# Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

**To:** Commissioners **Date:** April 1, 2011

**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 Rulemaking Adoption
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/hp-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 adopting the expansion of the existing emission specification to include lean-burn engines fired on biogas at minor sources of $NO_X$ in the DFW 1997 eight-hour ozone nonattainment area.

**Scope of the 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/hp-hr for all other lean-burn engines. The adopted rulemaking will 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.

**A) Summary of what the rulemaking will do:**
If adopted, the amended section will 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:**
None.

**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 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 adopted 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 Standards (NAAQS) will be achieved and maintained within each air quality control region of the state.

**Effect on the:**

**A) Regulated community:**
The adopted rulemaking will 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 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.

**Public comment:**
A public hearing for this rulemaking was scheduled on December 14, 2010, in Fort Worth, Texas. The hearing was not officially opened, because no one requested to present oral testimony. The proposed rule was published in the November 19, 2010, issue of the *Texas Register* (35 *TexReg* 10162). The comment period closed December 20, 2010.

The commission received a written comment from the United States Environmental Protection Agency (EPA). The following is summary of the comment:

The EPA stated its understanding that the proposed revision would expand the $NO_X$ emission specification for lean-burn engines fired on landfill gas to include lean-burn engines fired on biogas at minor sources in the DFW 1997 eight-hour ozone nonattainment area, and that the revision would allow a stationary diesel engine to be fired on biogas. The EPA also commented that although TCEQ has projected the potential for a small increase in $NO_X$ emissions from engines firing biogas resulting from the rule change, because a larger amount of $NO_X$ emissions could result from the likely alternative of sending the gas to a flare, the rulemaking did not appear to conflict with §110(l) of the Federal Clean Air Act. The EPA agreed with the commission's determination that the proposed rulemaking will not interfere with attainment or maintenance of the 1997 eight-hour ozone NAAQS in the DFW area and commented that the proposed change appeared to be an appropriate revision to the SIP given the small amount of emissions change and the beneficial use of the biogas. In addition, the EPA requested the commission confirm the EPA's understanding of the proposed amendment to §117.2110 and requested that emissions from engines fired on biogas be accounted for in future SIP revisions. *No changes were made to the rule based on this comment.*

**Significant changes from proposal:**
None.

**Potential controversial concerns and legislative interest remaining after proposal and public comment:**
None.

**Does this rulemaking affect any current policies or require development of new policies?**
None.

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

**Are there alternatives to rulemaking?**
Yes. The commission could decide not to adopt the proposed changes to the emission specifications in Chapter 117.

**Key points in adoption rulemaking schedule:**

***Texas Register* proposal publication date:** November 19, 2010
**Anticipated *Texas Register* publication date:** May 6, 2011
**Anticipated effective date:** May 12, 2011
**Six-month *Texas Register* filing deadline:** May 19, 2011

**Agency contacts:**
Ray Schubert, Rule Project Manager, 239-6615, Air Quality Division
Amy Browning, Staff Attorney, 239-0891
Michael Parrish, Texas Register Coordinator, 239-2548

Attachments

cc: Chief Clerk, 2 copies
Executive Director's Office
Susana M. Hildebrand, P.E.
Anne Idsal
Curtis Seaton
Ashley Morgan
Office of General Counsel
Ray Schubert
Michael Parrish