on a CARB rule which sets emission standards for spark-ignition engines above 25 hp. That rule is being adopted concurrently with this rulemaking.

Greenscape suggested that a law should be passed to stagger the work times of commuters so that auto emissions would be reduced.

The commission does not have the statutory authority to adopt a regulation that would require the staggering of work times of commuters. However, HGAC is reviewing an option to use a voluntary program for a reduction in vehicle miles traveled (VMT) that could include such things as ride sharing, adjusting work hours, and other commuter options. Any reductions resulting from that program would be fully creditable to the SIP.

Dayton Pipe commented that it has over 13 acres of land to mow and maintain and that it would be hard to do that in four-hour days unless they opened at noon and worked until 8:00 p.m. One individual asked that those with many acres of land should be allowed to mow during the ban period.

The adopted rule prohibits commercial operators from using lawn and garden service equipment powered by small spark-ignition engines less than 25 hp from 6:00 a.m. until noon from April 1 to October 31. This prohibition does not depend on the amount of acreage being mowed. The adopted rule does not prohibit all mowing, only that which is done with the specified engine type.

AAA, Excalibur, TNLA, Lynn's, Harris Landscape, and six individuals commented that working during the night time to make up for lost morning hours is not feasible and insurance costs for businesses may increase.

The commission understands that there may be economic impacts such as increased insurance costs as a result of implementation of the adopted rule. However, the cost to all citizens of HGA, including the regulated community, will be significant if the area fails to comply with the FCAA ozone standards. The effective period of this rule runs concurrently with daylight savings time. This should help reduce potential risks associated with low visibility as much lawn and garden maintenance activity will still occur in daylight. The adopted rule does not prohibit all lawn and garden service work in the morning hours. Commercial operators will be able to use electric or manual powered equipment before noon. They can also submit an emission reduction plan, that if approved, will allow the commercial operator to use the prohibited equipment in the morning.

TNLA, Harris Landscape, and Lynn's commented that application of pesticide and fertilizers should not occur during the heat of the daytime.

This rule does not prohibit the application of pesticides or fertilizers during any part of the day unless they are applied with small spark-ignition lawn and garden service equipment powered by an engine of 25 hp or less.

Personal Expressions commented that the fuel used in the type of equipment covered under this rule is the source of harmful emissions. AOPE commented that the commission should utilize a plan which would mandate the use of cleaner-burning two-cycle engine oil.

The primary fuel for this type of equipment is either gasoline for four-stroke engines or gasoline mixed with lubricating oil for two-stroke engines. The gasoline used in four-stroke engines is not inherently dirty, and emission levels from those engines are more dependent on engine maintenance rather than the use of gasoline. The two-stroke is a higher emitting engine due to its speed of operation and the greater viscosity of the fuel. The two-stroke engine is useful because of its lighter weight and ability to operate in a variety of positions. The commission believes that electric equipment is a viable alternative to any gasoline equipment. The commission is not aware of any cleaner burning two-cycle engine oil that has been certified for use as a low emitting two-cycle additive.

TxDOT and one individual commented that an "emergency clause" should be included in the rule which would allow them to operate chain saws, generators, and gasoline-powered pumps in emergency situations (e.g., clearing fallen trees from the roadway, etc.).

The commission agrees with the commenters. An exception was added in §114.452(b) which allows the use of small, spark-ignition engines 25 hp and below to be used exclusively for emergency operations to protect human 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.

PPEMA, TNLA, and Cornelius commented that the commission should encourage state and national lawn and landscape associations to serve as training and educational resources in communicating with commercial and consumer user groups on recommended equipment use.

The commission supports the use of state and national lawn and landscape associations as sources of training and educational resources.

City of Galveston Public Works commented that improved traffic light coordination could offset the emissions from the construction ban, lawn mowing ban, and the 55 mph speed limit restriction.

The commission does not agree with this statement. The adopted rule will result in an equivalent of approximately 4.6 tpd of NO_x reduced. The new Division 9, Houston/Galveston Construction Equipment Operating Restrictions; to Subchapter I, Non-road Engines; Chapter 114, Control of Air Pollution from Motor Vehicles will result in an equivalent of 7.9 tpd of NO_x reduced. The SIP provision concerning the 55 mph speed limit will provide 12.7 tpd of NO_x emissions reductions. Improved traffic light coordination is a program that is being adopted as a plan to lower emissions in the HGA. The commission expects that the traffic light coordination measure will result in 0.8 tpd of NO_x emission reductions.

One individual commented that switching to electrically-powered lawn-care equipment can have as great an impact as reduction vehicular traffic.

Lawn equipment emits approximately one tpd of NO_x and 41 tpd of VOC emissions. The 2007 base case vehicular inventory shows 258 tpd of NO_x and 91 tpd of VOC. So, unless a very high percentage of electrification of lawn and garden service equipment is achieved, it is difficult to compare the effect of dealing with lawn care equipment versus autos. Nevertheless, the emissions from lawn and garden service equipment must be considered in adopting the emission reduction strategies for HGA and the commission continues to believe that the adopted rules are a necessary measure for a successful demonstration of attainment for HGA.

TSDA commented that this rule will limit the ability of dealers to service spark-ignition engines 25 hp and under. TSDA, Wiccacon, and one individual commented that this rule will not allow businesses to test and service equipment before noon.

The commission agrees that any service or maintenance activities that require the operation of small spark-ignition lawn and garden service equipment with engines that are 25 hp or below is prohibited by the adopted rule. Service activities that do not require operation of this equipment are not prohibited. Dealers will be able to submit emission reduction plans that, if approved, would enable them to operate the prohibited equipment during the morning hours.

TNLA, Harris Landscape, Lynn's, and one individual commented that manual labor cannot be economically substituted for gasoline-powered equipment.

The commission does not believe that manual labor will have to be used to substitute for gas-powered equipment. There are many other means which operators of small, spark-ignition engines can conduct their operations. For instance, electric equipment is a viable alternative to gasoline-powered equipment. Furthermore, the commission believes that companies will be able to develop approvable emission reduction plans that will allow them to continue their services in a cost-effective manner. Given the number of years that companies are being given to develop alternative means of supplying their services the commission feels that there should be no disruption in the level or quality of service.

REI, Harris County Judge Robert Eckels, and City of Houston Mayor Brown commented that the rule is technically infeasible. REI commented that the rule was proposed with less than a complete analysis of the economic feasibility. CAP commented that the rule may be technically infeasible or unnecessarily expensive. REI commented that the rule was proposed with less than a complete analysis of the possible environmental or economic disbenefit. ExxonMobil and BCCA commented that this rule exceeds federal mandates without proper justification. ExxonMobil commented that the commission failed to provide adequate scientific and technical justification, or economic analysis for the proposed ban on the use of non-road equipment. ExxonMobil believes there are technologically and economically feasible alternatives to the rules that provide comparable environmental benefits at a much lower cost to the public.

