

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Commissioners **Date:** October 15, 2010

Thru: LaDonna Castañuela, Chief Clerk
Mark R. Vickery, P.G., Executive Director

From: Susana M. Hildebrand, P.E.
Chief Engineer

Docket No.: 2010-1152-RUL

Subject: Commission Approval for Proposed Rulemaking
Chapter 117, Control of Air Pollution from Nitrogen Compounds
Expand the Emission Specification for Lean-Burn Engines in the Dallas-Fort Worth
(DFW) 1997 Eight-Hour Ozone Nonattainment Area
Rule Project No. 2010-048-117-EN

Background and reason(s) for the rulemaking:

On April 27, 2010, Ameresco of Texas (petitioner) submitted a petition for rulemaking requesting an amendment to Chapter 117, Subchapter D, Division 2, §117.2110 for the Dallas-Fort Worth (DFW) 1997 eight-hour ozone nonattainment area. The commission approved the petition for rulemaking on June 16, 2010, and issued an order on June 22, 2010, directing the executive director to examine the issues in the petition and to initiate rulemaking. Currently, §117.2110 limits nitrogen oxides (NO_x) emissions from stationary gas-fired, lean-burn engines installed, modified, reconstructed, or relocated on or after June 1, 2007, to 0.60 grams per horsepower-hour (g/hp-hr) if fired on landfill gas and 0.50 g/hr-hr for all other lean-burn engines.

During the 2007 rulemaking, no landfill gas-fired engines were identified in the point source emissions inventory in the counties impacted by the proposed rule; however, the emission specification of 0.60 g/hp-hr for gas-fired engines fired on landfill gas that is established by §117.2110(a)(1)(B)(ii)(I) is consistent with the emission specification for this category of engines in the Houston-Galveston-Brazoria 1997 eight-hour ozone nonattainment area.

Landfill gas and other biogas are produced from anaerobic digestion or decomposition of organic matter and have similar fuel and combustion characteristics. Both landfill gas and other biogas can contain contaminants such as sulfur, chlorine, and silicon. Consequently, engines fired on landfill gas and other biogas can have technological feasibility issues with regard to the installation of a NO_x control catalyst because these contaminants can result in catalyst failure or deactivation in hours or days. The technological feasibility issues with regard to the installation of a NO_x control catalyst is the basis for the 0.60 g/hp-hr emission standard in the current rule and the justification for the proposed expansion of the existing emission specification to include lean-burn engines fired on biogas at minor sources NO_x in the DFW 1997 eight-hour ozone nonattainment area.

Scope of the proposed rulemaking:

Currently, §117.2110 limits NO_x emissions from stationary gas-fired, lean-burn engines installed, modified, reconstructed, or relocated on or after June 1, 2007, to 0.60 g/hp-hr if fired on landfill gas and 0.50 g/hr-hr for all other lean-burn engines. The proposed rulemaking would amend §117.2110(a)(1)(B)(ii)(I) to expand the emission specification for lean-burn engines fired on landfill gas to include lean-burn engines fired on other biogas at minor sources of NO_x in the DFW 1997 eight-hour ozone nonattainment area. In addition to the proposed rule revisions, the staff proposes non-substantive formatting changes to conform with current *Texas Register* format requirements.

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A) Summary of what the rulemaking will do:

If adopted, the amended section would establish a 0.60 g/hp-hr NO_x emission limit for stationary gas-fired lean-burn internal combustion engines fired on biogas fuels other than landfill gas that are installed, modified, reconstructed, or relocated on or after June 1, 2007.

B) Scope required by federal regulations or state statutes:

None.

C) Additional staff recommendations that are not required by federal rule or state statute:

Air Quality Division staff recommends stipulating in the proposal that the commission plans only to accept comments on the specific changes to the rules regarding the petitioner's request, and no other changes will be considered during this rulemaking.

Statutory authority:

Texas Government Code, §2001.021, establishes the procedures by which an interested person may petition a state agency for the adoption of a rule and 30 Texas Administrative Code (TAC) §20.15 provides such procedures specific to the commission.

The following provisions authorize the commission to adopt rules necessary to carry out its powers and duties: Texas Government Code, §2001.021, Petition for the Adoption of Rules, which authorizes an interested person to petition a state agency for the adoption of a rule; Texas Water Code (TWC), §5.102, General Powers, §5.103, Rules, and §5.105, General Policy (these provisions authorize the commission to adopt rules necessary to carry out its powers and duties under the TWC); Texas Health and Safety Code (THSC), Texas Clean Air Act (TCAA), §382.017, Rules, which authorizes the commission to adopt rules consistent with the policy and purposes of the TCAA; THSC, §382.002, Policy and Purpose, which establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; THSC, §382.011, General Powers and Duties, which authorizes the commission to control the quality of the state's air; and THSC, §382.012, State Air Control Plan, which authorizes the commission to prepare and develop a general, comprehensive plan for the control of the state's air.

