

**SUBCHAPTER D: COMBUSTION CONTROL AT MINOR SOURCES IN
OZONE NONATTAINMENT AREAS
DIVISION 1: HOUSTON-GALVESTON-BRAZORIA OZONE
NONATTAINMENT AREA MINOR SOURCES
§§117.2000, 117.2003, 117.2010, 117.2025, 117.2030, 117.2035, 117.2045
Effective March 4, 2009**

§117.2000. Applicability.

This division (relating to Houston-Galveston-Brazoria Ozone Nonattainment Area Minor Sources) applies in the Houston-Galveston-Brazoria ozone nonattainment area to the following equipment at any stationary source of nitrogen oxides (NO_x) that is not a major source of NO_x:

- (1) boilers and process heaters;
- (2) stationary, reciprocating internal combustion engines; and
- (3) stationary gas turbines, including duct burners.

Adopted May 23, 2007

Effective June 14, 2007

§117.2003. Exemptions.

(a) This division (relating to Houston-Galveston-Brazoria Ozone Nonattainment Area Minor Sources) does not apply to the following, except as specified in §§117.2030(c), 117.2035(g), and 117.2045(b) and (c) of this title (relating to Operating Requirements; Monitoring and Testing Requirements; and Recordkeeping and Reporting Requirements):

- (1) boilers and process heaters with a maximum rated capacity of 2.0 million British thermal units per hour (MMBtu/hr) or less;
- (2) the following stationary engines:
 - (A) engines with a horsepower (hp) rating of less than 50 hp;
 - (B) engines used in research and testing;
 - (C) engines used for purposes of performance verification and testing;

(D) engines used solely to power other engines or gas turbines during startups;

(E) engines operated exclusively in emergency situations, except that operation for testing or maintenance purposes 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. For the purposes of this subparagraph, the terms "modification" and "reconstruction" have the meanings defined in §116.10 of this title (relating to General Definitions) and 40 Code of Federal Regulations (CFR) §60.15 (December 16, 1975), respectively, and the term "relocated" means to newly install at an account, as defined in §101.1 of this title (relating to Definitions), a used engine from anywhere outside that account;

(F) engines used in response to and during the existence of any officially declared disaster or state of emergency;

(G) engines used directly and exclusively by the owner or operator for agricultural operations necessary for the growing of crops or raising of fowl or animals;

(H) diesel engines placed into service before October 1, 2001, that:

(i) operate less than 100 hours per year, based on a rolling 12-month average; and

(ii) have not been modified, reconstructed, or relocated on or after October 1, 2001. For the purposes of this clause, the terms "modification" and "reconstruction" have the meanings defined in §116.10 of this title and 40 CFR §60.15 (December 16, 1975), respectively, and the term "relocated" means to newly install at an account, as defined in §101.1 of this title, a used engine from anywhere outside that account; and

(I) new, modified, reconstructed, or relocated stationary diesel engines placed into service on or after October 1, 2001, that:

(i) operate less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations; and

(ii) meet the corresponding emission standard for non-road engines listed in 40 CFR §89.112(a), Table 1 (October 23, 1998) and in effect at the time of installation, modification, reconstruction, or relocation. For the purposes of this subparagraph, the terms "modification" and "reconstruction" have the meanings

defined in §116.10 of this title and 40 CFR §60.15 (December 16, 1975), respectively, and the term "relocated" means to newly install at an account, as defined in §101.1 of this title, a used engine from anywhere outside that account; and

(3) stationary gas turbines rated at less than 1.0 megawatt with initial start of operation on or before October 1, 2001.

(b) At any stationary source of nitrogen oxides that is not subject to Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program), the following are exempt from the requirements of this division, except for the totalizing fuel flow requirements of §117.2035(a) and (d) and §117.2045(a)(1) of this title:

(1) any boiler or process heater with a maximum rated capacity greater than 2.0 MMBtu/hr and less than 5.0 MMBtu/hr that has an annual heat input less than or equal to 1.8 (10⁹) British thermal units (Btu) per calendar year; and

(2) any boiler or process heater with a maximum rated capacity equal to or greater than 5.0 MMBtu/hr that has an annual heat input less than or equal to 9.0 (10⁹) Btu per calendar year.

Adopted May 23, 2007

Effective June 14, 2007

§117.2010. Emission Specifications.

(a) For sources that are subject to Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program), the nitrogen oxides (NO_x) emission rate values used to determine allocations for Chapter 101, Subchapter H, Division 3 of this title must be the lower of any applicable permit limit in a permit issued before January 2, 2001; any permit issued on or after January 2, 2001, that the owner or operator submitted an application determined to be administratively complete by the executive director before January 2, 2001; any limit in a permit by rule under which construction commenced by January 2, 2001; or the emission specifications in subsection (c) of this section. The averaging time must be as specified in Chapter 101, Subchapter H, Division 3 of this title.

(b) For sources that are not subject to Chapter 101, Subchapter H, Division 3 of this title, NO_x emissions are limited to the lower of any applicable permit limit in a permit issued before January 2, 2001; any permit issued on or after January 2, 2001, that the owner or operator submitted an application determined to be administratively complete by the executive director before January 2, 2001; any limit in a permit by rule under which construction commenced by January 2, 2001; or the emission specifications in subsection (c) of this section. The averaging time must be as follows:

(1) if the unit is operated with a NO_x continuous emissions monitoring system (CEMS) or predictive emissions monitoring system (PEMS) under §117.2035(c) of this title (relating to Monitoring and Testing Requirements), either as:

(A) a rolling 30-day average period, in the units of the applicable standard;

(B) a block one-hour average, in the units of the applicable standard; or

(C) a block one-hour average, in pounds per hour, for boilers and process heaters, calculated as the product of the boiler's or process heater's maximum rated capacity and its applicable limit in pounds per million British thermal units (lb/MMBtu); or

(2) if the unit is not operated with a NO_x CEMS or PEMS under §117.2035(c) of this title, a block one-hour average, in the units of the applicable standard.