TNLA commented that the nursery/landscape industry is a $14.8 billion industry in Texas and that there are 2,300 landscape businesses affected by the proposed SIP revisions. The sales volume is $1.5 billion annually. TNLA provided data on the general profile of the industry: 56% sole proprietorships and 42% corporations; general labor constitutes almost 57% of the workforce; supervisory foreman make up 16% of the workforce; the average number of employees includes ten general laborers, two in-house sales staff, three supervisors or foremen, and one - two top management or owners; an average of nine employees per firm had turfgrass maintenance responsibilities and spent an average of 68% of their time performing those activities; the racial mix of employees statewide was 58% Hispanic, 36% Caucasian, and 6% African-American; almost 40% of the employees are between 21 and 30 years old; the pay scale is approximately $45,000 for managers, $28,000 for supervisors, $12,000-14,000 for installation, maintenance, or other types of labor, $17,000 for foremen and superintendents; most firms supply their employees with safety items like glasses, back supports, caps, shirts, gloves, and masks; 44% had sales of $100,000 or less while 24% had sales of over $500,000; on average, a landscape firm in Texas shows a 11.5% profit

margin; insurance is a major expense; equipment costs totaled $32.5 million in 1993. Of this, vehicles represented 63% of the total with 22% for other equipment. On average, each landscape contractor spent approximately $11,600 on new equipment for the year.

TNLA commented that the proposal is excessively onerous to the landscape industry and disagreed with the commission statement that since the proposed rules did not require additional controls or new equipment, there would not be significant economic impacts to commercial operators beyond the shift in the work schedule and possible implications caused by potential work delays. TNLA noted that landscape equipment is generally replaced on a two- to four-year cycle so landscape companies can adapt to regulations requiring new technology as it becomes available with a minimal negative economic impact. The number one cost for landscape companies is labor which is increasingly unavailable. The industry is made up of very small, family owned businesses with narrow profit margins. The business is very competitive with price being one of the top two factors in selecting a landscape firm with service being second. Manual labor cannot be substituted for the use of power equipment, for example, a test in California showed that it took five times longer to clean a typical landscape using a broom and rake than it would with a power blower. TAB commented that the labor market is already suffering from shortages and many workers might be forced to leave the industry to avoid the non-traditional work hours. Bio Energy commented that the rule will cause the loss of employees who count on the hours. RDC commented that if employers have to hire more personnel to get the same amount of work done, employers will be forced to cut wages or increase prices.

TSDA commented that the commission would be cutting their selling season in half since the ban occurs during their top selling season. Frazier and Air Cooled Engine Company commented that they are opposed to the rule as

it would greatly affect their business since it is a seasonal business and April 1 to October 31 includes the busiest part of their season and the busiest part of the day. RDC commented that the ban would put an unfair economic burden on the industry, both retail and wholesale business, along with the consumer and commercial user. TNLA, Lynn's, and three individuals commented that the time restrictions will leave less time to work and that will raise costs. NASA commented that the proposal will result in increased grounds maintenance costs as a result of a predicable decline in productivity due to asking workers to work in the hottest part of the day. AAA commented that the rule will increase costs related to lighting a job site and that this cost would be passed on to the customer.

TSDA commented that the economic impact on dealers would be significant. The average selling season for a dealer is between March and September. The proposal would prevent dealers from doing business during this critical time and would cut the selling season in half. The average dealer will lose an average of $480.00 per day due to unbillable time and unrealized average parts orders. This could be far more once overhead and other daily costs are added. This could mean millions in lost revenue for dealers. Since the average dealer usually sells between $100,000 and $500,000 gross, a loss of this type would be catastrophic, it would mean the difference between keeping their business open or going out of business. Mustang Mowing commented that their business will not be able to meet demand. Dayton Pipe commented that it does business with suppliers and customers who are outside of the HGA area and that a change in their operating hours would hinder their ability to converse with these suppliers or customers. Johnson Saw commented that the hours being restricted are the most important to all lawn and garden dealers and users of this equipment.

The commission is aware of the economic and other difficulties this rule will impose on businesses and individuals. In response to the comments the commission has included an option for businesses to submit an emission reduction plan that if approved would allow them the use of the prohibited equipment in the morning hours. Further, the commission is adopting this rule with an extended compliance schedule so that lawn and maintenance businesses may submit an emissions reduction plan or supplement their equipment with electric-powered units. The commission anticipates that affected companies will find and make the necessary adjustments to minimize economic 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 this rule is designed to help achieve. 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, these rules are necessary in order to demonstrate compliance with the ozone standard. As stated previously in this preamble these rules are a necessary component of the HGA attainment strategy and will achieve the equivalent effect of reductions in NO_x of approximately 4.6 tpd.

The emission inventory maintained by the commission indicates that commercial operations are the source of the majority of weekday emissions from lawn and garden equipment. The commission cannot eliminate the operating restrictions without an established, quantifiable, and enforceable replacement strategy that demonstrates proven ozone reductions equivalent to those achieved by these rules. The commission also cannot do away with the operating restrictions because of the significant contribution that lawn and garden equipment makes to

the HGA area ozone levels. Because of this significant contribution that the equipment affected by these rules make to the HGA area ozone levels, it is essential that the 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 proposed rule contained an analysis of information available to the commission regarding the costs and benefits of the proposed rule. The adopted rules do not require additional control equipment or new technology; therefore the commission believes that the rules are technically feasible. The commission has worked extensively with lawn and garden 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 increases 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 continues to believe there will not be significant economic impacts to commercial operators beyond the shift in work schedules and possible implications caused by work delays. This information met the statutory requirements of the TCAA and the APA because the information provided in the proposed rule was sufficient for commenters to submit alternative assessments of the costs and benefits.

Adequate notice is essential for fairness as well as a meaningful opportunity to comment on a proposed rule. *United Loans, Inc. v. Pettijohn*, 955 S.W.2d 649, 651 (Tex. App.-Austin 1997). To achieve the goal of encouraging meaningful public participation in the formulation and adoption of rules by state agencies, the notice must have sufficient information so that interested persons can determine whether it is necessary for them to participate in order to protect their legal rights and privileges. The commission received comments which were substantial in both number and in scope, regarding the costs of the proposed rule and the technical practicability of compliance. The preamble for the proposed rules contained a discussion of the FCAA requirements, including a detailed section by section discussion of the rules. Although the commission did not have specific cost data available at the time of proposal that could be included in the fiscal note, the proposal preamble did include a discussion concerning costs to state and local governments, the public benefit and the estimated costs for the affected sources, a small and micro-business analysis, a draft RIA, a TIA, and a CMP consistency determination. The commission received a number of comments that addressed multiple aspects of the adopted rules, and has revised the rules in consideration of the cost comments received. Therefore, the commission believes this goal has been achieved and that the notice includes sufficient information to constitute adequate notice.

