

Minor Source NO_x Rules for Partially Exempt Engines

Statewide Air Authorization Options:

1. Will I need an air permit if I have a generator?

All sources of air contaminants in Texas are required to have authorization. You may be able to qualify for one of the following permits by rule (PBR):

- **106.511 Portable and Emergency Engines and Turbines:** Internal combustion engine and gas turbine driven compressors, electric generator sets, and water pumps, used only for portable, emergency, and/or standby services are permitted by rule, provided the maximum annual operating hours do not exceed 10% of the normal annual operating schedule of the primary equipment; and all electric motors. For purposes of this section, "standby" means to be used as a "substitute for" and not "in addition to" other equipment.

Registration is not required for this permit by rule. However, a copy of the rule should be kept onsite and is available at the link below.

- **106.512 Stationary Engines and Turbines.** The requirements for this PBR can be found at the following link: <http://www.tceq.texas.gov/assets/public/legal/rules/rules/pdflib/106w.pdf>

Engines that cannot meet the conditions of 106.511 may qualify for authorization under 106.512 or apply for an individual New Source Review permit. For more information on state air authorizations contact TCEQ's Air Permits Division at (512)239-1250, or the Small Business & Local Government Assistance Program at 800-447-2827.

Additional Requirements for Dallas-Fort Worth (DFW) and Houston-Galveston-Brazoria (HGB) Areas

2. What are the Minor Source Nitrogen Oxides (NO_x) rules?

The Minor Source NO_x rules apply to stationary sources of NO_x that are minor sources of NO_x. Minor sources in the Dallas-Fort Worth Eight-Hour ozone nonattainment area emit or have the potential to emit less than 50 tons per year of NO_x. Minor sources in the Houston-Galveston-Brazoria ozone nonattainment area emit or have the potential to emit less than 25 tons per year of NO_x. The potential to emit is the total air contaminants emitted if you were to operate 24 hours a day, 365 days per year.

3. Where do Minor Source NO_x rules apply?

DFW counties are: Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, and Tarrant.

HGB counties are: Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller.

4. When are the compliance dates for these rules?

- **DFW**

- **March 1, 2009** for stationary diesel-fired, dual-fueled, and rich-burn gas-fired engines. *Rich-burn:* an engine that is capable of being operated with an exhaust stream oxygen concentration equal to or less than 0.5% by volume, as originally designed by the manufacturer.
- **March 1, 2010** for stationary lean-burn gas-fired engines. *Lean-burn:* An engine that is not capable of being operated with an exhaust stream oxygen concentration equal to or less than 0.5% by volume.

The compliance date for **HGB** was March 31, 2005. Any entities that missed the compliance date should take action to get into compliance as soon as practicable.

5. Is there an exemption to the rule?

There are several categories of engines that qualify for a partial exemption. If an engine qualifies for a partial exemption, certain requirements must be met, but the entire rule will not apply.

A complete list of partial exemptions is available in 30 TAC 117.2103 for the DFW area and 30 TAC 117.2003 for the HGB area.

The partial exemptions below apply to both DFW and HGB:

- Engines with a horsepower (hp) rating of less than 50hp.
- Engines used in response to and during the existence of any officially declared disaster or state of emergency.
- Engines used in research and testing only.
- Engines used for performance verification and testing only.
- Engines used solely to power other engines or gas turbines during start ups.
- Engines used exclusively by agricultural operations for growing crops and raising fowl or animals.

Table 1: Partial Exemptions Specific to Either DFW or HGB

Engines Located in Dallas-Fort Worth Area Counties	Engines Located in Houston-Galveston-Brazoria Area Counties
<p>A. Engines operated exclusively in emergency situations, except that testing and maintenance operation is allowed for up to 100 hours per year, based on a rolling 12-month average. (Any new, modified, reconstructed, or relocated stationary diesel engine placed into service on or after June 1, 2007 is ineligible for this exemption.)</p> <p>B. Diesel engines that operate less than 100 hours per year based on a rolling 12-month average, which were placed into service before June 1, 2007 and have not been modified, reconstructed, or relocated on or after June 1, 2007.</p> <p>C. Diesel engines that meet the corresponding emission standard for non-road engines listed in 40 CFR §89.112(a), Table 1 (October 23, 1998) that are new, modified, reconstructed, or relocated and placed into service on or after June 1, 2007. These engines must operate less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations.</p>	<p>A. Engines operated exclusively in emergency situations, except that testing and maintenance operation is allowed for up to 52 hours per year, based on a rolling 12-month average. (Any new, modified, reconstructed, or relocated stationary diesel engine placed into service on or after October 1, 2001 is ineligible for this exemption.)</p> <p>B. Diesel engines that operate less than 100 hours per year based on a rolling 12-month average, which were placed into service before October 1, 2001, and have not been modified, reconstructed, or relocated on or after October 1, 2001.</p> <p>C. Diesel engines that meet the corresponding emission standard for non-road engines listed in 40 CFR §89.112(a), Table 1 (October 23, 1998) that are new, modified, reconstructed, or relocated and placed into service on or after October 1, 2001. These engines must operate less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations.</p>

6. If my engine is partially exempt, what requirements must I meet?

Operating Requirements [DFW - 30 TAC 117.2130(c) & HGB - 30 TAC 117.2030(c)]

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.

