

The Texas Natural Resource Conservation Commission (commission or TNRCC) proposes new §§117.460, 117.461, 117.463, 117.465, 117.467, and 117.469, concerning Water Heaters, Small Boilers, and Process Heaters. The commission proposes these revisions to Chapter 117, concerning Control of Air Pollution from Nitrogen Compounds, and to the State Implementation Plan (SIP) in order to reduce nitrogen oxide (NO_x) emissions from new natural gas-fired water heaters, small boilers, and process heaters sold and installed in Texas. Because of regional transport, the commission believes that this proposal will reduce ozone in ozone attainment areas, ozone near-nonattainment areas, and in combination with other emission reduction rules, is a necessary and essential component of the one-hour attainment demonstration for ozone nonattainment areas.

The proposed new sections would be placed in Subchapter D, concerning Small Combustion Sources. In separate rulemaking published in this issue of the *Texas Register*, the commission is proposing to renumber the existing Subchapter D, concerning Administrative Provisions, as Subchapter E.

The proposed new sections are one element of the proposed Dallas/Fort Worth (DFW) Attainment Demonstration SIP and were developed at the request of the North Texas Clean Air Steering Committee, which represents the DFW ozone nonattainment area. The purpose of these proposed rules is to reduce NO_x emissions from new water heaters, small boilers, and process heaters as part of the control strategy to reduce emissions of ozone precursors in order for the DFW ozone nonattainment area to be able to demonstrate attainment with the National Ambient Air Quality Standards (NAAQS) for ground-level ozone.

In addition, the revisions are one element of a new combined strategy to meet the NAAQS for ground-level ozone. The purpose of the strategy is to reduce overall background levels of ozone in order to assist in keeping ozone attainment areas and near-nonattainment areas in compliance with the federal ozone standards. The new strategy is also necessary to help the Beaumont/Port Arthur (BPA), DFW, and Houston/Galveston (HGA) ozone nonattainment areas as defined in 30 TAC §101.1, concerning Definitions, move closer to reaching attainment with the ozone NAAQS. The strategy takes into account recent science that shows that regional approaches may provide improved control of air pollution. In particular, staff has conducted photochemical grid modeling which indicates that NO_x controls in east and central Texas will reduce peak one-hour ozone in much of the region. Additional details concerning the need for a regional strategy are as follows.

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE PROPOSED RULES

At the time that the 1990 Federal Clean Air Act (FCAA) Amendments were enacted, the focus of controlling ozone pollution was on local controls. However, over the last ten years an 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, because of high ozone and ozone precursor levels entering from the boundaries of their respective modeling domains, commonly called transport.

The commission has conducted air quality modeling and upper air monitoring with aircraft that found that regional air pollution from sources inside of Texas should be considered when studying air quality in

Texas' ozone nonattainment areas. The Texas studies are corroborated by research studies of the Ozone Transport Assessment Group (OTAG), the most comprehensive attempt ever undertaken to understand and quantify the transport of ozone. The results of both the commission and OTAG studies point to the need to take a regional approach, as proposed in this rulemaking, to controlling air pollutants.

During the OTAG studies, the commission's modeling staff ran several sensitivity analyses for Texas using a regional modeling setup based on the Coastal Oxidant Assessment for Southeast Texas (COAST) study. This analysis used the OTAG emission inventory, updated for Texas sources, to assess the impact of potential OTAG reductions on Texas. One modeling scenario, OTAG 5c, consisting of reductions across the domain (60% reduction of point source NO_x, 30% reduction of low-level NO_x, and 30% reduction of volatile organic compounds (VOC)), indicated that modeled reductions would reduce peak eight-hour ozone by as much as 20 parts per billion (ppb) throughout most of the eastern half of Texas. Overall, the modeling indicated that a regional reduction strategy would benefit a wide area of the state.