The purpose of the comment period is for the public to provide the commission with information to say why they agree or disagree. Some commenters stated that the proposal did not meet the statute or that compliance with the proposed rule is not technically or economically feasible. This broad comment 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. The commission believes the proposed rule and preamble provided enough information for commenters to rely on in order to submit specific comments. Mere disagreement with cost or technical feasibility estimates does not render notice inadequate. The commenters did not say how the notice is insufficient, merely that it is insufficient. Nevertheless, the commission has reviewed the proposed rule and preamble and has determined it is adequate because it did identify those areas where those subject to the rule could expect to incur costs.

BCCA, ExxonMobil, Phillips 66, and REI, stated that the proposed rules did not include adequate notice as required under Texas Government Code, §2002.024. The commenters stated that Texas Government Code, §2001.024, requires adequate notice of a proposed rule, including information about its public benefits and costs. The commenters stated that adequate notice is essential for fairness as well as a meaningful opportunity to comment on a proposed rule, and that courts have considered notice "adequate" only if: interested persons can confront the agency's factual suppositions and policy preconceptions; and the agency provides interested parties the opportunity to challenge the underlying factual data relied upon by the agency. The commenters asserted that in proposing the rules, the commission failed to provide interested parties with sufficient information to constitute adequate notice.

The commenters stated that it has identified a number of critical gaps in the underlying factual data, methodology, and analysis in support of the proposed rules. The commenters asserted that the proposal

included insufficient information and analysis regarding costs and impacts. The commenters asserted that the commission has not adequately responded to requests for additional information from stakeholders. The commenters stated that the following requests for information were outstanding: information regarding the modeling of emissions; information regarding the corrected emissions inventory database; and information supporting the estimated costs of control. However, available information suggests that the commission dramatically underestimated the costs of the proposed control strategies. This failure to provide the public with sufficient information renders the notice of the plan inadequate. Section 2001.024 of the APA requires the commission to provide sufficient information regarding the Plan for public review and comment before adoption. The commenters stated that this information is necessary in order to comment effectively on the proposed rules and that data gaps in the proposal hindered effective comment.

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

costs and benefits of the proposed rule. The commission received comments which were substantial in both number and in scope, regarding the costs as well as the benefits and in fact, revised the proposed rule in response to comments concerning costs. As stated previously in this response to comments, the commission believes this goal has been achieved and that the notice includes sufficient information to constitute adequate notice.

The purpose of the comment period is for the public to provide the commission with information to say why they agree or disagree. There is no requirement that the commission determine the probable economic cost of the unique aspects of every facility or source that must comply, nor give the probable economic cost of every possible method of control.

The comments which state there are critical gaps did not identify what those gaps are or how that results in inadequate notice. Mere disagreement with cost estimates does not render notice inadequate.

The proposed rule meets the requirement to include sufficient information by identifying those areas where persons subject to the rule could expect to incur costs. To simply state that the proposal failed to provide sufficient information does not provide the commission with sufficient information to propose changes or alternative strategies. The commenters did not say how the notice is insufficient, merely that it is insufficient. Nevertheless, the commission has reviewed the notice and has determined it is adequate. The commission is unaware of any requests for additional information to which it was not completely responsive.

Phillips 66 stated that the commission has not provided a reasoned justification for the proposal. The commenters asserted that a rule that would impose an air emission abatement requirement that is not demonstrated to be practical and economically feasible is directly contrary to the TCAA, §382.011(b), and therefore is inconsistent with the Texas Government Code, §2001.033(a)(1)(B) and §2001.035(c).

The commission has provided a "reasoned justification" for the rules in this adoption package as required by Texas Government Code, §2001.033. The requirement for a reasoned justification applies to the agency order finally adopting a rule. The standard for compliance with the reasoned justification requirement is substantial compliance, as determined by the legislature, which amended the reasoned justification requirement in 1999. The commission has provided the factual, policy and legal bases for the rule, as required. Texas Government Code, §2001.024, requires only "a brief explanation" of the rule upon proposal in addition to other elements such as the fiscal note and public benefit evaluations. Both the rule proposal and adoption meet all of the requirements of the APA.

BCCA, ExxonMobil, Phillips 66, and REI, stated that the proposed rules did not include the local employment impact statement required under Texas Government Code, §2001.022. The commenters stated that Texas Government Code, §2001.022, requires the commission to determine whether the rule proposal has the potential to affect a local economy before proposing the rule for adoption. The commenters stated that if answered affirmatively, the commission must request that the Texas Employment Commission to prepare a local employment impact statement describing in detail the probable effect of the rule on employment in each geographic area affected by the rule for each year of the first five years that the rule will be in effect. The

commenters further asserted that the commission failed to make the required initial determination and ignored the potential for the proposal to adversely affect the local economy. The commenters stated that a local employment impact statement should have been requested and prepared in advance of the proposal.

The commission agrees with the commenters that the proposed rule may affect a local economy, however, does not agree that it is the responsibility of the commission to provide the local employment impact analysis. The APA requires state agencies to determine whether a rule may affect a local economy before proposing a rule for adoption. If 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 (Workforce Commission) before the agency files notice of the proposed rule with the secretary of state. The APA requires the Workforce Commission to prepare a local employment impact statement for proposed rules, if a state agency requests the statement. The commission determined that the proposed rule might affect a local economy, and sent the proposed rule and other requested information to the Workforce Commission. The commission received a letter from the Workforce Commission, indicating that the Workforce Commission did not have the ability to determine the potential local employment impacts from the proposed rule.

BCCA, ExxonMobil, Phillips 66, and REI stated that the proposed rules did not include an adequate TIA as required under Texas Government Code, §2007. The commenters stated that the TIA provision mandates that covered agencies "take a 'hard look' at the private real property implications of the actions they undertake...," according to the Office of the Attorney General, *Private Real Property Rights Preservation Act Guidelines* (21 TexReg 387, January

12, 1996). The commenters stated that under §2007.043, a TIA must describe the specific purpose of the proposed action, determine whether engaging in the proposed governmental action will constitute a taking, and describe reasonable alternative actions that could accomplish the specified purpose. The commenters stated that the agency must also explain whether these alternative actions also would constitute takings.

The commenters stated that agencies must also comply with guidelines developed by the Texas Attorney General when developing the TIA and that according to these guidelines, agencies must carefully review governmental actions that have a significant impact on the owner's economic interest. The commenters stated that these guidelines include the statement: "Although a reduction in property value alone may not be a 'taking,' a severe reduction in property value often indicates a reduction or elimination of reasonably profitable uses." (21 TexReg 392, January 12, 1996). The commenters stated that examples of aspects of the rule proposal that could significantly impact private real property in a manner that constitutes a taking include gas-fired compressor engines and other point source NO_x controls.

The commenters stated that the commission provided the public no basis to infer that a cost/benefit analysis or a reasonableness determination was, in fact, performed as necessary to support the TIA exemption claim because the preamble contains only the bare assertions. The commenters asserted that the proposed rules will impose a greater burden than is necessary, and are not reasonably taken to fulfill a federal mandate. The commenters commented that according to the Attorney General's Guidelines, a full TIA was required to be completed with the proposal, and that failure to perform a TIA could invalidate the rules.