(c) The following NO_x emission specifications must be used in conjunction with subsection (a) of this section to determine allocations for Chapter 101, Subchapter H, Division 3 of this title, or in conjunction with subsection (b) of this section to establish unit-by-unit emission specifications, as appropriate:

(1) from boilers and process heaters:

(A) gas-fired, 0.036 lb/MMBtu heat input (or alternatively, 30 parts per million by volume (ppmv) at 3.0% oxygen (O₂), dry basis); and

(B) liquid-fired, 0.072 lb/MMBtu heat input (or alternatively, 60 ppmv at 3.0% O₂, dry basis);

(2) from stationary, gas-fired, reciprocating internal combustion engines:

(A) fired on landfill gas, 0.60 gram per horsepower-hour (g/hp-hr);
and

(B) all others, 0.50 g/hp-hr;

(3) from stationary, dual-fuel, reciprocating internal combustion engines, 5.83 g/hp-hr;

(4) from stationary, diesel, reciprocating internal combustion engines:

(A) placed into service before October 1, 2001, that have not been modified, reconstructed, or relocated on or after October 1, 2001, the lower of 11.0 g/hp-hr or the emission rate established by testing, monitoring, manufacturer's guarantee, or manufacturer's other data. For the purposes of this paragraph, the terms "modification" and "reconstruction" have the meanings defined in §116.10 of this title (relating to General Definitions) and 40 Code of Federal Regulations §60.15 (December 16, 1975), respectively, and the term "relocated" means to newly install at an account, as defined in §101.1 of this title (relating to Definitions), a used engine from anywhere outside that account; and

(B) for engines not subject to subparagraph (A) of this paragraph:

(i) with a horsepower (hp) rating of 50 hp or greater, but less than 100 hp, that are installed, modified, reconstructed, or relocated:

2003, 6.9 g/hp-hr;

(I) on or after October 1, 2001, but before October 1,

2007, 5.0 g/hp-hr; and

(II) on or after October 1, 2003, but before October 1,

(III) on or after October 1, 2007, 3.3 g/hp-hr;

(ii) with a horsepower rating of 100 hp or greater, but less than 175 hp, that are installed, modified, reconstructed, or relocated:

2002, 6.9 g/hp-hr;

(I) on or after October 1, 2001, but before October 1,

2006, 4.5 g/hp-hr; and

(II) on or after October 1, 2002, but before October 1,

(III) on or after October 1, 2006, 2.8 g/hp-hr;

(iii) with a horsepower rating of 175 hp or greater, but less than 300 hp, that are installed, modified, reconstructed, or relocated:

2002, 6.9 g/hp-hr;

(I) on or after October 1, 2001, but before October 1,

2005, 4.5 g/hp-hr; and

(II) on or after October 1, 2002, but before October 1,

(III) on or after October 1, 2005, 2.8 g/hp-hr;

(iv) with a horsepower rating of 300 hp or greater, but less than 600 hp, that are installed, modified, reconstructed, or relocated:

2005, 4.5 g/hp-hr; and

(I) on or after October 1, 2001, but before October 1,

(II) on or after October 1, 2005, 2.8 g/hp-hr;

(v) with a horsepower rating of 600 hp or greater, but less than or equal to 750 hp, that are installed, modified, reconstructed, or relocated:

2005, 4.5 g/hp-hr; and

(I) on or after October 1, 2001, but before October 1,

(II) on or after October 1, 2005, 2.8 g/hp-hr; and

(vi) with a horsepower rating of 750 hp or greater that are installed, modified, reconstructed, or relocated:

2005, 6.9 g/hp-hr; and

(I) on or after October 1, 2001, but before October 1,

(II) on or after October 1, 2005, 4.5 g/hp-hr;

and

(5) from stationary gas turbines (including duct burners), 0.15 lb/MMBtu;

(6) as an alternative to the emission specifications in paragraphs (1) - (5) of this subsection for units with an annual capacity factor of 0.0383 or less, 0.060 lb/MMBtu heat input. For units placed into service on or before January 1, 1997, the 1997 - 1999 average annual capacity factor must be used to determine whether the unit is eligible for the emission specification of this paragraph. For units placed into service after January 1, 1997, the annual capacity factor must be calculated from two consecutive years in the first five years of operation to determine whether the unit is eligible for the emission specification of this paragraph, using the same two consecutive years chosen for the activity level baseline. The five-year period begins at the end of the adjustment period as defined in §101.350 of this title (relating to Definitions).

(d) The maximum rated capacity used to determine the applicability of the emission specifications in subsection (c) of this section must be:

(1) the greater of the following:

(A) the maximum rated capacity as of December 31, 2000; or

(B) the maximum rated capacity after December 31, 2000; or

(2) alternatively, the maximum rated capacity authorized by a permit issued under Chapter 116 of this title (relating to Control of Air Pollution by Permits for New Construction or Modification) on or after January 2, 2001, for which the owner or operator submitted an application determined to be administratively complete by the executive director before January 2, 2001, provided that the maximum rated capacity authorized by the permit issued on or after January 2, 2001, is no less than the maximum rated capacity represented in the permit application as of January 2, 2001.

(e) A unit's classification is determined by the most specific classification applicable to the unit as of December 31, 2000. For example, a unit that is classified as a stationary gas-fired engine as of December 31, 2000, but subsequently is authorized to operate as a dual-fuel engine, is classified as a stationary gas-fired engine for the purposes of this chapter.

(f) Changes after December 31, 2000, to a unit subject to an emission specification in subsection (c) of this section (ESAD unit) that result in increased NO_x emissions from a unit not subject to an emission specification in subsection (c) of this section (non-ESAD unit), such as redirecting one or more fuel or waste streams containing chemical-bound nitrogen to an incinerator or a flare, is only allowed if:

(1) the increase in NO_x emissions at the non-ESAD unit is determined using a CEMS or PEMS that meets the requirements of §117.2035(c) of this title, or through stack testing that meets the requirements of §117.2035(e) of this title; and

(2) either of the following conditions is met:

(A) for sources that are subject to Chapter 101, Subchapter H, Division 3 of this title, a deduction in allowances equal to the increase in NO_x emissions at the non-ESAD unit is made as specified in §101.354 of this title (relating to Allowance Deductions); or

(B) for sources that are not subject to Chapter 101, Subchapter H, Division 3 of this title, emission credits equal to the increase in NO_x emissions at the

non-ESAD unit are obtained and used in accordance with §117.9800 of this title (relating to Use of Emission Credits for Compliance).