During modeling for the HGA attainment demonstration SIP for the one-hour ozone standard, the commission's modeling staff conducted sensitivity analyses to determine the benefits that regional reductions might have on HGA, when applied simultaneously with local reductions. Unlike the commission's regional modeling exercises discussed in the previous paragraphs, these HGA model runs offer an opportunity to assess separately the benefits of reductions made within and outside a region. Model runs with and without the regional reduction scenarios in HGA were conducted. Modeling runs were completed to evaluate the ozone concentrations in the COAST modeling domain for September 8, 1993 with year 2007 projected emissions and assuming a 70% reduction of NO_x combined with a 15%

reduction of VOC in the eight-county HGA area. Even with the large reductions in HGA, much of the upper Texas Coast had ozone concentrations that challenge the one-hour standard as well as exceed the eight-hour standard. Further, Austin, Victoria, and Corpus Christi had modeled eight-hour average concentrations above the eight-hour standard. The application of OTAG 5c reductions outside the HGA eight-county area showed that the reductions are clearly beneficial to HGA, with additional ozone benefits of between five and ten ppb.

Additional modeling has been completed by commission staff assessing the potential benefits of regional NO_x reductions in the attainment counties of east and central Texas. This modeling indicates that NO_x reductions applied in the region will reduce peak one-hour ozone in much of east and central Texas.

The commission's air quality modeling studies conducted for the DFW area show that attaining the one-hour ozone NAAQS will be difficult, and that NO_x reductions from all modeled source categories that impact DFW's air quality will be required. Therefore, reductions of NO_x in the attainment counties of east and central Texas are a necessary component for the DFW area to attain the one-hour ozone NAAQS. Therefore, these proposed Chapter 117 rules are a necessary component of the DFW and regional NO_x reduction strategy.

There are five major manufacturers of water heaters in the United States that produce about 99% of the water heaters sold nationwide. Typically, the manufacturers affected by these rules produce and distribute a single configuration nationwide for each of their products. These products enter into highly complex distribution systems, often involving independent companies that provide wholesale, retail, transportation,

warehousing, inventory management, and distribution services. Therefore, manufacturers often have little or no control over the geographic location at which their products are ultimately offered for sale. Because of this, the manufacturers cannot produce different product configurations to comply with different regulations in each state, or different regulations within the same state. Even if it was possible, doing so would be enormously costly and would produce little environmental benefit. Therefore, adoption of many different standards in different states would clearly be unworkable.

Few states have adopted NO_x air quality regulations for natural gas-fired water heaters, boilers, and process heaters. The leader in this area is California's South Coast Air Quality Management District (SCAQMD), which currently has the most comprehensive regulation in the nation. SCAQMD initially adopted limits for residential-type (i.e., maximum rated capacity no more than 75,000 British thermal units per hour (Btu/hr), designated as a "Type 0 unit" in the proposed rules) natural gas-fired water heaters on December 1, 1978 as Rule 1121. This rule limited NO_x emissions to 40 nanograms per joule (ng/J) of heat output. The scope of SCAQMD Rule 1121 was expanded to include NO_x limits for natural gas-fired commercial water heaters, small boilers, swimming pool heaters, and process heaters with a maximum rated capacity of 75,000 to 2 million Btu/hr through the adoption of Rule 1146.2 on January 9, 1998. On December 10, 1999, SCAQMD adopted revisions to Rule 1121 which lower the NO_x emission limit for residential-type water heaters to 20 ng/J of heat output on July 1, 2002, and to 10 ng/J of heat output on January 1, 2005.

Extensive supporting work, including negotiations with industry, a review of available technology, and a development of a detailed impact assessment, was undertaken in the development of SCAQMD's

regulations. Their research solicited cost, sales data, performance of existing products, and other relevant information from manufacturers. The commission staff's resource limitations prevented conducting the type of exhaustive development work that SCAQMD performed. To take advantage of SCAQMD's development work and have standards consistent with California, the NO_x limits in the proposed rules are consistent with the SCAQMD NO_x limits.

This proposal would adopt the California standards throughout the State of Texas. Making the rules applicable statewide serves two purposes. First, it alleviates some of the manufacturing and distribution problems which arise with a patchwork application. Second, it helps to ensure that essentially all of the new units installed in the nonattainment and near nonattainment areas will emit less NO_x. Since the rules are enforced primarily at the wholesale and retail levels instead of the user level, patchwork rules might allow users to purchase units outside the area of applicability and to perform the installation themselves. Under this proposal, low emitting units will be the only units available in all areas of the state.