Also, THSC, §382.016, concerning Monitoring Requirements; Examination of Records, authorizes the commission to prescribe requirements for owners or operators of sources to make and maintain records of emissions measurements; §382.021, concerning Sampling Methods and Procedures, authorizes the commission to prescribe the sampling methods and procedures; and §382.051 concerning Permitting Authority of Commission; Rules, authorizes the commission to adopt rules as necessary to comply with changes in federal law or regulations applicable to permits under Chapter 382. The rule amendment would also be proposed under 42 United States Code, §§7401, *et seq.*, which requires states to submit state implementation plan (SIP) revisions that specify the manner in which the National Ambient Air Quality Standard (NAAQS) will be achieved and maintained within each air quality control region of the state.

Effect on the:

A) Regulated community: The proposed rule amendment would affect owners and operators of stationary gas-fired lean-burn internal combustion engines fired on biogas other than landfill gas that are located at minor sources of NO_x in the DFW 1997 eight-hour ozone nonattainment area. If adopted, owners or operators of stationary gas-fired lean-burn internal combustion engines fired on biogas fuels other than

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landfill gas that are installed, modified, reconstructed, or relocated on or after June 1, 2007, would be required to limit NO_x emissions to 0.60 g/hp-hr instead of 0.50 g/hp-hr.

B) Public: There will be no impact on the public.

C) Agency programs: There are no anticipated impacts on agency programs.

Stakeholder meetings:

No stakeholder meetings were held.

Potential controversial concerns and legislative interest:

In the 2007 Chapter 117 rulemaking for the DFW 1997 eight-hour ozone attainment demonstration, no gas-fired engines fired on biogas or other non-landfill gaseous fuels were relied upon for creditable reductions for the SIP. Therefore, if the petitioner's proposed change is adopted, allowing the slightly higher emission specification of 0.60 g/hp-hr on gas-fired engines fired on other biogas fuels would not result in a loss of any SIP creditable reductions for the DFW 1997 eight-hour ozone nonattainment area.

The proposed change is limited to a narrow category of stationary gas-fired engines with NO_x controls that were not relied upon in the DFW 1997 eight-hour ozone attainment demonstration adopted in 2007, and the resulting change in future NO_x emissions is negligible. Furthermore, if the proposed rulemaking is not adopted and the petitioner is not able to comply with the 0.50 g/hp-hr emission limit or purchase credits to offset the surplus emissions, the company may be forced to abandon the project. This outcome could actually result in a net NO_x emissions increase that is more than the 0.02 tons per day increase anticipated if the rule is adopted. If the company is forced to send the emission stream to a flare for destruction rather than use the stream as a fuel source in the engines, the total uncontrolled NO_x emission could exceed that of the controlled emissions under the proposed emission limit, as flares are exempt from NO_x emission limits under Chapter 117. Based on these factors, the commission has determined that the proposed rule change will not negatively impact the status of the state's attainment with the 1997 eight-hour ozone NAAQS, will not interfere with control measures, and will not prevent reasonable further progress toward attainment with the ozone NAAQS.

Will this rulemaking affect any current policies or require development of new policies?

No.

What are the consequences if this rulemaking does not go forward?

The affected regulated entity would have to purchase emission reduction credits to off-set the estimated 0.02 tpd increase in NO_x emissions.

Are there alternatives to rulemaking?

Yes. The commission could decide not to adopt the proposed changes to the emission specifications in Chapter 117.

Key dates in the proposed rulemaking schedule:

Anticipated proposal date: November 3, 2010

Anticipated *Texas Register* publication date: November 19, 2010

Public hearing date (if any): December 14, 2010

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Public comment period: November 19, 2010 – December 20, 2010

Anticipated adoption date: April 20, 2011

Agency contacts:

Ray Schubert, Rule Project Manager, 239-6615, Air Quality Division

Amy Browning, Staff Attorney, 239-0891

Natalia Henricksen, Texas Register Coordinator, 239-0177

cc: Chief Clerk, 2 copies
Executive Director's Office
Susana M. Hildebrand, P.E.
Kevin Patteson
Curtis Seaton
Daniel Womack
Office of General Counsel
Ray Schubert
Natalia Henricksen