(g) A source that met the definition of major source on December 31, 2000, is always classified as a major source for purposes of this chapter. A source that did not meet the definition of major source (i.e., was a minor source, or did not yet exist) on December 31, 2000, but at any time after December 31, 2000, becomes a major source, is from that time forward always classified as a major source for purposes of this chapter.

(h) The availability under subsection (c)(6) of this section of an emission specification for units with an annual capacity factor of 0.0383 or less is based on the unit's status on December 31, 2000. Reduced operation after December 31, 2000, cannot be used to qualify for a more lenient emission specification under subsection (c)(6) of this section than would otherwise apply to the unit.

(i) No person shall allow the discharge into the atmosphere from any unit subject to NO_x emission specifications in subsection (c) of this section, emissions in excess of the following, except as provided in §117.2025 of this title (relating to Alternative Case Specific Specifications):

(1) carbon monoxide (CO), 400 ppmv at 3.0% O₂, dry basis (or alternatively, 3.0 g/hp-hr for stationary internal combustion engines):

(A) on a rolling 24-hour averaging period, for units equipped with CEMS or PEMS for CO; and

(B) on a one-hour average, for units not equipped with CEMS or PEMS for CO; and

(2) for units that inject urea or ammonia into the exhaust stream for NO_x control, ammonia emissions of 10 ppmv at 3.0% O₂, dry, for boilers and process heaters; 15% O₂, dry, for stationary gas turbines (including duct burners used in turbine exhaust ducts) and gas-fired lean-burn engines; and 3.0% O₂, dry, for all other units, based on:

(A) a block one-hour averaging period for units not equipped with a CEMS or PEMS for ammonia; or

(B) a rolling 24-hour averaging period for units equipped with CEMS or PEMS for ammonia.

§117.2025. Alternative Case Specific Specifications.

(a) Where a person can demonstrate that an affected unit cannot attain the carbon monoxide (CO) or ammonia specifications of §117.2010(i) of this title (relating to Emission Specifications), the executive director may approve emission specifications different from the CO or ammonia specifications in §117.2010(i) of this title for that unit. The executive director:

(1) shall consider on a case-by-case basis the technological and economic circumstances of the individual unit;

(2) shall determine that such specifications are the result of the lowest emission limitation the unit is capable of meeting after the application of controls to meet the nitrogen oxides emission specifications of §117.2010 of this title; and

(3) in determining whether to approve alternative emission specifications, may take into consideration the ability of the plant where the unit is located to meet emission specifications through system-wide averaging at maximum capacity.

(b) Any owner or operator affected by the executive director's decision to deny an alternative case specific emission specification may file a motion to overturn the executive director's decision. The requirements of §50.139 of this title (relating to Motion to Overturn Executive Director's Decision) apply.

Adopted May 23, 2007

Effective June 14, 2007

§117.2030. Operating Requirements.

(a) The owner or operator shall operate any unit subject to §117.2010 of this title (relating to Emission Specifications) in compliance with those requirements.

(b) All units subject to §117.2010 of this title must be operated so as to minimize nitrogen oxides (NO_x) emissions, consistent with the emission control techniques selected, over the unit's operating or load range during normal operations. Such operational requirements include the following.

(1) Each boiler must be operated with oxygen (O₂), carbon monoxide (CO), or fuel trim.

(2) Each boiler and process heater controlled with forced flue gas recirculation (FGR) to reduce NO_x emissions must be operated such that the proportional design rate of FGR is maintained, consistent with combustion stability, over the operating range.

(3) Each unit controlled with post-combustion control techniques must be operated such that the reducing agent injection rate is maintained to limit NO_x concentrations to less than or equal to the NO_x concentrations achieved at maximum rated capacity.

(4) Each stationary internal combustion engine controlled with nonselective catalytic reduction must be equipped with an automatic air-fuel ratio (AFR) controller that operates on exhaust O₂ or CO control and maintains AFR in the range required to meet the engine's applicable emission limits.

(5) Each stationary internal combustion engine must be checked for proper operation according to §117.8140(b) of this title (relating to Emission Monitoring for Engines).

(c) No person shall start or operate any stationary diesel or dual-fuel engine for testing or maintenance between the hours of 6:00 a.m. and noon, except:

(1) for specific manufacturer's recommended testing requiring a run of over 18 consecutive hours;

(2) 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

(3) firewater pumps for emergency response training conducted in the months of April through October.

Adopted May 23, 2007

Effective June 14, 2007

§117.2035. Monitoring and Testing Requirements.

(a) Totalizing fuel flow meters.

(1) The owner or operator of each unit subject to §117.2010 of this title (relating to Emission Specifications) and subject to Chapter 101, Subchapter H, Division 3 of this title (relating to Mass Emissions Cap and Trade Program), or of each unit claimed exempt under §117.2003(b) of this title (relating to Exemptions) shall install, calibrate, maintain, and operate totalizing fuel flow meters with an accuracy of $\pm 5\%$, to individually and continuously measure the gas and liquid fuel usage. A computer that collects, sums, and stores electronic data from continuous fuel flow meters is an acceptable totalizer. The owner or operator of units with totalizing fuel flow meters installed prior to March 31, 2005, that do not meet the accuracy requirements of this subsection shall either recertify or replace existing meters to meet the $\pm 5\%$ accuracy

required as soon as practicable, but no later than March 31, 2007. For the purpose of compliance with this subsection for units having pilot fuel supplied by a separate fuel system or from an unmonitored portion of the same fuel system, the fuel flow to pilots may be calculated using the manufacturer's design flow rates rather than measured with a fuel flow meter. The calculated pilot fuel flow rate must be added to the monitored fuel flow when fuel flow is totaled.