SECTION BY SECTION ANALYSIS

The proposed rules are based upon California's Bay Area Air Quality Management District (BAAQMD) Regulation 9, Rule 6 and SCAQMD's Rule 1121 and Rule 1146.2 and would apply to new natural gas-fired water heaters, small boilers, and process heaters sold and installed in Texas. The rules do not mandate use of a specific burner technology to meet the emission limits, but instead allow the manufacturers to determine the technology which is most cost-effective for each of its affected products. The rules also do not require retrofitting of existing natural gas-fired water heaters, small boilers, and process heaters.

The proposed new §117.460, concerning Definitions, establish definitions for terms used in the new division. These definitions are heat output, Type 0 unit, Type 1 unit, Type 2 unit, and water heater.

The proposed new §117.461, concerning Applicability, specifies that the new division applies to manufacturers, distributors, retailers, and installers of natural gas-fired water heaters, boilers, and process heaters with a maximum rated capacity of 2.0 million British thermal units per hour (MMBtu/hr) or less.

The proposed new §117.463, concerning Exemptions, provides exemptions from the requirements of the new division. Specifically, units using a fuel other than natural gas, units used in recreational vehicles, and Type 0 units used exclusively to heat swimming pools and hot tubs are exempt from the proposed requirements.

The proposed new §117.465, concerning Emission Specification, sets NO_x emission limits which vary depending on the unit's maximum rated capacity (maximum design heat input) and date of manufacture. In order to comply, a unit must meet NO_x emission rates based upon either heat output or concentration. These standards are identical to those adopted in California in order to provide uniformity for the manufacturers and to eliminate duplicative enforcement efforts between the states.

The proposed new §117.467, concerning Certification Requirements, establishes a testing and certification procedure for manufacturers. In order to prevent duplicative certification tests, a manufacturer may submit an approved BAAQMD or SCAQMD certification. TNRCC will issue its own certification only for those units which have not obtained certification in California.

The proposed new §117.469, concerning Notification and Labeling Requirements, requires each manufacturer to submit a statement certifying that its units subject to the requirements of §117.465 of this title (relating to Emission Specifications) meet those emission limits. The required statement would include the manufacturer's brand name, model number, and the input rating as it appears on the water heater rating plate. In addition, the manufacturer would be required to label the shipping carton and rating plate of each unit with the model number and date of manufacture.

FISCAL NOTE

Bob Orozco, Technical Specialist in Strategic Planning and Appropriations, has determined that for the first five-year period the proposed amendments to Chapter 117, concerning Control of Air Pollution from Nitrogen Compounds, are in effect there will be no significant fiscal implications for units of state and local government as a result of administration or enforcement of the proposed amendments.

The proposed amendments to Chapter 117 would require new natural gas-fired water heaters, small boilers, and process heaters sold and installed throughout Texas to meet new standards designed to reduce emissions of NO_x throughout Texas. This program is part of the strategy to reduce emissions of NO_x necessary for the counties in the BPA, DFW, and HGA ozone nonattainment areas to be able to demonstrate attainment with the NAAQS for ground-level ozone. The revisions are also one element of a new combined strategy to meet the NAAQS for ground-level ozone. The purpose of this strategy is to reduce overall background levels of ozone in order to assist in keeping ozone attainment areas and near-nonattainment areas in compliance with the federal ozone standards. The proposed amendments are one element of the proposed DFW Attainment Demonstration SIP. A SIP is a plan developed for any

region where existing (measured and estimated) ambient levels of pollutant exceeds the levels specified in a national standard. The plan sets forth a control strategy that provides emission reductions necessary for attainment and maintenance of the national standards.

Manufacturers, distributors, retailers, installers and consumers of natural gas-fired water heaters, boilers, and process heaters throughout Texas would be affected by the proposed amendments. The proposed standards would apply to new natural gas-fired water heaters, small boilers, and process heaters throughout Texas and are identical to existing standards in California. Identical standards are proposed because of difficulties associated with distribution, transportation, warehousing, inventory management, and service for water heaters, small boilers, and process heaters if there were different standards from state to state and within each state. The proposed amendments do not mandate use of a specific burner technology to meet the emission limits and allow manufacturers to determine the technology which is most cost effective for their products. Retrofitting of existing natural gas-fired water heaters, small boilers, and process heaters is not required by the proposed amendments.

