

Readopt with amendments Env-A 1300, eff. 10-31-10 (doc. #9803) to read as follows:

CHAPTER Env-A 1300 NITROGEN OXIDES (NO_x) REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT)

Statutory Authority: RSA 125-C:4

PART Env-A 1301 PURPOSE, APPLICABILITY, EXEMPTIONS AND REFERENCES

Env-A 1301.01 Purpose. The purpose of this chapter is to establish reasonably available control technology (RACT) standards for certain NO_x-emitting sources located in New Hampshire, to comply with sections 172(c)(1) and 182(b)(2) of the Act.

Env-A 1301.02 Applicability.

(a) The requirements in Env-A 1300, as effective on October 31, 2010, shall not relieve any source that was subject to any version of Env-A 1211 in effect from May 20, 1994 through October 30, 2010 from its obligation to have been in compliance with applicable rules then in effect.

(b) Utility boiler(s) shall be subject to the requirements of Env-A 1303 if the combined maximum heat input rate of such boiler(s) exceeds 50 million Btu per hour at any time after December 31, 1989 and the permitting applicability levels specified in Env-A 607.01 are met.

(c) Steam electric boiler(s) shall be subject to the requirements of Env-A 1304 if the combined maximum heat input rate of such boiler(s) exceeds 50 million Btu per hour at any time after December 31, 1989 and the permitting applicability levels specified in Env-A 607.01 are met.

(d) Industrial boiler(s) shall be subject to the requirements of Env-A 1305 if the combined maximum heat input rate of such boiler(s) exceeds 50 million Btu per hour at any time after December 31, 1989 and the permitting applicability levels specified in Env-A 607.01 are met.

(e) Stationary combustion turbine(s), except for stationary combustion turbines used as emergency generators, shall be subject to the requirements of Env-A 1306, if the combined theoretical potential emissions from all devices and processes located at the stationary source exceed 50 tons per calendar year of NO_x at any time after December 31, 1989 and the permitting applicability levels specified in Env-A 607.01 are met.

(f) Stationary internal combustion engine(s), except for stationary internal combustion engines used as emergency generators, shall be subject to the requirements of Env-A 1307 if the combined maximum heat input rate of such engine(s) exceeds 4.5 million Btu per hour at any time after December 31, 1989 and the permitting applicability levels specified in Env-A 607.01 are met.

(g) Asphalt plant rotary dryer(s) shall be subject to the requirements of Env-A 1308 if the combined maximum heat input rate of such dryer(s) exceeds 26.2 million Btu per hour at any time after December 31, 1989.

(h) Incinerator(s), except for incinerators combusting sewage sludge, shall be subject to the requirements of Env-A 1309 if the combined processing capacity of such incinerator(s) exceeds 85 tons per day or more of waste at any time after December 31, 1989.

(i) Wallboard dryer(s), calcining mill(s), calciner(s), and gypsum rock dryer(s) shall be subject to the requirements of Env-A 1310 if the combined theoretical potential emissions of such wallboard dryer(s), calcining mill(s), calciner(s), and gypsum rock dryer(s) equal or exceed 50 tons per calendar year of NO_x at any time after December 31, 1989 and the permitting applicability levels specified in Env-A 607.01 are met.

(j) If the combined theoretical potential emissions from all devices and processes located at a stationary source exceed 50 tons per calendar year of NO_x at any time after December 31, 1989, all

stationary internal combustion engines or stationary combustion turbines used as emergency generators at that source which meet the permitting applicability levels specified in Env-A 607.01 shall be subject to the requirements of Env-A 1311 unless:

- (1) All such emergency generators are limited to less than 500 hours of operation during any consecutive 12-month period; and
- (2) The combined theoretical potential emissions of NO_x from all such emergency generators are limited to less than 25 tons for any consecutive 12-month period by permit conditions.

(k) Auxiliary boiler(s) shall be subject to the requirements of Env-A 1312 if the combined theoretical potential emissions from all devices and processes located at the stationary source exceed 50 tons per calendar year of NO_x at any time after December 31, 1989.

(l) Any miscellaneous stationary source at a stationary source having combined theoretical potential emissions from all devices and processes which equal or exceed 50 tons per calendar year of NO_x at any time after December 31, 1989 shall be subject to the requirements of Env-A 1313, except for NO_x-emitting devices that have implemented Best Available Control Technology (BACT) for NO_x, or Lowest Achievable Emission Rate (LAER) for NO_x at any time after December 31, 1989 pursuant to a federally enforceable permit. Any device or group of devices at a stationary source which meet the applicability criteria of (b) through (k), above, shall be subject to the requirements of the applicable parts.

(m) Any stationary source having combined theoretical potential emissions of 50 tons or more of NO_x during any consecutive 12-month period but whose actual NO_x emissions have not equaled or exceeded 50 tons during any consecutive 12-month period since January 1, 1989, shall be subject to the requirements of this chapter, unless the following requirements are met:

- (1) The combined actual NO_x emissions from NO_x emitting devices or processes are limited to less than 50 tons during any consecutive 12-month period by an enforceable permit or consent decree; and
- (2) The source has been and remains in compliance with the emission limit or operating conditions specified in a:
 - a. Permit issued by the department or by EPA;
 - b. Consent decree entered into with the department or EPA; or
 - c. Court order.