Records of Operation for Testing and Maintenance [DFW - 30 TAC 117.2145(c) & HGB - 30 TAC 117.2045(c)]

The owner or operator of each stationary **diesel** or **dual-fuel** engine shall maintain the following records for at least 5 years and make them available upon request:

- dates of operation for testing and maintenance
- start and end time of operation for testing and maintenance
- identification of the engine; and
- total hours of operation for testing and maintenance for each month and for the most recent 12 consecutive months

7. If my engine qualifies for a partial exemption as listed in Table 1, what additional requirements must I meet?

Recordkeeping Requirements [DFW - 30 TAC 117.2145(b) & HGB - 30 TAC 117.2045(b)]

Sample logs are available at www.tceq.texas.gov/goto/nox.

Written records of the daily hours of operation must be kept for each engine claimed under the exemptions listed below.

- A. Engines operated exclusively in emergency situations as described in 117.2103(5) for DFW and 117.2003(a)(2)(E) for HGB.

Additionally, for each engine claimed exempt as an engine operated exclusively in emergency situations, written records must be maintained of the purpose of engine operation and, if operation was for an emergency situation the:

- type of emergency situation
- start and end times of the emergency situation
- dates of the emergency situation

- B. Diesel engines that operate less than 100 hours per year as described in 117.2103(8) for DFW and 117.2003(a)(2)(H) for HGB.

- C. Diesel engines that met the non-road emission specifications as described in 117.2103(9) for DFW and 117.2003(a)(2)(I) for HGB.

Records must be maintained for 5 years and must be made available upon request.

Run time meters [DFW - 30 TAC 117.2135(e) & HGB - 30 TAC 117.2035(g)]

The owner or operator of any stationary **diesel** engine claimed exempt using the exemptions listed below shall record the operating time with a non-resettable elapsed run time meter. (Engines in HGB with runtime meters installed before Oct 2, 2001 may be resettable.)

- A. Engines operated exclusively in emergency situations as described in 117.2103(5) for DFW and 117.2003(a)(2)(E) for HGB.
- B. Diesel engines that operate less than 100 hours per year as described in 117.2103(8) for DFW and 117.2003(a)(2)(H) for HGB.
- C. Diesel engines that met the non-road emission specifications as described in 117.2103(9) for DFW and 117.2003(a)(2)(I) for HGB.

8. If I do not meet the requirements for an exemption, what am I required to do?

If you are not partially exempt from the Minor Source NO_x rules, you will be subject to certain operating, monitoring and testing requirements. You will also be required to meet the emission specifications in the rule. You may have to retrofit or replace your equipment if it does not meet the emissions specifications in the rule. More information can be found by visiting our website: www.tceq.texas.gov/goto/nox.

Potential to Emit for Minor Source NO_x Rules.

9. How do I calculate my potential to emit to determine if I'm a minor source or a major source?

Add together the tons of NO_x per year for each piece of equipment, which will equal your total tons per year (tpy) for the site. Any other equipment which emits NO_x must also be included in the calculation.

For engines, use the following formula:

a = Emission factor in grams of NO_x/horsepower-hour (g/hp-hr)

b = Design capacity in hp

$$(a \times b) \times \frac{8760 \text{ hrs}}{\text{yr}} \times \frac{\text{ton}}{907,184.74 \text{ grams}} = \text{tons NO}_x / \text{yr}$$

- The emission factor can be determined by stack testing or the vendor's guarantee. The emission factor is the amount of NO_x emitted before any pollution controls are applied.
- Design capacity is from information supplied by the manufacturer. It may be on the name plate on the equipment.
- The number of operating hours in a year is 8,760 and the number of grams in a ton is 907,184.74.

10. If I operate under the Permit by Rule 106.511 Portable and Emergency Engines and Turbines do I use 8760 hours per year to calculate my potential to emit?

Engines authorized under 106.511 are only allowed to run up to 10% of the year, or 876 hours. This number may be used to calculate your PTE for the purposes of 30 TAC 117 Minor Source NO_x rules.

This document is not a replacement for Chapter 117 rules. Other compliance requirements may apply (monitoring, testing, recordkeeping, reporting, notification, etc.). Under Texas law, all new or modified air pollutant emitting facilities statewide have to obtain permit authorization, either under Chapter 106 or 116. Separately and additionally, Chapter 117 requires NO_x reductions in specific areas in order to meet federal ambient ozone standards. Separate permitting and/or federal requirements may apply. Download rules from TCEQ web site: <http://www.tceq.texas.gov/rules/index.html>