

# Texas Commission on Environmental Quality

## Interoffice Memorandum

**To:** Commissioners **Date:** March 22, 2013

**Thru:** Bridget C. Bohac, Chief Clerk  
Zak Covar, Executive Director

**From:** Steve Hagle, P.E., Deputy Director  
Office of Air

**Docket No.:** 2012-1388-RUL

**Subject:** Commission Approval for Rulemaking Adoption  
Chapter 117, Control of Air Pollution from Nitrogen Compounds  
Chapter 117 Stationary Diesel Engine Petition  
Rule Project No. 2012-031-117-AI

**Background and reason(s) for the rulemaking:**

On April 5, 2012, Halliburton Energy Services, Incorporated (Halliburton or petitioner) submitted a petition for rulemaking requesting a partial exemption from the rules in 30 Texas Administrative Code (TAC) Chapter 117, Subchapter D, Division 2 that limit nitrogen oxides (NO<sub>x</sub>) emissions from minor sources in the Dallas-Fort Worth (DFW) 1997 eight-hour ozone nonattainment area. The commission approved the petition for rulemaking on May 30, 2012 and issued an order on June 1, 2012 directing the executive director to examine the issues in the petition and to initiate rulemaking.

The unique service of the Halliburton Drawworks Engine makes ongoing testing to demonstrate compliance with the Chapter 117 NO<sub>x</sub> emission limits impractical and comparatively more expensive than the stationary engine testing envisioned at adoption of the rule in 2007. To comply with the Chapter 117 testing requirements, Halliburton must arrange for the use of a dynamometer, which is typically used by engine manufacturers for testing purposes. Preparing the engine for installation of the dynamometer and returning the engine to operational status subsequent to the emissions testing presents significant safety hazards associated with the removal of the drive train and transmission, removal of the torque converter, and the placement and use of non-dedicated hoisting equipment on the rig floor. Performing a compliant emissions test of the Drawworks Engine takes three to four days to complete whereas typical testing on stationary engines only requires approximately a half day.

Additionally, engines used to raise and lower down-hole equipment in actual oil and gas operations in the field, which the Drawworks Engine is designed to simulate, are typically not subject to similar Chapter 117 testing requirements because those engines are typically not installed at a location long enough to trigger the definition of a stationary internal combustion engine in §117.10. The Drawworks Engine is subject to Chapter 117, Subchapter D, Division 2 because the equipment has been made stationary to provide testing and training facilities for sources that are actually not subject to the rule.

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**Scope of the rulemaking:**

**A.) Summary of what the rulemaking will do:**

The adopted change expands the list of exempted sources in §117.2103 to include stationary diesel engines that are used exclusively for product testing and personnel training, operate less than 1,000 hours per year on a rolling 12-month basis, and meet applicable Tier emission standards for non-road engines listed in 40 Code of Federal Regulations (CFR) §89.112(a), Table 1 (October 23, 1998) in effect at the time of installation, modification, reconstruction, or relocation. The adopted exemption is narrow in scope and consistent with the similar existing exemptions for stationary diesel engines located at minor sources, such as stationary engines used in research and testing and stationary engines used for purposes of performance verification and testing. The adopted change also revises the operating requirements of §117.2130, the monitoring requirements of §117.2135, and the recordkeeping requirements of §117.2145 to reflect the new category of exempt engines. Although not specifically requested in the petition for rulemaking, the adopted rules require records sufficient to demonstrate the engine meets the applicable emission standard listed in 40 CFR §89.112(a), Table 1 (October 23, 1998) to help ensure compliance with the exemption criteria. Furthermore, the adopted rules will change the petitioner's suggested operating restriction language from "rolling 12-month average" to "rolling 12-month basis" in adopted new §117.2103(10)(B) to make clear that compliance is based on the total annual hours of operation.

Additionally, the existing rule language in §117.2130(c) prohibits a person from starting or operating any stationary diesel or dual-fuel engine in the DFW 1997 eight-hour ozone nonattainment area for testing or maintenance between the hours of 6:00 a.m. and noon except under specific conditions. The petitioner requested clarification that this prohibition did not apply to product testing. The adopted rules amend §117.2130(c)(1) - (3) to distinguish between product testing as used in the new exemption in §117.2103(10) and engine testing as used in the existing rule language in §117.2130(c). The adopted revision clarifies that the prohibition is specific to testing or maintenance of the engine to avoid conflict with the new exemption in §117.2103(10) for stationary engines that are used exclusively for product testing and personnel training and more accurately reflect the intent of the prohibition. The adopted amendments to Chapter 117 will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the state implementation plan (SIP).

**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.

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**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 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, 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, Sampling Methods and Procedures, authorizes the commission to prescribe the sampling methods and procedures; and §382.051 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 amendments are also adopted under 42 United States Code, §§7401, *et seq.*, which requires states to submit SIP revisions that specify the manner in which the National Ambient Air Quality Standards 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 or operators of stationary diesel engines located at minor sources of NO<sub>x</sub> in the DFW 1997 eight-hour ozone nonattainment area and used exclusively for product testing and personnel training, operate in limited service, and meet applicable federal emission standards for non-road engines listed in 40 CFR Part 89. Engines meeting these requirements will be exempt from the emission specifications for attainment demonstration and the emissions testing requirements of Subchapter D, Division 2 of Chapter 117. However, owners or operators of such engines will be required to install and operate a non-resettable elapsed run time meter, maintain written records of the number of hours of operation for each day's operation, and maintain records of manufacturer's specifications or test data sufficient to demonstrate compliance with the corresponding emission standard for non-road engines listed in 40 CFR Part 89.

