The Dallas-Fort Worth Area Minor Source Rule: An Air Quality Rule for Equipment at Your Business

A Draft Document

What are the Operating, Monitoring, Testing, Record-keeping and Reporting Requirements of the Minor Source NO_x Rule?

How can this guide help me?

This publication summarizes the Texas Commission on Environmental Quality (TCEQ) record-keeping and reporting requirements under rules covering minor sources of nitrogen oxides (NO_x) in the Dallas-Fort Worth (DFW) area. NO_x sources include stationary, reciprocating internal combustion engines. The Minor Source Rule is designed to protect air quality and human health.

This publication contains information to help you comply with proper record-keeping and reporting requirements in accordance with the rules contained in 30 Texas Administrative Code (30 TAC), Sections 117.2100 through 2145.

Keep in mind that this publication does not contain the complete rules or all of the information you may need to be in compliance.

See Note One for instructions on finding the text of this rule and other state environmental rules on the Secretary of State's Web site. You may keep up to date with efforts to improve air quality in the DFW area by signing up for the automated mailing list for Texas' State Implementation Plan (SIP), or subscribe to the TCEQ's e-mail update service at <tceq.state.tx.us> and click on the "sign up for e-mail updates" icon. To join the mailing list, send a blank e-mail with no subject or message to <join-sip@listserv.tceq.state.tx.us>. You will be notified of stakeholder meetings, public hearings, and comment periods for draft rules and air quality plans.

See Note Two for instructions on how to locate information about calculating your emissions, and to determine emission factors, along with information on resources that can be used for record keeping and reporting.

Part 1: Determine operating requirements for your equipment.

Review Table 1 below to determine operating requirements in these rules that apply to your equipment. Your equipment may be included in more than one category in the table below.

Table 1: Equipment Operating Requirements

Equipment	Operating Requirement
Equipment with post combustion control techniques	Reducing agent injection must limit NO_x concentrations to no more than the NO_x concentrations at maximum rated capacity.
Stationary internal combustion engine controlled with nonselective catalytic reduction	Must be equipped with an automatic air-fuel ratio (AFR) controller that operates on exhaust O_2 or CO control and maintains AFR in the range required to meet the engine's applicable emission specifications.
Stationary internal combustion engine monthly run time **exceeds** 10 hours	Check for proper operation by recording NO_x and CO emissions: • Quarterly **and** • Within two weeks after: o any engine maintenance which might increase emissions; **or** o O_2-sensor replacement; **or** o catalyst cleaning or replacement • After installing any controls • After major repair work • Any time you believe emissions may have changed
Stationary internal combustion engine monthly run time **does not exceed** 10 hours	Check for proper operation by recording NO_x and CO emissions: • Within two weeks after: o any engine maintenance which might increase emissions; **or** o O_2 sensor replacement; **or** o catalyst cleaning or replacement • After installing any controls • After major repair work • Any time you believe emissions may have changed

No person shall start or operate any stationary **diesel** or **dual-fuel** engine for testing or maintenance between the hours of 6:00am and noon, *except*:

- for specific manufacturer's recommended testing requiring a run of over 18 consecutive hours;
- to verify reliability of emergency equipment (e.g. emergency generators, or pumps) immediately after unforeseen repairs. Routine maintenance such as an oil change is not considered to be an unforeseen repair; or
- firewater pumps for emergency response training conducted in the months of April through October.

Part 2: Determine monitoring, testing, record keeping, and reporting requirements for your equipment.

Step 1. Determine monitoring requirements

Table 2: Monitoring Requirements

Oxygen (O_2) Monitors
• If oxygen monitors are installed, the requirements of 30 TAC 117.8100 regarding location and calibration should be considered appropriate guidance (see Note One for information on How to Locate TCEQ and EPA rules). • Installation must be performed according to the schedule in 30 TAC 117.9210 (see Table 4 below). • The installation of O_2 monitors is optional.
NO_x Monitors
• If a continuous emissions monitoring system (CEMS) or predictive emissions monitoring system (PEMS) is installed, it must meet the requirements of 30 TAC 117.8100. • PEMS must predict the pollution emissions in the units of the applicable emission limitations. • Installation must be performed according to the schedule in 30 TAC 117.9210. • The installation of NO_x monitors is optional.

Step 2. Determine testing requirements for your equipment.