The primary reason the commission determined that this rule did not constitute a takings under Texas Government Code, Chapter 2007 is that it will not burden private real property. This rule applies to non-road equipment which is not real property or appurtenance thereto. The commission believes the adopted rules are exempt under §2007.003(b)(4) because they are reasonably taken to fulfill an obligation mandated by federal law. While several governmental actions are subject to being reviewed under Chapter 2007, including the adoption of rules, §2007.003(b)(4) specifically excludes an action that is reasonably taken to fulfill an obligation mandated by federal law. The rules are adopted to meet the air quality standards established under federal law as NAAQS.

The commission also believes that the adopted rules meet an additional exception to the requirements of Texas Government Code, Chapter 2007. First, 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 rule revisions do not directly prevent a nuisance or prevent an immediate threat to life or property, they do prevent a real and substantial threat to public health and safety and significantly advance the health and safety purpose. This action is taken in response to the HGA area exceeding the federal ambient air quality standard for ground-level ozone, which adversely affects public health, primarily through irritation of the lungs. The action significantly advances the health and safety purpose by

reducing ambient VOC and ozone levels in HGA. Consequently, these rules meet the exemption in §2007.003(b)(13).

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 Texas Government Code, §2007.003(b)(4) and (13). For these reasons the rules do not constitute a takings under Chapter 2007 and do not require additional analysis.

ExxonMobil, BCCA, Phillips 66, and REI stated that the proposed rules did not include an adequate small business and micro-business assessment as required under Texas Government Code, §2006.002. BCCA also commented that none of these assessments applied the mandated cost comparison standards. The commenters stated that an analysis of the costs of compliance for small and micro-businesses must also compare the costs of compliance for these businesses with the costs for the largest businesses affected by the rule. The commenters stated that the comparison must use at least one of the following standards: cost for each employee, cost for each hour of labor, or cost for each $100 of sales. The commenters asserted that the rule proposal failed to include the mandated cost comparison standards. The commenters stated that this is the case even in those instances where the commission acknowledged a significant impact. The commenters stated that the commission either

restated the costs of compliance it identified in the analysis of public benefits and costs, or concluded that it cannot determine the cost to small businesses.

The commenters asserted that the rule proposal assessments fall short of what Texas law requires and that it is not sufficient for the agency merely to state that the costs for small and large businesses will be the same. The commenters stated that the rationale behind requiring a comparison using an established standard (e.g., cost for each employee, cost for each hour of labor, or cost for each $100 of sales) is to determine whether there is a disparate impact on small businesses. The commenters stated that according to **Unified Loans v. Pettijohn**, 955 S.W.2d at 652 (Court of Appeals -- Austin, 1997), the statute's purpose is to obtain "an objective assessment of the agency's proposed action by forcing it to consider seriously. . . the effect of the rule on small businesses, including an analysis of their costs of (compliance) and a comparison of their costs with the cost of compliance for the largest businesses affected. ..." The commenters stated further that the commission cannot merely conclude that the costs to small businesses "cannot be determined," and is obliged to include in the notice "some basis" for its conclusion so that interested parties can "confront that basis in a meaningful way in their comments." (**Unified Loans v. Pettijohn**, 955 S.W.2d at 653.)

The commenters stated that in the rule proposal preamble, the commission did not publish the information mandated by Texas law and that as a result, it is impossible for the public to comment on whether the agency adequately considered the effect of the rule on small businesses, thus rendering the notice of the plan inadequate. The commenters stated that Texas Government Code, §2006.002, requires the commission to provide a comparison of the proposed rule's impact on small and large businesses, using the specified standards, for public review and comment before adoption.

TNLA commented that the proposal is excessively onerous to the landscape industry and disagreed with the commission statement that since the proposed rules did not require additional controls or new equipment, there would not be significant economic impacts to commercial operators beyond the shift in the work schedule and possible implications caused by potential work delays. TNLA noted that landscape equipment is generally replaced on a two- to four-year cycle so landscape companies can adapt to regulations requiring new technology as it becomes available with a minimal negative economic impact. The number one cost for landscape companies is labor which is increasingly unavailable. This regulation hits the industry directly where it is most vulnerable and creates the worst economic impact by not allowing any alternatives. The industry is made up of very small, family owned businesses with narrow profit margins. The business is very competitive with price being one of the top two factors in selecting a landscape firm with service being second. Manual labor cannot be substituted for the use of power equipment, for example, a test in California showed that it took five times longer to clean a typical landscape using a broom and rake than it would with a power blower. TAB commented that the labor market is already suffering from shortages and many workers might be forced to leave the industry to avoid the non-traditional work hours. Bio Energy commented that the rule will cause the loss of employees who count on the hours. RDC commented that if employers have to hire more personnel to get the same amount of work done, employers will be forced to cut wages or increase prices.

The proposal preamble acknowledged that there may be fiscal implications for small or micro-businesses as a result of the adoption and enforcement of the rules. Although the commission did not have information about number of employees, hours of labor, or amount of sales income the assessment did state that the economic impacts were not anticipated to be significant and that they were not anticipated to extend beyond any impact due to the shift in work schedules

and possible implications from work delays. The commission did state that additional employees might have to be hired or additional equipment might be purchased. Adequate notice is essential for fairness as well as a meaningful opportunity to comment on a proposed rule. *United Loans, Inc. v. Pettijohn*, 955 S.W.2d 649, 651 (Tex. App.-Austin 1997). To achieve the goal of encouraging meaningful public participation in the formulation and adoption of rules by state agencies, the notice must have sufficient information so that interested persons can determine whether it is necessary for them to participate in order to protect their legal rights and privileges. The proposed rule contained an analysis of information available to the commission regarding the costs and benefits of the proposed rule. The commission believes that the analysis in the proposal did provide a basis for the submission of comments and the commission received a substantial number of comments related to small businesses. These included comments stating that equipment for commercial lawn and garden operations is replaced regularly on a two- to four-year cycle. For example, this would allow operators to replace a substantial portion of their current inventory with electric equipment prior to the 2005 rule implementation date. Based on this information, the commission believes that capital expenditures resulting from commercial operators' compliance with the modified rule are within the normal replacement schedule of their equipment. For example, replacement of existing inventories with electric equipment will allow commercial operators to continue their operations in the morning hours. The commission believes that replacement of equipment could allow commercial operations to continue to operate with the same number of employees after the 2005 implementation date. Further, additional comments indicate that the primary expense for these businesses is labor. The adopted rule allows commercial operators and persons to submit emission reduction plans by

May 31, 2003, for approval by the executive director and the EPA no later than May 31, 2004. If an acceptable plan is submitted, commercial operators and persons will exempt from operating hour restrictions upon implementation of these rules in 2005 and therefore, and will be able to operate during the restricted hours. This would also eliminate or reduce the need for increased labor costs. The executive director may allow plans to be submitted after May 31, 2003. 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 believes that the information provided in the proposal was sufficient to provide a basis for comments on the impacts of the adopted rules on small and micro-businesses. In response to these comments, the commission has modified the proposal and is adopting a rule that will mitigate the effects on small and micro-business commercial operators.