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**B.) Public:**

The public benefit anticipated from the adopted rules is continued protection of the environment and public health and safety combined with efficient and fair administration of NO<sub>x</sub> emission standards for the DFW 1997 eight-hour ozone nonattainment area.

**C.) Agency programs:**

The adopted rulemaking will not impact agency programs.

**Stakeholder meetings:**

No stakeholder meetings occurred.

**Public comment:**

The commission scheduled public hearings on the rulemaking in Fort Worth on December 13, 2012 and in Austin on December 18, 2012. However, the commission did not officially open either hearing because no one registered to provide comments. The public comment period closed on December 19, 2012. Written comments were accepted via mail, fax, and through the eComments system. The commission received comments from the North Central Texas Council of Governments (NCTCOG) objecting to the rulemaking. Significant public comments are summarized as follows.

- NCTCOG requested the commission require engines used for training purposes to be located outside of all nonattainment areas or require all eligible engines to be located away from air quality monitors and sensitive groups. *The commenter's suggested change is outside the scope of this rulemaking. Requiring facilities subject to the exemption to relocate to an attainment county or alternative location within the nonattainment county through this rulemaking would be equivalent to revoking an existing facility's authorization and force consideration of location for new New Source Review (NSR) authorizations, which is contrary to the TCEQ's authority under the Texas Clean Air Act (TCAA). Additionally, the adopted exemption will not result in additional NO<sub>x</sub> emissions in the DFW area. The exemption criteria require compliance with the federal standards in 40 CFR Part 89 from which the NO<sub>x</sub> emission limits for stationary diesel engines in §117.2110 were derived. Based on February 2012 emissions test results, the Drawworks Engine at the Halliburton Carrollton Plant meets Tier 3 emission standards for non-road engines listed in 40 CFR §89.112(a), Table 1 (October 23, 1998) and is well below the applicable emission standards in §117.2110. The commission makes no changes in response to this comment.*
- NCTCOG requested confirmation on the number and location of engines affected by the rulemaking and the projected increase in annual emissions. NCTCOG also asked if the commission considered the possibility and impact of additional engines used for this purpose in the DFW area. NCTCOG requested the commission provide documentation on the analysis of emission estimates and the impact of the additional emissions from the newly exempted engine on air quality monitors and

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sensitive populations. *The commission is currently only aware of one engine that meets the adopted new exemption criteria and that is the Halliburton Drawworks Engine located in Carrollton, Texas. The commission does not expect a significant number of engines to meet the new exemption criteria. The new exemption in §117.2103(10) requires the engine to meet the applicable Tier emission standards for non-road engines listed in 40 CFR §89.112(a), Table 1 (October 23, 1998). The NO<sub>x</sub> emission limits for stationary diesel engines in §117.2110 were derived from the same Tier standards in 40 CFR §89.112(a). Therefore, even if additional units do meet the exemption criteria in §117.2103(10), the NO<sub>x</sub> emissions from such units are not expected to exceed the NO<sub>x</sub> emissions anticipated if the same new units were required to meet the applicable NO<sub>x</sub> emission limits in §117.2110. The commission makes no changes in response to this comment.*

- *NCTCOG asked why the proposed maximum annual operating hours was 1,000 hours given that the existing exemptions in §117.2103(5), (8), and (9) are limited to 100 hours per year. The existing exemptions in §117.2103(5), (8), and (9) are intended to apply to sources that operate in very limited service, such as emergency backup generator engines. The hours limitations in §117.2103(5), (8), and (9) are designed for engines that are in emergency or limited service. Other existing rules, such as §117.2103(2) and (3), exempt engines used for specific purposes, such as those used in research and testing and those used for the purposes of performance verification and testing. The Halliburton Drawworks Engine is not an emergency backup engine or limited-use engine. Rather, the Drawworks Engine is a primary service engine and is similar to the engines used for specific purposes that qualify for the exemptions in §117.2103(2) and (3). However, the existing exemptions in §117.2103 do not cover the full operating range of Halliburton's Drawworks Engine due to the unique nature of its service. Instead of granting the full exemption afforded to other engines that operate in specific service, the commission is adding an additional layer of stringency to the exemption by limiting the engine's hours of operation. The commission makes no changes in response to this comment.*
- *NCTCOG requested the commission justify why the proposed rule provides an exemption from the operating requirements in §117.2130, which prohibit affected engines from being started between the hours of 6:00 a.m. and noon. The operating requirement in §117.2130(c) prohibits the operation of any stationary diesel or dual-fuel engine for testing or maintenance between the hours of 6:00 a.m. and noon except under limited circumstances. The commission is amending §117.2130(c)(1) - (3) to distinguish between product testing as used in the adopted new exemption in §117.2103(10) and engine testing as used in the existing rule language in §117.2130(c). The commission is not providing an exemption from the operating requirement in §117.2130(c). The adopted revision clarifies that the prohibition is specific to testing or maintenance of the engine to avoid conflict with the adopted new exemption in §117.2103(10) for stationary engines that are used*