Table 3: Testing and Reporting Requirements

• Submit test reports to TCEQ within 60 days of completing the test. • Each engine must be tested for nitrogen oxides, carbon monoxide, and oxygen emissions. • If urea or ammonia is injected into the exhaust stream for NO_x control, use one of the ammonia monitoring procedures in 30 TAC 117.8130 to demonstrate compliance with the emission specification in 30 TAC 117.2110(h)(2). • Test results must be in the units of the appropriate emission specification and averaging period. (If you use a test method from 40 CFR Part 60, Appendix A, the testing report must contain the information specified in 30 TAC 117.8010.)

Units with CEMS or PEMS	Units without CEMS or PEMS
• Written notification of relative accuracy test audits (RATA) or **other testing required** under 30 TAC 117.2135 must be submitted to the TCEQ Region 4 office and any local pollution control agency at least 15 days in advance. • CEMS or PEMS must be operational before testing is performed. Verification that CEMS or PEMS is operational must include: **a)** completion of the initial monitor certification; and **b)** manufacturer's written requirements or recommendations for installation, operation, and calibration. • Initial compliance with emission specifications must be demonstrated after monitor certification testing using the NO_x CEMS or PEMS.	• All testing must be done with the equipment running as close as possible to maximum capacity. • Retesting is required within 60 days of any modification that could increase the NO_x emissions. • Compliance is determined by averaging three, one-hour emission-test runs using any one of several different testing methods. Your testing service provider can help you determine which test method is the best choice for you. (See 30 TAC 117.2135(d)(3) for a list of the applicable methods.) • Retesting may be performed after any modification that could decrease the NO_x emissions. • Testing must be performed on a biennial calendar basis, **or within 15,000 hours of engine operation after previous emissions test,** in accordance with 30 TAC 117.8140, and the schedule in 30 TAC 117.9210 (see Table 4 below).

Table 4: Compliance Schedule for Minor Source NO_x Rule

Equipment	Compliance Date
Rich burn stationary gas-fired reciprocating internal combustion engines	March 1, 2009
Lean burn stationary gas-fired reciprocating internal combustion engines	March 1, 2010
Diesel-fired and dual-fuel stationary reciprocating internal combustion engines	March 1, 2009

Step 3. Determine record-keeping requirements for your equipment.

Record-keeping requirements for your equipment.

1. Required equipment records depend upon the following:
   - the type of equipment;
   - whether or not the equipment is partially exempt from this rule;
   - whether or not the equipment has a Continuous Emissions Monitoring System (CEMS) or a Predictive Emissions Monitoring System (PEMS) installed; and
   - the type of fuel.

   The specific records for each type of equipment are listed in 30 TAC 117.2145(a). (See Note One to obtain information on locating these rules on the Internet.)

2. Table 5 outlines records you must keep if your equipment is **not partially exempt** (non-exempt equipment). Record-keeping requirements for partially exempt equipment are outlined in *Is My Stationary Engine Regulated under the Minor Source NO_x Rule, and if so, is it Partially Exempt, or Non-Exempt?*. Available at <www.tceq.state.tx.us/goto/nox>.

Table 5. Record-Keeping Requirements for Non-Exempt Equipment

✔=Required

Required Records	Engines *without* a CEMS or PEMS	Engines *with* a CEMS or PEMS
Hourly emissions for units complying with an emission limit enforced on a block one-hour average		✔
Daily emissions for units with an emission limit enforced on a rolling 30-day average in lb/MMBtu heat input and lbs/day or tons/day		✔
Maintenance on catalytic converter, air-fuel ratio controller, and other emissions-related control systems including the date and specific maintenance performed	✔	✔
Quarterly NO_x and CO measurements (see 30 TAC 117.8140(b) for specifics on measuring)	✔	✔
NO_x and CO measurements within two weeks of • Any engine maintenance that could increase NO_x emissions • O_2 sensor replacement • catalyst cleaning; or • catalyst replacement (see 30 TAC 117.8140(b) for specifics on measuring)	✔	✔
Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, or steam-to-fuel or water-to-fuel ratio monitoring systems	✔	✔
Results of performance and other testing (see 30 TAC 117.2135 for testing details)	✔	✔

Additionally, **diesel** or **dual-fuel** engines must also keep records of:
(1) date(s) of operation;
(2) start and end times of operation;
(3) identification of the engine; and
(4) total hours of operation for each month and for the most recent 12 consecutive months.