Water heaters, small boilers, and process heaters are divided into three sizes of units. Type 0 units are any water heater, boiler, or process heater with a maximum rated capacity of no more than 75,000 Btu/hr.

Type 1 units are any water heater, boiler, or process heater with a maximum rated capacity greater than 75,000 Btu/hr but not more than 400,000 Btu/hr. Type 2 units are any water heater, boiler, or process heater with a maximum rated capacity greater than 400,000 Btu/hr, but no more than 2.0 MMBtu/hr. The proposed amendments would require NO_x emissions from type 0 units manufactured on or after July 1, 2002, but no later than December 31, 2004, to be reduced to 20 ng/J of heat output; or 30 parts per million

by volume (ppmv) at 3.0% oxygen, dry. Type 0 units manufactured on or after January 1, 2005 would be limited to 10 ng/J of heat output; or 15 ppmv at 3.0% oxygen, dry. Type 1 units manufactured on or after July 1, 2002 would be limited to 40 ng/J of heat output or 55 ppmv at 3.0% oxygen, dry. Type 2 units manufactured on or after July 1, 2002 would be limited to 30 ppmv at 3.0% oxygen, dry or 0.037 pounds per MMBtu/hr.

The fiscal implications for units of state and local government which purchase affected water heaters, small boilers, and process heaters will not be significant and will be similar to those for consumers in general. The proposed amendments to Chapter 117 will require units of state and local government that own and operate water heaters, small boilers, and process heaters to pay additional costs associated with water heaters, small boilers, and process heaters that meet the proposed standards when replacing their current water heater, small boiler, or process heater. It is not likely that any individual unit of state or local government will have significant fiscal implications as a result of the proposed amendments. If units of state or local government require Type 2 units, the savings from increased fuel efficiency will offset the increased cost of the unit. The specific fiscal implications will be addressed in the Public Benefit portion of this fiscal note.

PUBLIC BENEFIT

Mr. Orozco has also determined that for each year of the first five years the proposed amendments to Chapter 117 are in effect, the public benefit anticipated from enforcement of and compliance with the proposed amendments will be a reduction of public exposure to NO_x emitted from affected water heaters, small boilers, or process heaters and the concomitant reduced risks to human health and safety from ozone,

a reduction of ground-level ozone in near-attainment areas and ozone nonattainment areas, and surrounding counties, and conformance with the requirements of the FCAA.

The proposed amendments apply to all manufacturers, distributors, retailers, and installers of natural gas-fired water heaters, boilers, and process heaters throughout Texas. The proposed standards would apply to new natural gas-fired water heaters, small boilers, and process heaters throughout Texas.

It is anticipated that Type 0 units would be mostly used for residential or small business purposes. The estimated cost for a 40 to 50 gallon water heater is in the range of \$140 to \$350 depending on the warranty. The average price is approximately \$230. The additional cost for each Type 0 unit will be approximately \$3 to \$10 for the 20 ng/J standard and approximately \$15 to \$50 for a Type 0 unit that meets the 10 ng/J standard. One manufacturer has stated that of the \$50 increase, only \$15 would be attributed to the low NO_x portion of the technology and the remaining \$35 would be attributed to meeting the new United States Department of Energy (DOE) standard for resistance to ignition of flammable vapors. It is also anticipated that Type 1 and Type 2 units would typically be used in apartments and medium size buildings. The largest Type 1 unit at 400,000 Btu/hr would cost an estimated \$6,000 to \$10,000. It is estimated that the additional cost for each Type 1 unit would be in the range of \$0 to \$4,000. The largest Type 2 unit at 2.0 MMBtu/hr would cost approximately \$20,000. It is estimated that the additional cost for each Type 2 unit would be in the range of \$0 to \$10,000. Larger units (rated at more than 2 million Btu/hr) such as those typically used in large buildings and hospitals are not affected by these proposed amendments. The fuel savings for these units will significantly offset the increased cost of the unit. These cost estimates are based upon the following SCAQMD documents: *Draft Staff Report - Proposed Amended Rule 1121 -*

Control of Nitrogen Oxides From Residential Type, Natural Gas-Fired Water Heaters (October 1999); Addendum to Staff Report - Final Socioeconomic Impact Assessment - Proposed Rule 1146.2 (November 1997); and Final Staff Report for Proposed Rule 1146.2 - Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers (December 12, 1997).