BCCA, ExxonMobil, Lynn's, OPEI, Phillips 66, REI, TNLA, and one individual commented on the draft RIA and stated that the proposed rules were not evaluated in accordance width the analysis requirements for a major environmental rule. EWI commented that this rule does not meet the definition of a major environmental rule. The commenters stated that Texas Government Code, §2001.0225, requires an RIA for certain major environmental rules. The commenters stated that the commission must consider the benefits and costs of the proposed rule in relationship to state agencies, local governments, the public, the regulated community, and the environment. The commenters stated further that the commission must also incorporate aspects of this analysis into the fiscal note in the proposed rules (e.g., identify the costs and the benefits; describe reasonable alternative methods for achieving the purpose of the rule considered by the agency; provide the reasons for

rejecting those alternatives; and identify the data and methodology used in performing the analysis). The commenters stated that under §2001.0225(d), the commission must also find that "compared to the alternative proposals considered and rejected, the rule will result in the best combination of effectiveness in obtaining the desired results and of economic costs not materially greater than the costs of any alternative regulatory method considered."

The commenters stated that the rule proposal preamble statement that the rules are exempt from the RIA requirement because federal law mandates the rules is a legally flawed effort to avoid an RIA and may render the rules invalid. The commenters stated that federal law does not mandate the control requirements, emission rates, and use restrictions contained in the proposal and asserted that many of the proposed rules exceed specific federal rules and standards applicable to the same sources. The commenters stated that examples of departures from the federal framework include the following: boiler, turbine, and other fired equipment emission limits set well below federal new source performance standards (NSPS), reasonably available control technology, best available control technology (BACT), or lowest achievable emission rate (LAER) limits for the same sources; and compressor engine emission limits set at unprecedented low levels specifically designed to be unachievable and prevent the further use of the affected engines.

TNLA commented that while the commission is required to reduce emissions, the specific action of banning use of equipment is not required. TNLA argues that an impact study of projected costs ad benefits of the regulations is necessary. OPEI notes that the draft RIA states that the specific SIP measures are not generally required by the FCAA, but instead, the FCAA provides states with flexibility to develop SIPs that will achieve air quality standards. Based on this, the commission contends that the proposed morning ban is exempt from the RIA requirements

because they are required by federal law. OPEI asks if the commission has confirmed its interpretation of the RIA requirements with either the authors of SB 633 or the State Attorney General, and whether the commission's RIA interpretation is currently subject to legal challenge. OPEI also wanted to know the criteria the commission applies to distinguish major from non-major rules and the basis through which the commission has determined the proposed ban falls into the non-major category.

ExxonMobil commented that simply saying that federal law requires the rules does not make it so. ExxonMobil stated that federal law, for instance, did not mandate a 90% reduction in emissions from stationary sources of NO_x, and that the commission alone decided the blend of control requirements in the proposal. ExxonMobil stated that if the commission was exempt from conducting a major environmental analysis solely because the proposal was intended to achieve compliance with the NAAQS, an analysis would never be required for any rule relating to criteria pollutants and such an approach would render Texas Government Code, §2001.0225, superfluous.

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

commenters stated that under Texas Government Code, §2001.0225, an RIA must be performed and offered for public comment before the proposal can be adopted.

The commission does not agree that the adopted rules meet the definition of a major environmental rule, or that the commission's interpretation of the exemption for federally mandated standards is legally flawed. The Texas Government Code, §2001.0225, only applies to a major environmental rule adopted by a state agency, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

This rulemaking action does not meet any of these four applicability requirements, and is adopted in substantial compliance with the RIA requirements. Texas Government Code, §2001.035. Further, the adopted rules are also intended to obtain NO_x and VOC emission reductions which will result in reductions in ozone formation in the HGA ozone nonattainment area under 42 USC, §7409. These rules are intended to implement an operating-use restriction program requiring that lawn and garden service equipment powered by spark-ignition engines, 25 hp or below utilized by commercial operators, or for uses not exempt under §114.452(b), are restricted from use between the hours of 6:00 a.m. and noon, April 1 through October 31. This program is part of the strategy to reduce the formation of ozone by delaying NO_x emissions from lawn and garden

equipment until later in the day when optimum conditions for the formation of ozone no longer exist. The program was developed for the HGA ozone nonattainment area to be able to demonstrate attainment with the ozone NAAQS. 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 are not free to ignore the requirements of 42 USC, §7410, and must develop programs to assure that the nonattainment areas of the state will be brought into attainment on schedule. Failure to develop control strategies to demonstrate attainment can result in federal sanctions. Thus, while specific measures are not prescribed, both a plan and emission reductions are required to assure that the nonattainment areas of the state will be able to meet the attainment deadlines set by the FCAA. The EPA has provided the criteria for both the submission and

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

This conclusion is supported by the legislative history for Texas Government Code, §2001.0225. During the 75th Legislative Session, SB 633 amended the Texas Government Code to require agencies to perform an RIA of certain rules. The intent of SB 633 was to require agencies to conduct an RIA of major environmental rules that will have a material adverse impact, and will exceed a requirement of state law, federal law, or a delegated federal program, or are adopted solely under the general powers of the agency. The commission provided a cost estimate for SB 633 that concluded "based on an assessment of rules adopted by the agency in the past, it is not anticipated that the bill will have significant fiscal implications for the agency due to its limited application." The commission also noted that the number of rules that would require assessment under the provisions of the bill was not large. Because of the ongoing need to address nonattainment demonstrations required by federal law, the commission routinely proposes and adopts SIP rules. If each rule proposed for inclusion in the SIP was incorrectly considered as

exceeding federal law, every SIP rule would require the full RIA contemplated by SB 633. This result would be inconsistent with the cost estimates and fiscal notes prepared by the commission and by the LBB. 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 adopted rules are intended to meet federal and state law, and do not go above and beyond what is required to meet federal or state statutes.

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

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

Currently, several lawsuits have been filed that challenge rules adopted by the commission with regard to the RIA requirements. The commission, through the Texas Attorney General's office, has argued that it is not required to prepare a full RIA if the proposed rule is not a major environmental rule that exceeds any of the four applicability requirements of Texas Government Code, §2001.0225. A "major environmental rule" means a rule with the specific intent 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. When determining whether a proposed rule is a major environmental rule, the commission must consider the two prongs of the definition of "major environmental rule." First, the commission must determine the specific intent of the rule. In this case, the concept of shifting NO_x and VOC emissions to the afternoon will help reduce the formation of ozone. The HGA area exceeds the federal ambient air quality standard for ground-level ozone, which adversely affects public health, primarily through irritation of the lungs. Thus, the adopted rules

will reduce risks to human health from environmental exposure. Second, the commission must determine if the proposed rules will have an adverse, material effect on 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 commission considers the results of the fiscal analysis that is required for every proposed rule by the APA, as well as information that is generally available to the commission about an affected industry. For these rules, the commission focused on whether or not the work delay would affect a sector of the economy in an adverse material way. The commission stated in the proposal that it did not believe that businesses that provide lawn and garden services comprise a sector of the economy or that the rules would have the adverse, material affect contemplated by §2001.0225.