(2) The following are alternatives to the fuel flow monitoring requirements of this subsection.

(A) Units operating with a nitrogen oxides (NO_x) and diluent continuous emissions monitoring system (CEMS) under subsection (c) of this section may monitor stack exhaust flow using the flow monitoring specifications of 40 Code of Federal Regulations (CFR) Part 60, Appendix B, Performance Specification 6 or 40 CFR Part 75, Appendix A.

(B) Units that vent to a common stack with a NO_x and diluent CEMS under subsection (c) of this section may use a single totalizing fuel flow meter.

(C) Diesel engines operating with run time meters may meet the fuel flow monitoring requirements of this subsection through monthly fuel use records.

(D) Units of the same category of equipment subject to Chapter 101, Subchapter H, Division 3 of this title may share a single totalizing fuel flow meter provided:

(i) the owner or operator performs a stack test in accordance with subsection (e) of this section for each unit sharing the totalizing fuel flow meter; and

(ii) the testing results from the unit with the highest emission rate (in pounds per million British thermal units or grams per horsepower-hour) are used for reporting purposes in §101.359 of this title (relating to Reporting) for all units sharing the totalizing fuel flow meter.

(E) The owner or operator of a unit or units claimed exempt under §117.2003(b) of this title, located at an independent school district may demonstrate compliance with the exemption by the following:

(i) in addition to the records required by §117.2045(a)(1) of this title (relating to Recordkeeping and Reporting Requirements), maintain the following monthly records in either electronic or written format. These records must be kept for a period of at least five years and must be made available upon request by

authorized representatives of the executive director, the United States Environmental Protection Agency, or local air pollution control agencies having jurisdiction;

(I) total fuel usage for the entire site;

(II) the estimated hours of operation for each unit;

(III) the estimated average operating rate (e.g., a percentage of maximum rated capacity) for each unit; and

(IV) the estimated fuel usage for each unit; and

(ii) within 60 days of written request by the executive director, submit for review and approval all methods, engineering calculations, and process information used to estimate the hours of operation, operating rates, and fuel usage for each unit.

(F) The owner or operator of units claimed exempt under §117.2003(b) of this title may share a single totalizing fuel flow meter to demonstrate compliance with the exemption, provided that:

(i) all affected units at the site qualify for the exemption under §117.2003(b) of this title; and

(ii) the total fuel usage for all units at the site is less than:

(I) the annual fuel usage limitation in §117.2003(b)(1) of this title; or

(II) the annual fuel usage limitation in §117.2003(b)(2) of this title when all affected units at the site are equal to or greater than 5.0 million British thermal units per hour.

(G) Stationary reciprocating internal combustion engines and stationary gas turbines equipped with a continuous monitoring system that continuously monitors horsepower and hours of operation are not required to install totalizing fuel flow meters. The continuous monitoring system must be installed, calibrated, maintained, and operated according to manufacturer's procedures.

(b) Oxygen (O₂) monitors. If the owner or operator installs an O₂ monitor, the criteria in §117.8100(a) of this title (relating to Emission Monitoring System Requirements for Industrial, Commercial, and Institutional Sources) should be considered the appropriate guidance for the location and calibration of the monitor.

(c) NO_x monitors. If the owner or operator installs a CEMS or predictive emissions monitoring system (PEMS), it must meet the requirements of §117.8100(a) or (b) of this title. If a PEMS is used, the PEMS must predict the pollutant emissions in the units of the applicable emission specifications of this division (relating to Houston-Galveston-Brazoria Ozone Nonattainment Area Minor Sources).

(d) Monitor installation schedule. Installation of monitors must be performed in accordance with the schedule specified in §117.9200 of this title (relating to Compliance Schedule for Houston-Galveston-Brazoria Ozone Nonattainment Area Minor Sources).

(e) Testing requirements. The owner or operator of any unit subject to §117.2010 of this title shall comply with the following testing requirements.

(1) Each unit must be tested for NO_x, carbon monoxide (CO), and O₂ emissions.

(2) One of the ammonia monitoring procedures specified in §117.8130 of this title (relating to Ammonia Monitoring) must be used to demonstrate compliance with the ammonia emission specification of §117.2010(i)(2) of this title for units that inject urea or ammonia into the exhaust stream for NO_x control.

(3) For units not equipped with CEMS or PEMS, all testing must be conducted according to §117.8000 of this title (relating to Stack Testing Requirements). In lieu of the test methods specified in §117.8000 of this title, the owner or operator may use American Society for Testing and Materials (ASTM) D6522-00 to perform the NO_x, CO, and O₂ testing required by this subsection on natural gas-fired reciprocating engines, combustion turbines, boilers, and process heaters. If the owner or operator elects to use ASTM D6522-00 for the testing requirements, the report must contain the information specified in §117.8010 of this title (relating to Compliance Stack Test Reports).

(4) Test results must be reported in the units of the applicable emission specifications and averaging periods. If compliance testing is based on 40 CFR Part 60, Appendix A reference methods, the report must contain the information specified in §117.8010 of this title.

(5) For units equipped with CEMS or PEMS, the CEMS or PEMS must be installed and operational before testing under this subsection. Verification of operational status must, at a minimum, include completion of the initial monitor certification and the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

(6) Initial compliance with §117.2010 of this title for units operating with CEMS or PEMS must be demonstrated after monitor certification testing using the NO_x CEMS or PEMS.

(7) For units not operating with CEMS or PEMS, the following apply.

(A) Retesting as specified in paragraphs (1) - (4) of this subsection is required within 60 days after any modification that could reasonably be expected to increase the NO_x emission rate.

(B) Retesting as specified in paragraphs (1) - (4) of this subsection may be conducted at the discretion of the owner or operator after any modification that could reasonably be expected to decrease the NO_x emission rate, including, but not limited to, installation of post-combustion controls, low-NO_x burners, low excess air operation, staged combustion (for example, overfire air), flue gas recirculation, and fuel-lean and conventional (fuel-rich) reburn.