SMALL BUSINESS AND MICRO-BUSINESS ANALYSES

It is anticipated that small and micro-businesses will be affected in two ways. Businesses engaged in the distribution, sale, and installation of natural gas-fired water heaters, boilers, and process heaters throughout Texas would be affected by the proposed amendments. They will be required to handle only those types of units which meet the proposed Texas standards. It is assumed that wholesale purchasing will be controlled in such a way that current stocks are depleted by the time the new units are required. It is also assumed that any additional costs incurred for the proposed standards units will be passed on to consumers.

Therefore, no adverse fiscal implications are anticipated for businesses engaged in distribution, sale, and installation of natural gas-fired water heaters, boilers, and process heaters.

It is anticipated that there will be fiscal implications for businesses affected by the proposed amendments in their capacity as consumers of Type 0, 1, and 2 units. It is anticipated that Type 0 units would be mostly used for small business purposes. The estimated cost for a 40 to 50 gallon water heater is in the range of \$140 to \$350 depending on the warranty. The average price is approximately \$230. The additional cost for each Type 0 unit will be approximately \$3 to \$10 for the 20 ng/J standard and approximately \$15 to \$50 for a Type 0 unit that meets the 10 ng/J standard. One manufacturer has stated that of the \$50 increase, only \$15 would be attributed to the low NO_x portion of the technology and the remaining \$35

would be attributed to meeting the new DOE standard for resistance to ignition of flammable vapors. It is also anticipated that Type 1 and Type 2 units would typically be used in apartments and medium size buildings. The largest Type 1 unit at 400,000 Btu/hr would cost an estimated \$6,000 to \$10,000. It is estimated that the additional cost for each Type 1 unit would be in the range of \$0 to \$4,000. The largest Type 2 unit at 2.0 MMBtu/hr would cost approximately \$20,000. It is estimated that the additional cost for each Type 2 unit would be in the range of \$0 to \$10,000. For the purposes of this fiscal note, it is anticipated that small or micro-businesses would not require units larger than Type 2. It is also anticipated that much of the additional cost for Type 2 units meeting the proposed standards will be mitigated over time by savings resulting from the fuel efficiency of these units.

Manufacturers, distributors, retailers, installers, and consumers of natural gas-fired water heaters, boilers, and process heaters throughout Texas would be affected by the proposed amendments. The proposed standards would apply to new natural gas-fired water heaters, small boilers, and process heaters throughout Texas and are identical to existing standards in California. Identical standards are proposed because of difficulties associated with distribution, transportation, warehousing, inventory management, and service for water heaters, small boilers, and process heaters if there were different standards from state to state and within each state. The proposed amendments do not mandate use of a specific burner technology to meet the emission limits and allow manufacturers to determine the technology which is most cost effective for their products. Retrofitting of existing natural gas-fired water heaters, small boilers, and process heaters is not required by the proposed amendments. While it is not feasible to exclude small businesses and micro-businesses, their costs will be mitigated by the tiered approach proposed by the commission. Specifically, the costs to small businesses and micro-businesses will be mitigated by the lower cost (less than \$50) for

the smaller units that small businesses are more likely to use, as compared with the higher cost for Type 1 and 2 units.

DRAFT REGULATORY IMPACT ANALYSIS

The commission has reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and has 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. The proposed amendments to Chapter 117 will require emission reductions from natural gas-fired water heaters, boilers, and process heaters throughout Texas. The proposed rules are intended to protect the environment but do not have material adverse effects on a sector of the economy.