Further, the commission does not believe that the rules will adversely affect in a material way, the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state, particularly since the adopted rule allows commercial operators to submit emission reduction plans that, if approved, will enable them to operate during the prohibited hours. Productivity and jobs should not be adversely affected since the option to submit an emission reduction plan, coupled with the expected natural turnover of lawn and garden equipment will enable most commercial operators to continue in their normal course of business. The rule should not adversely affect public health and safety since it is intended to reduce ozone. Further, the exclusions for domestic and emergency use and the option to submit an emission reduction plan will reduce the need to perform lawn and garden services in the afternoon or early evening hours.

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

OPEI commented that Texas would receive greater SIP emission reduction credits through the mandated sale in Texas of spill-proof, portable gasoline containers. TNLA, BCCA, TLS, PPEMA, EWI, Spring Valley, Lynn's, Cornelius, Harris Landscape, Poulan, and two individuals suggested that the commission adopt California's spill-proof container. PPEMA suggested that in the event the commission falls short of the emission goals for HGA, even after accounting for the EPA's Phase II regulations, the commission should evaluate the effect of potential control measures to address spillage and refueling emissions from lawn and garden equipment. Friendly Robotics commented that they respectfully disagree with OPEI in its endorsement of a "no-spill" gasoline container rule (a rule that OPEI would like to substitute for the lawn mowing time shift rule) siting the fact that the "no-spill" containers are being offered as an alternative so as to remove focus from "the devices that actually burn the gasoline and spew out the emissions, . . ." (i.e., internal combustion engines).

The commission has not had the opportunity to extensively analyze the data submitted that supports the implementation of the California spill-proof container regulation. However, the

commission does not believe that the spill-proof container rule would result in emission reductions that would have the same ozone reduction benefit as the lawn and garden rules. Even if the commission continues to review this data, the commission is unable to adopt a rule of this nature at this time and believes that it is necessary to adopt the lawn and garden shift rules.

OPEI claims that the HGAC estimates that the population in the affected eight-county non-attainment area in 2007 will be 5.14 million people, which is roughly 15% of the 33.5 million people that the CARB evaluated. Second, OPEI claims that 15% of 9.8 million gasoline containers (CARB's estimate) results in roughly 1.5 million portable gas containers in the HGA area. Third, they claim that if those 1.5 million containers were replaced with spill-proof containers in cooler California, it would result in a reduction of roughly 13 tpd in the HGA area (15% of 87 tpd – CARB's container emissions contribution). Fourth, OPEI claims that the rate of evaporative emissions is very dependent on temperature and gasoline vapor pressure. OPEI assumes that the average summer temperature in Texas is around 15 degrees hotter than California, and that the EPA methodology indicates that the average rate of evaporative emissions in Texas is roughly 30% higher than the rate of evaporative emissions from containers in California (simply accounting for temperature alone – assuming fuel vapor pressure is the same). OPEI asserts that according to CARB's calculations, evaporative emissions constitute roughly 75% of container emissions or roughly 9.75 tpd of projected reactive organic gas (ROG) emissions from gasoline containers in the HGA. Thus, OPEI states that the much higher summer temperatures in Texas would result in a higher evaporation rate than California resulting in an additional 2.93 tpd (30% x 9.75) of ROGs in Houston. OPEI believes that applying the CARB principles to the HGA population (with an adjustment for higher temperatures) would result in a total emission contribution from spill-proof containers in 2007 of 15.93 tons of ROGs per day (13 "California-based" tons plus 2.93

"added Texas heat" tons). OPEI assumes then that because spill-proof containers will reduce container emissions by 73%, a container rule will reduce year 2007 emissions in the HGA by 11.63 tons of ROGs (73% x 15.93).

The commission disagrees with the conclusions of OPEI. OPEI relies on population estimates that have not been confirmed by the commission. OPEI also relies on data gathered from California which cannot be applied to the HGA. For instance, OPEI estimates that 1.5 million gasoline containers are present in the HGA. However, this data is based on assumptions made by the CARB about gasoline container populations across that entire state. OPEI also assumes that California is 15 degrees cooler than Texas. This has not been verified by the commission and/or the EPA. The commission would need to determine what information this assumption was based on before making adjustments to the inventory. For instance, was this information based on mean state-wide temperatures? What is the source of the temperature data? Does this differential apply to Houston, whose summertime temperatures are moderated by the Gulf of Mexico, etc.? As for evaporative emissions constituting roughly 75% of container emissions, or roughly 9.75 tpd, the commission has received no information concerning how these figures were determined. The commission would again need to determine on what information these assumptions were based. OPEI also contends that a gas can rule would result in full compliance/turnover by 2007, since the average portable container has a useful life of five years. If the average useful lifetime of fuel containers is five years, then the commission would expect that only half of the containers could continue in use well beyond five years. A significant number of older containers could continue in use well beyond five years. OPEI contends that the commission would ultimately receive from the EPA at least comparable (if not greater) SIP emission reduction credits from a spill-proof

container rule in lieu of the proposed ban. Even if it can be shown that the no-spill container rule will reduce hydrocarbon emissions in an amount equal to or greater than the amount shifted, there is no guarantee that equivalent ozone benefits would be realized. Lawn and garden emissions (which include NO_x as well as VOC) in the morning are particularly important to afternoon ozone formation, and a significant amount of morning emissions would continue to occur even with all the inventory modifications suggested in the comments, including the proposed gas can rule.

OPEI commented that there were flawed and exaggerated projected inventory contributions associated with lawn and garden engine exhaust. They suggested re-running the emission inventory model with corrected assumptions that the OPEI assumes the commission will receive from the EPA via a spill-proof container rule. OPEI believes that these inventory corrections will reduce the EPA-approved SIP credits resulting from the proposed ban to around four tpd of VOC. OPEI commented that a spill-proof container rule will improve water quality (by removing spills associated with personal water craft) and improve overall fuel efficiencies. They also commented that a spill-proof container rule would be supported (rather than challenged) by all affected industries (including Texas commercial landscape companies that would save money through not wasting fuel and container manufacturers that would sell their new products). OPEI commented that if the commission adopted a spill-proof container rule on a state-wide basis, then the entire state would receive dramatically greater SIP credits. OPEI commented that if the commission cannot implement a spill-proof container rule, then it will lose credibility with all of the other industries that were requested to develop superior alternatives. The commission disagrees with this comment. The commission does not believe the projected inventory was flawed or exaggerated. The commission does not believe it is appropriate or

accurate to adjust the HGA inventory using assumptions based on California data until that data has been demonstrated to be applicable to the HGA area and approved by the commission and EPA. The commission acknowledges that the no-spill container rule may have a number of benefits beyond the reduction of VOCs. The commission has not had the opportunity to extensively analyze the California data; however, the commission does not believe that the spill-proof container rule would result in emission reductions that would have the same ozone reduction benefit as the lawn and garden rules. The commission analyzed where emission reduction measures are most needed and where emission reduction measures will be most effective in order to demonstrate attainment. Even if the commission continues to review this data, the commission is unable to adopt a rule of this nature at this time and believes that it is necessary to adopt the lawn and garden shift rules.