(C) The NO_x emission rate determined by the retesting must establish a new emission factor to be used to calculate actual emissions from the date of the retesting forward. Until the date of the retesting, the previously determined emission factor must be used to calculate actual emissions for compliance with Chapter 101, Subchapter H, Division 3 of this title.

(8) Testing must be performed in accordance with the schedule specified in §117.9200 of this title.

(9) All test reports must be submitted to the executive director for review and approval within 60 days after completion of the testing.

(f) Emission allowances.

(1) For sources that are subject to Chapter 101, Subchapter H, Division 3 of this title, the NO_x testing and monitoring data of subsections (a) - (e) of this section, together with the level of activity, as defined in §101.350 of this title (relating to Definitions), must be used to establish the emission factor calculating actual emissions for compliance with Chapter 101, Subchapter H, Division 3 of this title.

(2) The emission factor in subsection (e)(7) of this section or paragraph (1) of this subsection is multiplied by the unit's level of activity to determine the unit's actual emissions for compliance with Chapter 101, Subchapter H, Division 3 of this title.

(g) Run time meters. The owner or operator of any stationary diesel engine claimed exempt using the exemption of §117.2003(a)(2)(E), (H), or (I) of this title shall

record the operating time with an elapsed run time meter. Any run time meter installed on or after October 1, 2001, must be non-resettable.

Adopted February 11, 2009

Effective March 4, 2009

§117.2045. Recordkeeping and Reporting Requirements.

(a) Recordkeeping. The owner or operator of a unit subject to §117.2010 of this title (relating to Emission Specifications) or claimed exempt under §117.2003(b) of this title (relating to Exemptions) shall maintain written or electronic records of the data specified in this subsection. Such records must be kept for a period of at least five years and must be made available upon request by authorized representatives of the executive director, the United States Environmental Protection Agency, or local air pollution control agencies having jurisdiction. The records must include:

(1) records of annual fuel usage;

(2) for each unit using a continuous emission monitoring system (CEMS) or predictive emission monitoring system (PEMS) in accordance with §117.2035(c) of this title (relating to Monitoring and Testing Requirements), monitoring records of:

(A) hourly emissions and fuel usage (or stack exhaust flow) for units complying with an emission specification enforced on a block one-hour average; and

(B) daily emissions and fuel usage (or stack exhaust flow) for units complying with an emission specification enforced on a rolling 30-day average. Emissions must be recorded in units of:

(i) pounds per million British thermal units heat input; and

(ii) pounds or tons per day;

(3) for each stationary internal combustion engine subject to §117.2010 of this title, records of:

(A) emissions measurements required by §117.2030(b)(5) of this title (relating to Operating Requirements); and

(B) catalytic converter, air-fuel ratio controller, or other emissions-related control system maintenance, including the date and nature of corrective actions taken;

(4) records of carbon monoxide measurements specified in §117.2030(b)(5) of this title;

(5) records of the 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;

(6) records of the results of performance testing, including the testing conducted in accordance with §117.2035(e) of this title; and

(7) records of daily average horsepower and total daily hours of operation for each stationary reciprocating internal combustion engine or stationary gas turbine that the owner or operator elects to use the alternative monitoring system allowed under §117.2035(a)(2)(G) of this title. Units that are monitored according to §117.2035(a)(2)(G) of this title are not required to keep records of annual fuel usage as required by paragraph (1) of this subsection.

(b) Records for exempt engines. Written records of the number of hours of operation for each day's operation must be made for each engine claimed exempt under §117.2003(a)(2)(E), (H), or (I) of this title or §117.2030(b)(5) of this title. In addition, for each engine claimed exempt under §117.2003(a)(2)(E) of this title, written records must be maintained of the purpose of engine operation and, if operation was for an emergency situation, identification of the type of emergency situation and the start and end times and date(s) of the emergency situation. The records must be maintained for at least five years and must be made available upon request to representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution control agency having jurisdiction.

(c) Records of operation for testing and maintenance. The owner or operator of each stationary diesel or dual-fuel engine shall maintain the following records for at least five years and make them available upon request by authorized representatives of the executive director, the United States Environmental Protection Agency, or local air pollution control agencies having jurisdiction:

(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.

Adopted February 11, 2009

Effective March 4, 2009

**SUBCHAPTER D: COMBUSTION CONTROL AT MINOR SOURCES IN
OZONE NONATTAINMENT AREAS
DIVISION 2: DALLAS-FORT WORTH EIGHT-HOUR OZONE
NONATTAINMENT AREA MINOR SOURCES
§§117.2100, 117.2103, 117.2110, 117.2125, 117.2130, 117.2135, 117.2145
Effective May 2, 2013**

§117.2100. Applicability.

This division (relating to Dallas-Fort Worth Eight-Hour Ozone Nonattainment Area Minor Sources) applies in the Dallas-Fort Worth eight-hour ozone nonattainment area to stationary, reciprocating internal combustion engines at any stationary source of nitrogen oxides (NO_x) that is not a major source of NO_x.

Adopted May 23, 2007

Effective June 14, 2007

§117.2103. Exemptions.

This division (relating to Dallas-Fort Worth Eight-Hour Ozone Nonattainment Area Minor Sources) does not apply to the following stationary engines, except as specified in §§117.2130(c), 117.2135(e), and 117.2145(b) and (c) of this title (relating to Operating Requirements; Monitoring, Notification, and Testing Requirements; and Recordkeeping and Reporting Requirements):

- (1) engines with a horsepower (hp) rating of less than 50 hp;
- (2) engines used in research and testing;
- (3) engines used for purposes of performance verification and testing;
- (4) engines used solely to power other engines or gas turbines during startups;
- (5) engines operated exclusively in emergency situations, except that operation for testing or maintenance purposes 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. For the purposes of this subparagraph, the terms "modification" and "reconstruction" have the meanings defined in §116.10 of this title (relating to General Definitions) and 40 Code of Federal Regulations (CFR) §60.15 (December 16, 1975), respectively, and the term "relocated" means to newly install at an account, as defined in §101.1 of this title (relating to Definitions), a used engine from anywhere outside that account;

(6) engines used in response to and during the existence of any officially declared disaster or state of emergency;