Manufacturers and retailers of units covered by this rule would not normally be considered a sector of the economy. Also, while the rules may have an adverse impact on manufacturers, retailers, and consumers, the impact is small and would not be classified as “material.” Further, Texas Government Code, §2001.0225 only applies to a major environmental rule, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program or; 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

This rulemaking does not meet any of these four applicability requirements. Specifically, the emission limitations and control requirements within this proposal were developed in order to meet the NAAQS for ozone set by the United States Environmental Protection Agency (EPA) under FCAA, §109, and therefore meet a federal requirement. States are primarily responsible for ensuring attainment and maintenance of the NAAQS once EPA has established them. Under FCAA, §110 and related provisions, states must submit, for approval by EPA, SIPs that provide for the attainment and maintenance of NAAQS through control programs directed to sources of the pollutants involved. The commission has performed photochemical grid modeling which predicts that the controls required by these rules will result in reductions in ozone formation in one or more nonattainment areas in Texas. This proposal is not an express requirement of state law, but was developed specifically in order to meet the air quality standards established under federal law as NAAQS. Specifically, this proposal is intended to help bring ozone nonattainment areas into compliance, and to help keep attainment and near-nonattainment areas from going into nonattainment. The proposed amendments do not exceed a standard set by federal law, exceed an express requirement of state law (unless specifically required by federal law), or exceed a requirement of a delegation agreement. The proposed amendments were not developed solely under the general powers of the agency, but were specifically developed to meet the air quality standards established under federal law as the NAAQS and authorized under Texas Clean Air Act (TCAA), §§382.011, 382.012, and 382.017. The commission invites public comment on the draft regulatory impact analysis.

TAKINGS IMPACT ASSESSMENT

The commission has completed a takings impact assessment for the proposed rules. The following is a summary of that assessment. The proposed amendments would limit NO_x emissions from new natural gas-fired water heaters, small boilers, and process heaters sold and installed in Texas.

The proposed revisions are one element of the DFW Attainment SIP as well as part of a new strategy to meet the NAAQS for ground-level ozone. The strategy is necessary to reduce overall background levels of ozone in order to assist in keeping ozone attainment areas and near-nonattainment areas in compliance with federal ozone standards. The strategy and the modeling supporting it are discussed in other sections of this preamble. Promulgation and enforcement of the rule amendments will not burden private real property because the rules do not require the permanent installation of new equipment. 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 fulfill a federal mandate under the 1990 Amendments to the FCAA, §110. Specifically, the emission limitations and control requirements within this proposal were developed in order to meet the NAAQS for ozone set by the EPA under the FCAA, §109. States are primarily responsible for ensuring attainment and maintenance of NAAQS once the EPA has established them. Under the FCAA, §110 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 meet the air quality standards established under federal law as NAAQS. Consequently, the following exemption applies to these rules: an action reasonably taken to fulfill an obligation mandated by federal law.

COASTAL MANAGEMENT PROGRAM CONSISTENCY REVIEW

The commission has determined that this rulemaking relates to an action or actions subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act of 1991, as amended (Texas Natural Resources Code, §§33.201 et seq.), and the commission's rules in 30 TAC Chapter 281, Subchapter B, concerning Consistency with Texas Coastal Management Program. As required by 31 TAC §505.11(b)(2) and 30 TAC §281.45(a)(3), relating to actions and rules subject to the CMP, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission has reviewed this action for consistency with the CMP goals and policies in accordance with the regulations of the Coastal Coordination Council. For this proposal, the commission has determined that the rules are consistent with the applicable CMP goal expressed in 31 TAC §501.12(1) of protecting and preserving the quality and values of coastal natural resource areas, and the policy in 31 TAC §501.14(q), which requires that the commission protect air quality in coastal areas. This proposal is intended to reduce overall emissions of NO_x from new natural gas-fired water heaters, small boilers, and process heaters sold and installed in Texas. This action is consistent with the CMP because it does not authorize any new emissions and will reduce existing emissions of NO_x. Interested persons may submit comments during the public comment period on the consistency of the proposed rule with the CMP goals and policies.