- ✔ A variety of logs that can be used to keep the required records and can be downloaded from www.tceq.state.tx.us/goto/nox. **You are not mandated to use these specific logs.** You may keep the records in any way that meets the requirements of the rule. The logs are in suggested form only and are offered as a courtesy.
    - The record-keeping requirements differ depending on the type of equipment and whether it is exempt from some portion of the rule or not.
- ✔ Because most of the records will apply to a specific piece of equipment, the TCEQ recommends that you maintain a set of file folders or a notebook for each piece of equipment.
- ✔ You may wish to include the name of the equipment and the year on the notebook cover and spine.
- ✔ You must keep all records for at least five years and they must be available for inspection upon request to any representative of the TCEQ, the U.S. Environmental Protection Agency, or any local air-pollution-control agency having jurisdiction.

Refer to the list of log forms in Table 6 to determine which of the logs are applicable to your specific equipment.

Table 6. Log Forms Available Online at <www.tceq.state.tx.us/goto/nox>

1	Emergency Engine Operation
2	Diesel or Dual-fuel Engine Testing and Maintenance Operations
3	Daily Engine Operations
4	Annual Fuel Usage
5	Engine Emissions
6	Daily Emissions – Non Exempt Equipment with NO_x CEMS or PEMS – 30-day Rolling Average
7	Daily Emissions – Non Exempt Equipment with NO_x CEMS or PEMS – Block One-Hour Average
8	30-Day Rolling Averages

Table 7. Record-Keeping Logs for Non-Exempt Equipment

✔=Required

Equipment	1	2	3	4	5	6	7	8	Additional Records
Non-exempt engines **with** a NO_x CEMS or PEMS		✔ (1)	✔ (1)	✔	✔	✔ (2)	✔ (2)	✔ (2) (3)	• Catalytic converter, air-fuel ratio controller, or other emissions-related maintenance, including the date and nature of corrective actions taken • Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, steam-to-fuel, or water-to-fuel ratio monitoring systems • Results of performance testing
Non-exempt engines **without** a NO_x CEMS or PEMS		✔ (1)	✔ (1)	✔	✔				• Catalytic converter, air-fuel ratio controller, or other emissions-related maintenance, including the date and nature of corrective actions taken • Results of initial certification testing, evaluations, calibrations, checks, adjustments, and maintenance of CEMS, PEMS, steam-to-fuel, or water-to-fuel ratio monitoring systems • Results of performance testing

(1) Required for diesel or dual-fuel engines only (30 TAC 117.8140(a).
(2) Use Log 7 or Logs 6 and 8 depending on the averaging period required.
(3) See Log 8 on our Web site which provides an example.

Note One: How to Locate TCEQ and EPA Rules

This guide explains some sections of Texas' Minor Source Rule (30 TAC 117.2100 through 2145).

To find the text of this rule, follow these steps:

1. Go to <http://www.sos.state.tx.us/tac/index.shtml>.
2. Click <http://info.sos.state.tx.us/pls/pub/readtac$ext.viewtac> at the bottom of the page.
3. Click *Title 30 Environmental Quality*.
4. Click *Part 1 Texas Commission on Environmental Quality*.
5. Click Chapter *117 Control of Air Pollution from Nitrogen Compounds.*
6. Click *Subchapter D Combustion Control at Minor Sources in Ozone Nonattainment Areas*.
7. Click *Division* 2 DFW Eight-Hour *Ozone Nonattainment Area Minor Sources*

You can find the text of other state environmental rules by following steps 1 through 4 and then clicking on the appropriate chapter and subsequent links.

Federal environmental rules from the EPA are in Title 40 of the Code of Federal Regulations. The CFR can be found at <www.gpoaccess.gov/cfr/index.html>. There are multiple versions reflecting various amendments over the years. You should check the most current version unless otherwise specified.

Note Two: How to Locate Compliance Assistance Information for the NO_x Minor Source Rule

For information that will assist with emission calculations and specifications, along with operating requirements, record keeping and reporting, visit <www.tceq.state.tx.us/goto/nox>.

If you are unable to visit the website, call the TCEQ publications department at 512-239-0028 to request copies or you can view or print publications at <www.tceq.state.tx.us/publications> and forms at www.tceq.state.tx.us/forms.