(7) engines used directly and exclusively by the owner or operator for agricultural operations necessary for the growing of crops or raising of fowl or animals;

(8) diesel engines placed into service before June 1, 2007, that:

(A) operate less than 100 hours per year, based on a rolling 12-month average; and

(B) have not been modified, reconstructed, or relocated on or after June 1, 2007. For the purposes of this clause, the terms "modification" and "reconstruction" have the meanings defined in §116.10 of this title and 40 CFR §60.15 (December 16, 1975), respectively, and the term "relocated" means to newly install at an account, as defined in §101.1 of this title, a used engine from anywhere outside that account;

(9) new, modified, reconstructed, or relocated stationary diesel engines placed into service on or after June 1, 2007, that:

(A) operate less than 100 hours per year, based on a rolling 12-month average, in other than emergency situations; and

(B) meet the corresponding emission standard for non-road engines listed in 40 CFR §89.112(a), Table 1 (October 23, 1998) and in effect at the time of installation, modification, reconstruction, or relocation. For the purposes of this subparagraph, the terms "modification" and "reconstruction" have the meanings defined in §116.10 of this title and 40 CFR §60.15 (December 16, 1975), respectively, and the term "relocated" means to newly install at an account, as defined in §101.1 of this title, a used engine from anywhere outside that account; and

(10) new, modified, reconstructed, or relocated stationary diesel engines placed into service on or after June 1, 2007, that:

(A) are used solely for product testing and personnel training;

(B) operate less than 1,000 hours per year, on a rolling 12-month basis; and

(C) meet the corresponding emission standard for non-road engines listed in 40 CFR §89.112(a), Table 1 (October 23, 1998) and in effect at the time of installation, modification, reconstruction, or relocation. For the purposes of this subparagraph, the terms "modification" and "reconstruction" have the meanings defined in §116.10 of this title and 40 CFR §60.15 (December 16, 1975), respectively, and the term "relocated" means to newly install at an account, as defined in §101.1 of this title, a used engine from anywhere outside that account.

Adopted April 10, 2013

Effective May 2, 2013

§117.2110. Emission Specifications for Eight-Hour Attainment Demonstration.

(a) The owner or operator of any source subject to this division (relating to Dallas-Fort Worth Eight-Hour Ozone Nonattainment Area Minor Sources) shall not allow the discharge into the atmosphere emissions of nitrogen oxides (NO_x) in excess of the following emission specifications.

(1) Emission specifications for stationary, gas-fired, reciprocating internal combustion engines are as follows:

(A) rich-burn engines:

(i) fired on landfill gas, 0.60 grams per horsepower-hour (g/hp-hr); and

(ii) all other rich-burn engines, 0.50 g/hp-hr; and

(B) lean-burn engines:

(i) placed into service before June 1, 2007, that have not been modified, reconstructed, or relocated on or after June 1, 2007, 0.70 g/hp-hr; and

(ii) placed into service, modified, reconstructed, or relocated on or after June 1, 2007:

(I) fired on landfill gas or other biogas, 0.60 g/hp-hr; and

(II) all other lean-burn engines, 0.50 g/hp-hr.

(2) The emission specification for stationary, dual-fuel, reciprocating internal combustion engines is 5.83 g/hp-hr.

(3) Emission specifications for stationary, diesel, reciprocating internal combustion engines are as follows:

(A) placed into service before March 1, 2009, that have not been modified, reconstructed, or relocated on or after March 1, 2009, the lower of 11.0 g/hp-hr or the emission rate established by testing, monitoring, manufacturer's guarantee, or manufacturer's other data; and

(B) for engines not subject to subparagraph (A) of this paragraph:

(i) with a horsepower (hp) rating of 50 hp or greater, but less than 100 hp, that are installed, modified, reconstructed, or relocated on or after March 1, 2009, 3.3 g/hp-hr;

(ii) with a horsepower rating of 100 hp or greater, but less than or equal to 750 hp, that are installed, modified, reconstructed, or relocated on or after March 1, 2009, 2.8 g/hp-hr; and

(iii) with a horsepower rating of 750 hp or greater that are installed, modified, reconstructed, or relocated on or after March 1, 2009, 4.5 g/hp-hr.

(4) As an alternative to the emission specifications in paragraphs (1) - (3) of this subsection for units with an annual capacity factor of 0.0383 or less, 0.060 pound per million British thermal units (lb/MMBtu) heat input. For units placed into service on or before December 31, 2000, the annual capacity factor as of December 31, 2000, must be used to determine eligibility for the alternative emission specification of this paragraph. For units placed into service after December 31, 2000, a 12-month rolling average must be used to determine the annual capacity factor.

(5) For the purposes of this subsection, the terms "modification" and "reconstruction" have the meanings defined in §116.10 of this title (relating to General Definitions) and 40 Code of Federal Regulations §60.15 (December 16, 1975), respectively, and the term "relocated" means to newly install at an account, as defined in §101.1 of this title (relating to Definitions), a used engine from anywhere outside that account.

(b) The averaging time for the NO_x emission specifications of subsection (a) of this section is as follows:

(1) if the unit is operated with a NO_x continuous emissions monitoring system (CEMS) or predictive emissions monitoring system (PEMS) under §117.2135(c) of this title (relating to Monitoring, Notification, and Testing Requirements), either as:

(A) a rolling 30-day average period, in the units of the applicable standard;

(B) a block one-hour average, in the units of the applicable standard, or alternatively;

(C) a block one-hour average, in pounds per hour, for boilers, calculated as the product of the boiler's maximum rated capacity and its applicable limit in lb/MMBtu; or

(2) if the unit is not operated with a NO_x CEMS or PEMS under §117.2135(c) of this title, a block one-hour average, in the units of the applicable standard.

(c) The maximum rated capacity used to determine the applicability of the emission specifications in subsection (a) of this section must be the greater of the following:

(1) the maximum rated capacity as of December 31, 2000; or

(2) the maximum rated capacity after December 31, 2000.