PUBLIC HEARING

The commission will hold public hearings on this proposal at the following times and locations: January 24, 2000, 2:00 p.m., El Paso City Council Chambers, 2 Civic Center Plaza, 2nd floor, El Paso; January 25, 2000, 10:00 a.m., Building E, Room 201S, Texas Natural Resource Conservation Commission

Complex, 12100 Park 35 Circle, Austin; January 26, 2000, 10:00 a.m., Longview City Hall Council Chambers, 300 West Cotton Street, Longview; January 26, 2000, 7:00 p.m., City of Irving Central Library Auditorium, 801 West Irving Boulevard, Irving; January 27, 2000, 10:00 a.m., Dallas Public Library Auditorium, 1515 Young Street, Dallas; January 27, 2000, 7:00 p.m., Lewisville City Council Chambers, Municipal Center, Lewisville; January 28, 2000, 10:00 a.m., Council Chambers, 2nd floor, Fort Worth City Hall, 1000 Throckmorton Street, Fort Worth; January 31, 2000, 1:30 p.m., John Grey Institute, 855 Florida Avenue, Beaumont; and January 31, 2000, 7:00 p.m., Houston-Galveston Area Council, 3555 Timmons Lane, Houston. The hearings are structured for the receipt of oral or written comments by interested persons. Individuals may present oral statements when called upon in order of registration. Open discussion will not be permitted during the hearings; however, agency staff members will be available to discuss the proposal 30 minutes prior to the hearings and will answer questions before and after the hearings.

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

SUBMITTAL OF COMMENTS

Comments may be submitted to Lola Brown, MC 205, Office of Environmental Policy, Analysis, and Assessment, Texas Natural Resource Conservation Commission, P.O. Box 13087, Austin, Texas 78711-3087, or faxed to (512) 239-4808. All comments should reference Rule Log Number 99055I-117-AI.

Comments must be received by 5:00 p.m., February 1, 2000. For further information, please contact Eddie Mack of the Strategic Assessment Division at (512) 239-1488.

STATUTORY AUTHORITY

The new sections are proposed under the Texas Health and Safety Code, TCAA, §382.011, concerning General Powers and Duties, which provides the commission with the authority to establish the level of quality to be maintained in the state's air and the authority to control the quality of the state's air; §382.017, concerning Rules, which provides the commission with the authority to adopt rules consistent with the policy and purposes of the TCAA; and §382.012, concerning State Air Control Plan, which requires the commission to develop plans for protection of the state's air, such as the SIP.

The proposed new sections implement the Texas Health and Safety Code, TCAA, §§382.011, 382.012, and 382.017.

SUBCHAPTER D : [ADMINISTRATIVE PROVISIONS] SMALL COMBUSTION SOURCES

DIVISION 1 : WATER HEATERS, SMALL BOILERS, AND PROCESS HEATERS

§§117.460, 117.461, 117.463, 117.465, 117.467, 117.469

§117.460. Definitions.

Unless specifically defined in the TCAA or in the rules of the commission, the terms used by the commission have the meanings commonly used in the field of air pollution control. In addition to the terms which are defined by the TCAA, the following terms, when used in this division, shall have the following meanings, unless the context clearly indicates otherwise. Additional definitions for terms used in this division are found in §101.1 of this title (relating to Definitions), §3.2 of this title (relating to Definitions), and §117.10 of this title (relating to Definitions).

(1) **Heat output** - The product obtained by multiplying the recovery efficiency, as defined by 10 Code of Federal Regulations (CFR) 430, Subpart B, Appendix E, §6.1.3 (effective June 10, 1998) by the input rating of the water heater, boiler, or process heater.

(2) **Type 0 unit** - Any water heater, boiler, or process heater with a maximum rated capacity of no more than 75,000 British thermal units per hour (Btu/hr).

(3) **Type 1 unit** - Any water heater, boiler, or process heater with a maximum rated capacity greater than 75,000 Btu/hr, but no more than 400,000 Btu/hr.

(4) **Type 2 unit** - Any water heater, boiler, or process heater with a maximum rated capacity greater than 400,000 Btu/hr, but no more than 2.0 million Btu per hour (MMBtu/hr).

(5) **Water heater** - A closed vessel in which water is heated by combustion of gaseous fuel and is withdrawn for use external to the vessel at pressures not exceeding 160 pounds per square inch gauge (psig), including the apparatus by which the heat is generated and all controls and devices necessary to prevent water temperatures from exceeding 210 degrees Fahrenheit.