OPEI commented that the commission apparently relied on the Spring 1999 EPA Non-Road Engine Model and that this model fails to recognize significant reductions in "deterioration rates" from the new EPA Phase II compliant handheld and non-handheld equipment.

The commission disagrees with this comment. The commission utilized the latest version of the NONROAD model. This means that the model did not fail to recognize significant reductions in "deterioration rates" from the new EPA Phase II compliant handheld and non-handheld equipment.

TNLA, Harris Landscape, TSDA, Lynn's, OPEI, PPEMA, RDC, Briggs & Stratton, Poulan, EETC, and three individuals commented that they believe the commission's emission reductions do not seem to take full credit for the two phases of federal emission standards for small spark-ignition engines that have already taken effect. Hence, the commenters argue that lawn equipment will be much cleaner than the commission projects. TNLA commented that the proposal fails to recognize the regulation of gasoline powered lawn and garden equipment being phased in by the EPA. According to a TNLA survey, most such equipment is replaced on a no more than four-year cycle with the majority being replaced on a two-year cycle. By 2005, the equipment on which the commission modeling is based will no longer be used by commercial firms. EPA exhaust emission regulations, Phase I, effective model year 1997, reduced emissions by 30% from unregulated levels. The Phase II regulations call for a 78% reduction from the Phase I levels. PPEMA added that the EPA Phase II rules will provide sufficient reductions for the commission to reach the targeted reductions and thus there is no need for the proposed rule. TSDA suggested giving the CARB Tier I and II standards a chance to work before implementing a ban on small engine use.

The commission disagrees with this statement. The lawn equipment modeling did take into account the various federal regulations affecting small engines which are being phased in over the next several years. The modeling also accounted for fleet turnover, i.e., the replacement of older equipment with cleaner new equipment.

Baker Botts commented that it generally supports the ongoing efforts by the commission to develop a SIP that is technologically achievable, economically reasonable, and legally approvable. Baker Botts, BCCA, ExxonMobil, Harris County Judge Robert Eckels, Phillips 66, Spring Valley, and an individual commented that the commission should incorporate into the SIP a greater level of reductions from federally preempted sources and stated that

EPA-regulated sources account for about 40% of the NO_x emissions in the HGA. The commenters stated that the EPA issued a number of regulations for some federally preempted sources, such as land-based spark engines, marine, recreational and land-based diesel engines, aircraft and locomotive engines, well after the FCAA deadlines, and that the EPA recently strengthened rules for on-road and non-road vehicles and fuels, such as low sulfur gas and diesel, Tier II motor vehicles, heavy-duty highway vehicle standards, and non-road Tier II/Tier III heavy-duty engine standards. The commenters stated that delays in implementing these rules have prompted the commission to propose technically and economically infeasible emission reductions from sources in HGA that the state has authority to regulate to make up for the missing federal reductions. The commenters stated that these delays have forced the commission to propose expensive regional fuels and significant use restriction regulations. The commenters stated that the commission and the EPA can ensure an equitable distribution of the compliance burdens necessary to meet mandated air quality improvement in HGA only by allowing the SIP to capture anticipated emission reductions from federally preempted sources. Baker Botts noted that the EPA demonstrated a willingness to assume responsibility for a portion of emission reductions by creating a process in Los Angeles called a "public consultative process," that would resolve issues related to emissions from national and international sources, and that the EPA has also provided flexibility in obtaining offsets by allowing states to provide offsets to refiners based on emission reductions that the EPA projected would result from mobile sources using Tier II gasoline. Baker Botts suggested that this same sort of prospective crediting should be used to develop a more rational HGA SIP, and that the EPA should allow the commission to credit in the SIP the prospective emission reductions that will result from implementation of the Tier II gasoline rule and from other federally preempted sources. Finally, Baker Botts cited two cases wherein the District of Columbia Circuit has approved the EPA's flexibility with respect to statutory deadlines under the FCAA when the EPA has failed to meets its own deadlines, and this failure was deemed to upset the balanced federal/state responsibilities under

the FCAA. ExxonMobil commented that it supports the commission and the EPA crediting the HGA SIP with an additional 60 tpd of federally preempted emission reductions that will occur over the next ten years. Harris County Judge Robert Eckels commented that the commission should work with the EPA to accelerate the implementation schedule for federally preempted emissions so that at least one-half of the related emission reductions are achieved by 2007, and that as a part of this process, the commission should delineate federal assignments detailing the engine standards and emission reductions necessary to achieve real and sustainable pollution reductions.

The commission agrees with the commenters that emission reductions from federally preempted sources would provide benefits for the HGA SIP demonstration, and the inability of the commission to regulate certain source categories has necessitated the use of other ozone control strategies. However, the commission understands that the EPA SIP approval process does not provide a mechanism for credit for emission reductions that occur after the attainment date. The commission understands that 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 non-traditional 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.

OPEI commented that the proposed use ban would not result in any significant environmental benefits that would justify its substantial adverse impact on the health and the jobs of thousands of landscapers and gardeners as well as the economic viability of hundreds of landscaping and gardening businesses.

The commission disagrees with this statement. The commission recognizes that compliance with this rule may cause unavoidable productivity (economic) losses in the HGA. However, the commission anticipates that commercial operators 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 to attain federal air quality standards that this rule is designed to help achieve. 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. If adopted, this rule will result in the equivalent of approximately 4.6 tpd of NO_x emissions reductions in the entire Houston/Galveston area. The commission believes this to be a significant reduction of harmful emissions in an area of the state classified as "severe" in terms of nonattainment.

OPEI commented that the commission's rule will at most shift approximately 30.6 tpd in exhaust emissions and will not impact evaporative diurnal and spillage emissions from portable gasoline containers.

Even if it can be shown that the proposed gas can rule will reduce hydrocarbon emissions in an amount equal to or greater than the amount shifted in the commission rules, there is no guarantee that equivalent ozone benefits would be realized. Small, spark-ignition engine emissions (which include NO_x as well as VOC) in the morning are particularly important to afternoon ozone formation, and a significant amount of morning emissions would continue to occur even with the gas can rule.

OPEI commented that the commission used the default non-road growth assumptions to project future activity levels in the HGA. OPEI also commented that current EPA Non-Road Model apparently applies an annual growth rate of 2.4%. However, OPEI believes that there has been relatively no growth in the population of lawn and garden equipment over the last decade, and that the commission has therefore overestimated emissions from this equipment. OPEI therefore requests that the commission apply a growth factor of 1%.