(d) A unit's classification is determined by the most specific classification applicable to the unit as of December 31, 2000. For example, a unit that is classified as a stationary gas-fired engine as of December 31, 2000, but subsequently is authorized to operate as a dual-fuel engine, must be classified as a stationary gas-fired engine for the purposes of this chapter.

(e) Changes after December 31, 2000, to a unit subject to an emission specification in subsection (a) of this section (ESAD unit) that result in increased NO_x emissions from a unit not subject to an emission specification in subsection (a) of this section (non-ESAD unit), such as redirecting one or more fuel or waste streams containing chemical-bound nitrogen to an incinerator or a flare, is only allowed if:

(1) the increase in NO_x emissions at the non-ESAD unit is determined using a CEMS or PEMS that meets the requirements of §117.2135(c) of this title, or through stack testing that meets the requirements of §117.2135(f) of this title; and

(2) emission credits equal to the increase in NO_x emissions at the non-ESAD unit are obtained and used in accordance with §117.9800 of this title (relating to Use of Emission Credits for Compliance).

(f) A source that met the definition of major source on December 31, 2000, is always classified as a major source for purposes of this chapter. A source that did not meet the definition of major source (i.e., was a minor source, or did not yet exist) on December 31, 2000, but becomes a major source at any time after December 31, 2000, is from that time forward always classified as a major source for purposes of this chapter.

(g) The availability under subsection (a)(4) of this section of an emission specification for units with an annual capacity factor of 0.0383 or less is based on the unit's status on December 31, 2000. Reduced operation after December 31, 2000, cannot be used to qualify for a more lenient emission specification under subsection (a)(4) of this section than would otherwise apply to the unit.

(h) No person shall allow the discharge into the atmosphere from any unit subject to NO_x emission specifications in subsection (a) of this section, emissions in excess of the following, except as provided in §117.2125 of this title (relating to Alternative Case Specific Specifications):

(1) carbon monoxide (CO), 400 ppmv at 3.0% oxygen (O₂), dry basis (or alternatively, 3.0 g/hp-hr for stationary internal combustion engines):

(A) on a rolling 24-hour averaging period, for units equipped with CEMS or PEMS for CO; and

(B) on a one-hour average, for units not equipped with CEMS or PEMS for CO; and

(2) for units that inject urea or ammonia into the exhaust stream for NO_x control, ammonia emissions of 10 ppmv at 15% O₂, dry, for gas-fired lean-burn engines; and 3.0% O₂, dry, for all other units, based on:

(A) a block one-hour averaging period for units not equipped with a CEMS or PEMS for ammonia; or

(B) a rolling 24-hour averaging period for units equipped with CEMS or PEMS for ammonia.

(i) An owner or operator may use emission reduction credits as specified in §117.9800 of this title to comply with the NO_x emission specifications of this section.

Adopted April 20, 2011

Effective May 15, 2011

§117.2125. Alternative Case Specific Specifications.

(a) Where an owner or operator can demonstrate that an affected unit cannot attain the carbon monoxide (CO) or ammonia specifications of §117.2110(h) of this title (relating to Emission Specifications for Eight-Hour Attainment Demonstration), the executive director may approve emission specifications different from the CO or ammonia specifications in §117.2110(h) of this title for that unit. The executive director:

(1) shall consider on a case-by-case basis the technological and economic circumstances of the individual unit;

(2) shall determine that such specifications are the result of the lowest emission limitation the unit is capable of meeting after the application of controls to meet the nitrogen oxides emission specifications of §117.2110 of this title; and

(3) in determining whether to approve alternative emission specifications, may take into consideration the ability of the plant where the unit is located to meet emission specifications through system-wide averaging at maximum capacity.

(b) Any owner or operator affected by the executive director's decision to deny an alternative case specific emission specification may file a motion to overturn the executive director's decision. The requirements of §50.139 of this title (relating to Motion to Overturn Executive Director's Decision) apply.

Adopted May 23, 2007

Effective June 14, 2007

§117.2130. Operating Requirements.

(a) The owner or operator shall operate any unit subject to the emission specifications of §117.2110 of this title (relating to Emission Specifications for Eight-Hour Attainment Demonstration) in compliance with those specifications.

(b) All units subject to §117.2110 of this title must be operated so as to minimize nitrogen oxides (NO_x) emissions, consistent with the emission control techniques selected, over the unit's operating or load range during normal operations. Such operational requirements include the following.

(1) Each unit controlled with post-combustion control techniques must be operated such that the reducing agent injection rate is maintained to limit NO_x concentrations to less than or equal to the NO_x concentrations achieved at maximum rated capacity.

(2) Each stationary internal combustion engine controlled with nonselective catalytic reduction must be equipped with an automatic air-fuel ratio

(AFR) controller that operates on exhaust O₂ or CO control and maintains AFR in the range required to meet the engine's applicable emission specifications.

(3) Each stationary internal combustion engine must be checked for proper operation according to §117.8140(b) of the title (relating to Emission Monitoring for Engines).

(c) No person shall start or operate any stationary diesel or dual-fuel engine for testing or maintenance of the engine between the hours of 6:00 a.m. and noon, except:

(1) for specific manufacturer's recommended testing requiring a run of over 18 consecutive hours;

(2) 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

(3) firewater pumps for emergency response training conducted in the months of April through October.

Adopted April 10, 2013

Effective May 2, 2013

§117.2135. Monitoring, Notification, and Testing Requirements.

(a) Oxygen (O₂) monitors. If the owner or operator installs an O₂ monitor, the criteria in §117.8100(a) of this title (relating to Emission Monitoring System Requirements for Industrial, Commercial, and Institutional Sources) should be considered the appropriate guidance for the location and calibration of the monitor.

(b) Nitrogen oxides (NO_x) monitors. If the owner or operator installs a continuous emissions monitoring system (CEMS) or predictive emissions monitoring system (PEMS), the CEMS or PEMS must meet the requirements of §117.8100(a) or (b) of this title. If a PEMS is used, the PEMS must predict the pollution emissions in the units of the applicable emission limitations of this division.