§117.461. Applicability.

This division (relating to Water Heaters, Small Boilers, and Process Heaters) applies to manufacturers, distributors, retailers, and installers of natural gas-fired water heaters, boilers, and process heaters with a maximum rated capacity of 2.0 million British thermal units per hour (MMBtu/hr) or less.

§117.463. Exemptions.

This division (relating to Water Heaters, Small Boilers, and Process Heaters) does not apply to:

(1) units using a fuel other than natural gas;

(2) units used in recreational vehicles; and

(3) Type 0 units used exclusively to heat swimming pools and hot tubs.

§117.465. Emission Specifications.

Natural gas-fired Type 0, 1, and 2 units sold, distributed, installed, or offered for sale within the State of Texas shall meet the following limits for nitrogen oxides (NO_x, calculated as nitrogen dioxide (NO₂)).

(1) Type 0 units manufactured on or after July 1, 2002, but no later than December 31, 2004, shall not exceed:

(A) 20 nanograms per joule (ng/J) of heat output; or

(B) 30 parts per million by volume (ppmv) at 3.0% oxygen (O₂), dry.

(2) Type 0 units manufactured on or after January 1, 2005 shall not exceed:

(A) 10 ng/J of heat output; or

(B) 15 ppmv at 3.0% O₂, dry.

(3) Type 1 units manufactured on or after July 1, 2002 shall not exceed:

(A) 40 ng/J of heat output; or

(B) 55 ppmv at 3.0% O₂, dry.

(4) Type 2 units manufactured on or after July 1, 2002 shall not exceed:

(A) 30 ppmv at 3.0% O₂, dry; or

(B) 0.037 pound per million British thermal units per hour (MMBtu/hr).

§117.467. Certification Requirements.

(a) The manufacturer shall demonstrate that each model of Type 0, 1, and 2 unit subject to the requirements of §117.465 of this title (relating to Emission Specifications) has been tested in accordance with the following procedures.

(1) The measurement of nitrogen oxides (NO_x) emissions shall be conducted in accordance with Test Method 7 (40 Code of Federal Regulations (CFR) 60, Appendix A (effective June 11, 1986)), including 7A-E.

(2) Each tested water heater shall be operated in accordance with Section 2.4 of American National Standards ANSI Z21.10.1-1990 at normal test pressure, input rates, and with a five-foot exhaust stack installed during the NO_x emissions tests.

(3) The following procedure shall be used to calculate the NO_x emission rate in nanograms per joule (ng/J) of heat output: Figure: 30 TAC §117.467(a)(3)

$$N = \frac{(4.566 \times 10^4)(P)(U)}{(H)(C)(E)}$$

where:

N = NO_x emission rate in ng/J of heat output

P = Concentration of NO_x in the flue gas in parts per million by volume

U = Dry volume percent of carbon dioxide (CO₂) in flue gas necessary for stoichiometric combustion

H = Gross heating value of the gas in British thermal units per cubic foot (at 60 degrees Fahrenheit and 30 inches of mercury)

C = Dry volume percent of CO₂ in flue gas

E = Recovery efficiency, percentage, as defined in 10 CFR 430, Subpart B, Appendix E, §6.1.3 (effective June 10, 1998)

(b) The manufacturer may submit to the executive director an approved Bay Area Air Quality Management District or South Coast Air Quality Management District certification in lieu of conducting duplicative certification tests.

§117.469. Notification and Labeling Requirements.

(a) Each manufacturer shall submit to the executive director a statement certifying that Type 0, 1, and 2 units subject to the requirements of §117.465 of this title (relating to Emission Specifications) are in compliance with §117.465 of this title. The statement shall be signed, dated, and attest to the accuracy of all information. The statement shall include the manufacturer's brand name, model number, and the input rating as it appears on the rating plate. The manufacturer shall inform their wholesaler and/or retailer of the certification requirement of this subsection.

(b) The manufacturer shall display the model number and date of manufacture of each Type 0, 1, and 2 unit complying with §117.465 of this title on the shipping carton and rating plate of each Type 0, 1, and 2 unit.