The commission estimated growth based on projections of human population, which is indeed lower than the default non-road projections. As for the use of a 1% growth rate, the commission and the EPA would require documentation of how this growth rate was derived before using it to model future emissions.

Montgomery County commented that the commission did not provide the predicted reductions of NO_x and VOC emissions.

The commission disagrees with this statement. This data was provided in the preamble of the rule package. It was stated that these rules will result 0.58 tpd NO_x shifted, 20.6 tpd VOC shifted, which will lead to a 7.7 tpd NO_x reduction equivalent. These numbers have been subsequently revised to 0.23 tpd NO_x shifted and 12.4 tpd of VOC shifted resulting in a reduction in ozone that is equal to approximately 4.6 tpd NO_x reduction.

EPA commented that for approvability the state should provide further documentation of how the benefits of this measure were calculated as this is primarily a VOC measure that has been assigned a NO_x reduction of 7.7 tpd.

This rule is intended to reduce the formation of ozone and accomplishes this by shifting VOC and NO_x emissions later into the day allowing less reaction time with sunlight. EPA is correct that the rule shifts more VOC than NO_x and could be seen as primarily a VOC measure. The commission characterization of the rules results from the fact that they results in an ozone reduction equivalent to a NO_x reduction of approximately 4.6 tpd. This figure is a modification of the original 7.7 tpd estimate that appeared in the proposal. Documentation and explanation of these calculations is provided in the SIP narrative that is concurrently adopted with this rule.

TNLA, Harris Landscape, and Lynn's commented that the data and modeling that the rule is based on are flawed because of an incomplete non-road inventory, local meteorology, use of national data not applicable to the HGA, and a lack of conclusive studies regarding ozone formation.

The commission disagrees with these comments. The commission has worked extensively with lawn and garden industry and other affected industries in the HGA area, along with consultants, to ensure that the emissions inventory and the inventory of affected equipment in the area is as accurate and as specific to the HGA area as possible. The accuracy of the inventories thereby ensures the accuracy of the modeling of the affected industries' contribution to the air quality problem, as well as the necessary ozone reductions that 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 model that was used is the latest version of the photochemical model recognized by the EPA for SIP modeling. 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). 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 the model has the best available science with regard to emission factors and treatment of activity (equipment usage rates) data. The NONROAD model works more like the highway emissions model, MOBILE, in that temperatures and fuel qualities can be modified to better reflect local conditions. The main change to the NONROAD model input stream was the use of new equipment populations for diesel construction and industrial equipment. 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. Even though the revised inventory has greatly reduced the uncertainty in equipment emissions, the commission continually seeks to improve its inventories.

TSDA commented that they disagree with a statement in the proposal preamble contending that small engines are the largest unregulated producer of hydrocarbons in the state under the non-road mobile source category. EPA regulations, in cooperation with CARB has already set new emission standards for January 1, 2001 that will cut hydrocarbon emissions by 59% by 2007. Briggs and Stratton has cut emissions from their products by 70% since 1990.

The commission acknowledges that these sources are subject to the EPA emission standards, however, lawn and garden equipment accounts for approximately 41 tpd of VOC. Small engines are the largest VOC emitters in the non-road category. Lawn and garden equipment accounts for 37% of the 2007 HGA eight-county area non-road VOC total, and recreational boating accounts for an additional 23% on weekdays, (on weekends their share is much higher). The other 40% is spread among many categories. The 41.2 tpd of VOCs from lawn and garden equipment account for approximately 6.5% of the total anthropogenic eight-county VOCs.

Poulan and one individual commented that this equipment (two-stroke engines) produces very little NO_x.

Generally, two-stroke engines have low compression ratios, and valve timing that leads to relatively low combustion temperatures and pressures. This means that very little nitrogen (N_2) is broken down to allow NO_x formation. This is also why two-stroke engines tend to emit much higher amounts of VOCs from unburnt fuel. These engines are a contributor to ozone formation and thus the commission believes it is appropriate to include them in the adopted rule.

Friendly Robotics commented that they would like this rule to be amended to contain a section which would encourage demonstration projects in the HGA to educate the public and the dealer/retailer community about the alternative use of robotic, electric, or battery-powered mowers in the four years before this rule is implemented.

This rule has not been changed to incorporate these requests; however, the commission supports the development of projects that will provide information about the use of alternative types of equipment. The adopted rule allows commercial operators to submit emission reduction plans that must demonstrate NO_x and VOC reductions equivalent to those required by the rules being requested for exemption, and must contain adequate enforcement provisions. It is possible that robotic, electric, or battery powered mowers could be suggested for use as part of such a plan.

STATUTORY AUTHORITY

The new sections are adopted under the TWC, §5.103, which authorizes the commission to adopt rules necessary to carry out its powers and duties under the TWC, and under the Texas Health and Safety Code, TCAA, §382.017, which provides the commission the authority to adopt rules consistent with the policy and purposes of the TCAA. The new sections are also 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 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 6: LAWN SERVICE EQUIPMENT OPERATING RESTRICTIONS

§114.452, §114.459

§114.452. Control Requirements.

(a) No handheld or non-handheld, lawn and garden service equipment powered by spark-ignition engines of 25 horsepower (hp) and below shall be started or operated between the hours of 6:00 a.m. and noon, during the time period from April 1 to October 31, in the counties listed in §114.459 of this title (relating to Affected Counties and Compliance Dates), except as specified in subsections (b) and (c) of this section.

(b) The following uses of lawn and garden service equipment powered by spark-ignition engines of 25 hp and below are exempt from the requirements of this division:

(1) any use at a domestic residence by the owner of, or a resident at, that domestic residence;

(2) any use by a non-commercial operator; or

(3) any use that is exclusively for emergency operations to protect human health and safety or the environment, including equipment being used in the repair of 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.

(c) Commercial operators or persons not exempt under subsection (b) of this section who submit an emissions reduction plan by May 31, 2003, (which is approved by the executive director and the EPA no later than May 31, 2004) are exempt from operating hour restrictions upon implementation of these rules in 2005, and are permitted to operate during the restricted hours. The executive director may allow plans to be submitted after May 31, 2003. 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 and volatile organic compound reductions equivalent to those required by the rules being requested for exemption, and must contain adequate enforcement provisions.

(d) Commercial operator is defined as any person who receives payment or compensation in exchange for operating lawn and garden service equipment powered by spark-ignition engines of 25 hp or below where the payment or compensation is required to be reported as income by the United States Internal Revenue Code. This term also includes any employees or contractors of any person as defined in the Texas Clean Air Act, §382.003(10).

§114.459. Affected Counties and Compliance Dates.

Effective April 1, 2005, persons in the following counties shall be in compliance with §114.452 of this title (relating to Control Requirements). These include Brazoria, Fort Bend, Galveston, Harris, and Montgomery Counties in the Houston/Galveston ozone nonattainment area.