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*exclusively for product testing and personnel training and more accurately reflect the intent of the prohibition. The commission's intent for §117.2130(c) has always been that the prohibition applies to testing and maintenance of the engine itself because these activities can typically be scheduled outside the 6:00 a.m. to noon time frame without significantly interfering with the daily operations of a facility. Section 117.2130(c) does apply to the Halliburton Drawworks Engine when Halliburton operates the engine as part of the engine's routine testing and maintenance. However, §117.2130(c) does not apply when Halliburton is operating the engine as part of the facility's normal operation of testing drilling equipment and training personnel. The commission makes no changes in response to this comment.*

- *NCTCOG asked if there are recent time-of-day photochemical model sensitivity runs that indicate how early morning NO<sub>x</sub> and volatile organic compounds emissions impact afternoon ozone formation. The commission did not conduct photochemical modeling as part of this rule revision. The DFW Attainment Demonstration SIP Revision for the 1997 Eight-Hour Ozone Standard adopted by the commission on December 7, 2011 (Project Number 2010-022-SIP-NR) contains the most recent photochemical modeling analysis for the DFW area. The photochemical modeling for the 2011 DFW Attainment Demonstration SIP Revision used emissions that were temporally allocated according to emission category but modeling runs were not conducted to determine the sensitivity of the model to changes in emissions by time of day. The commission makes no changes in response to this comment.*
- *NCTCOG requested the TCEQ examine the benefits and feasibility of requiring independent third-party verification of industry-reported monitoring and compliance data. The commenter's request is outside the scope of this rulemaking. The intent of this rulemaking is to provide an exemption for stationary diesel engines that are used exclusively for product testing and personnel training, operate less than 1,000 hours per year, and meet applicable emission standards in 40 CFR §89.112(a), Table 1 (October 23, 1998). The commission makes no changes in response to this comment.*
- *NCTCOG requested the TCEQ require training to include smart operating practices such as no idling, proper engine maintenance, and other emission reducing strategies. The intent of this rulemaking is to provide an exemption for stationary diesel engines that are used exclusively for product testing and personnel training, operate less than 1,000 hours per year, and meet applicable emission standards in 40 CFR §89.112(a), Table 1 (October 23, 1998). The training suggested by the commenter is not necessary to ensure compliance with the adopted new exemption criteria in §117.2103(10). Additionally, applying such training requirements generally under Chapter 117, Subchapter D, Division 2 is outside the scope of this rulemaking. The commission makes no changes in response to this comment.*

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- NCTCOG requested the commission require Halliburton to identify and implement emission reduction offsets for increased emissions. *The new exemption will not increase NO<sub>x</sub> emissions in the DFW area, and test results indicate the NO<sub>x</sub> emissions from Halliburton's Drawworks Engine are below the applicable emission specification in §117.2110. The commission makes no changes in response to this comment.*

**Significant changes from proposal:**

The commission did not revise the rule from proposal.

**Potential controversial concerns and legislative interest:**

The Chapter 117 rules for minor sources in the DFW area are included in the SIP. The adopted amendments to Chapter 117 will be submitted to the EPA as a revision to the SIP. The adopted exemption criteria require compliance with the federal standards in 40 CFR Part 89 from which the NO<sub>x</sub> emission limits in §117.2110 were derived. Therefore, the adopted exemption will not result in additional NO<sub>x</sub> emissions in the DFW area and should not be considered as backsliding under the Federal Clean Air Act. However, the revisions are still subject to EPA review and approval as a SIP revision.

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

No.

**What are the consequences if this rulemaking does not go forward? Are there alternatives to rulemaking?**

The affected regulated entity will have to conduct an emissions performance test in accordance with current Chapter 117 requirements for stationary sources. Testing will be required every two years or within 15,000 hours of engine operation after the previous emissions test. In order to run an emissions test, the owner or operator will have to dismantle the transmission in order to install and use the dynamometer. Additionally, these activities will consume three to four days of an owner's or operator's time.

**Key points in the adoption rulemaking schedule:**

***Texas Register* proposal publication date:** November 16, 2012

***Anticipated Texas Register* publication date:** April 26, 2013

***Anticipated effective date:*** May 2, 2013

***Six-month Texas Register* filing deadline:** May 16, 2013

**Agency contacts:**

Javier Galván, Rule Project Manager, 239-1492, Air Quality Division

Alexis Lorick, Staff Attorney, 239-0649

Michael Parrish, Texas Register Coordinator, 239-2548

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**Attachments**

cc: Chief Clerk, 2 copies  
Executive Director's Office  
Susana M. Hildebrand, P.E.  
Anne Idsal  
Curtis Seaton  
Tucker Royall  
Office of General Counsel  
Javier Galván  
Michael Parrish