(c) Monitor installation schedule. Installation of monitors must be performed in accordance with the schedule specified in §117.9210 of this title (relating to Compliance Schedule for Dallas-Fort Worth Eight-Hour Ozone Nonattainment Area Minor Sources).

(d) Testing requirements. The owner or operator of any unit subject to §117.2110 of this title (relating to Emission Specifications for Eight-Hour Attainment Demonstration) shall comply with the following testing requirements.

(1) Each unit must be tested for NO_x, carbon monoxide (CO), and O₂ emissions.

(2) One of the ammonia monitoring procedures specified in §117.8130 of this title (relating to Ammonia Monitoring) must be used to demonstrate compliance with the ammonia emission specification of §117.2110(h)(2) of this title for units that inject urea or ammonia into the exhaust stream for NO_x control.

(3) For units not equipped with CEMS or PEMS, all testing must be conducted according to §117.8000 of this title (relating to Stack Testing Requirements). In lieu of the test methods specified in §117.8000 of this title, the owner or operator may use American Society for Testing and Materials (ASTM) D6522-00 to perform the NO_x, CO, and O₂ testing required by this subsection on natural gas-fired reciprocating engines. If the owner or operator elects to use ASTM D6522-00 for the testing requirements, the report must contain the information specified in §117.8010 of this title (relating to Compliance Stack Test Reports).

(4) Test results must be reported in the units of the applicable emission specifications and averaging periods. If compliance testing is based on 40 Code of Federal Regulations Part 60, Appendix A reference methods, the report must contain the information specified in §117.8010 of this title.

(5) For units equipped with CEMS or PEMS, the CEMS or PEMS must be installed and operational before testing under this subsection. Verification of operational status must, at a minimum, include completion of the initial monitor certification and the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

(6) Initial compliance with the emission specifications of §117.2110 of this title for units operating with CEMS or PEMS must be demonstrated after monitor certification testing using the NO_x CEMS or PEMS.

(7) For units not operating with CEMS or PEMS, the following apply.

(A) Retesting as specified in paragraphs (1) - (4) of this subsection is required within 60 days after any modification that could reasonably be expected to increase the NO_x emission rate.

(B) Retesting as specified in paragraphs (1) - (4) of this subsection may be conducted at the discretion of the owner or operator after any modification that could reasonably be expected to decrease the NO_x emission rate, including, but not limited to, installation of post-combustion controls, low-NO_x burners, low excess air

operation, staged combustion (for example, overfire air), flue gas recirculation, and fuel-lean and conventional (fuel-rich) reburn.

(C) Stationary, reciprocating internal combustion engines not equipped with CEMS or PEMS must be periodically tested for NO_x and CO emissions as specified in §117.8140(a) of this title (relating to Emission Monitoring for Engines).

(8) Testing must be performed in accordance with the schedule specified in §117.9210 of this title.

(9) All test reports must be submitted to the executive director for review and approval within 60 days after completion of the testing.

(10) The owner or operator of an affected unit in the Dallas-Fort Worth eight-hour ozone nonattainment area must submit written notification of any CEMS or PEMS relative accuracy test audit (RATA) or testing required under this section to the appropriate regional office and any local air pollution control agency having jurisdiction at least 15 days in advance of the date of RATA or testing.

(e) Run time meters. The owner or operator of any stationary diesel engine claimed exempt using the exemption of §117.2103(5), (8), (9), or (10) of this title (relating to Exemptions) shall record the operating time with a non-resettable elapsed run time meter.

Adopted April 10, 2013

Effective May 2, 2013

§117.2145. Recordkeeping and Reporting Requirements.

(a) Recordkeeping. The owner or operator of a unit subject to §117.2110 of this title (relating to Emission Specifications for Eight-Hour Attainment Demonstration) shall maintain written or electronic records of the data specified in this subsection. Such records must be kept for a period of at least five years and must be made available upon request by authorized representatives of the executive director, the United States Environmental Protection Agency, or local air pollution control agencies having jurisdiction. The records must include:

(1) for each unit using a continuous emission monitoring system (CEMS) or predictive emission monitoring system (PEMS) in accordance with §117.2135(b) of this title (relating to Monitoring, Notification, and Testing Requirements) monitoring records of:

(A) hourly emissions for units complying with an emission specification enforced on a block one-hour average; and

(B) daily emissions for units complying with an emission specification enforced on a rolling 30-day average. Emissions must be recorded in units of:

(i) pounds per million British thermal units (MMBtu) heat input; and

(ii) pounds or tons per day;

(2) for each stationary internal combustion engine subject to §117.2110 of this title, records of:

(A) emissions measurements required by §117.2130(b)(3) of this title (relating to Operating Requirements); and

(B) catalytic converter, air-fuel ratio controller, or other emissions-related control system maintenance, including the date and nature of corrective actions taken;

(3) records of carbon monoxide (CO) measurements specified in §117.2130(b)(3) of this title;

(4) records of the 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; and

(5) records of the results of performance testing, including the testing conducted in accordance with §117.2135(d) of this title.

(b) Records for exempt engines. The following records must be maintained for at least five years and must be made available upon request to representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution control agency having jurisdiction.

(1) Written records of the number of hours of operation for each day's operation must be maintained for each engine claimed exempt under §117.2103(5), (8), (9), or (10) of this title (relating to Exemptions) or §117.2130(b)(3) of this title.

(2) For each engine claimed exempt under §117.2103(5) of this title, written records must be maintained of the purpose of engine operation and, if operation was for an emergency situation, identification of the type of emergency situation and the start and end times and date(s) of the emergency situation.

(3) For each engine claimed exempt under §117.2103(10) of this title, records must be maintained of manufacturer's specifications or test data sufficient to demonstrate compliance with the emission standard specified in §117.2103(10)(C) of this title.

(c) Records of operation for testing and maintenance. The owner or operator of each stationary diesel or dual-fuel engine shall maintain the following records for at least five years and make them available upon request by authorized representatives of the executive director, the United States Environmental Protection Agency, or local air pollution control agencies having jurisdiction:

- (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.

Adopted April 10, 2013

Effective May 2, 2013