(n) Once a stationary source becomes subject to the requirements of this chapter, the source shall remain subject to these requirements even if emissions subsequently fall below the applicability levels specified in (b) through (l), above.

(o) If a stationary source fails to comply with the emission limit or operating conditions of a permit or consent decree, or court order referred to in (m), above, the source shall immediately become subject to the applicable requirements of this chapter.

Env-A 1301.03 Exemptions. The following sources shall be exempt from this chapter:

- (a) Any stationary source having combined theoretical potential emissions of less than 50 tons of NO_x during any consecutive 12-month period;
- (b) Temporary boilers; and
- (c) Stationary combustion turbines mounted on aircraft.

PART Env-A 1302 DEFINITIONS

Env-A 1302.01 "Actual mole ratio" means the measured number of moles of one chemical divided by the measured number of moles of a second chemical in the same chemical system.

Env-A 1302.02 "Add-on control" means a device or process used to collect, remove, convert or destroy gaseous NOx pollutants resulting from the combustion of fuel or waste before these pollutants are released into the ambient air.

Env-A 1302.03 "Asphalt" means a dark-brown to black cementitious material that is solid, semi-solid or liquid in consistency, in which the primary constituents are bitumens which occur in nature as such or are obtained as residue in refining petroleum.

Env-A 1302.04 "Auxiliary boiler" means a boiler operated to provide steam and house heat only when the primary steam or power source for a facility is not available for use. Auxiliary boiler shall not include emergency generators and load shaving units.

Env-A 1302.05 "Auxiliary fuel" means fuel, other than waste materials, used in an incinerator or resource recovery facility to attain temperatures sufficiently high enough to dry and ignite waste materials, to maintain ignition, or to drive the complete combustion of combustible solids, vapors and/or gaseous substances.

Env-A 1302.06 "Boiler operating day" means a 24-hour period that begins at 12:00 a.m. and ends the next day at 12:00 a.m. during which any fuel is combusted in a boiler for any period of time .

Env-A 1302.07 "Classifiable process or device" means any process or device that emits NOx and is included in one of the categories listed in Env-A 1301.02(b) through (k), but is not subject to the requirements of Env-A 1303 through Env-A 1312 because such process or device falls below the applicability threshold.

Env-A 1302.08 "Coal" means all solid fuels classified as anthracite, bituminous, lignite, or subbituminous according to the ASTM Standard Classification of Coals by Rank, ASTM D 388, coal refuse, and petroleum coke. The term includes coal-derived synthetic fuels, including but not limited to, solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures.

Env-A 1302.09 "Cogeneration facility" means a facility that generates steam for the purpose of supplying heat or energy to a manufacturing process in the host facility, and power for sale to an electric utility.

Env-A 1302.10 "Coke" means a fused, cellular, porous structure that remains after free moisture and the major portion of the volatile materials have been distilled from bituminous coal and other carbonaceous material by the application of heat in the absence of air or in the presence of a limited supply of air.

Env-A 1302.11 "Combined cycle combustion turbine" means any stationary gas or oil-fired turbine which recovers heat from the turbine exhaust gases to heat water or generate steam.

Env-A 1302.12 "Commercial fuel" means solid, liquid, or gaseous fuel normally produced or manufactured, and sold for the purpose of creating useful heat or mechanical energy.

Env-A 1302.13 "Compression ignition" means an ignition process used in a stationary internal combustion engine that is not a spark ignition process, as defined in Env-A 1302.47, below.

Env-A 1302.14 "Cyclone firing" means a fuel-firing process using one or more horizontal cylinders to burn fuel under conditions of high rates of heat release, low rates of heat absorption by the cylinder walls, with centrifugal action imparted to the fuel particles by air entering the cylinder. The combustion gases exiting from the cylinders turn 90 degrees to go up through the boiler. The horizontal cylinders are attached to the bottom of the furnace with one or more of the cylinders arranged on one furnace wall or on 2 opposed furnace walls.

Env-A 1302.15 "Dry bottom" means the boiler has a furnace bottom temperature below the ash melting point, and the bottom ash is removed as a solid.

Env-A 1302.16 "Electric generating utility" means a utility which is regulated by the public utilities commission and which generates electricity for sale.

Env-A 1302.17 "Emergency generator" means "emergency generator" as defined in Env-A 101.

Env-A 1302.18 "Emergency" means an unforeseeable condition that is beyond the control of the owner or operator of an emergency generator that:

- (a) Results in an interruption of electrical power from the electricity supplier to the premises;
- (b) Requires an interruption of electrical power from the electricity supplier to the premises in order to enable the owner or operator to repair damage from fire, flood, or any other catastrophic event, natural or man-made; or
- (c) Requires operation of an emergency generator to minimize damage from fire, flood, or any other catastrophic event, natural or man-made.

Env-A 1302.19 "Face firing" means a furnace firing design in which the burners are mounted in an array on one or more vertical walls, including:

- (a) Opposed firing, where the burners are mounted on 2 opposite walls; and
- (b) Single-wall firing, where the burners are mounted on only one wall.

Env-A 1302.20 "Fuel-bound nitrogen" means the nitrogen content, in weight fraction, of the fuel.

Env-A 1302.21 "Gas or gaseous fuel" means natural gas, liquid petroleum gas, or gaseous substances produced synthetically from coal or oil, or derived from the decomposition of organic matter, or derived as a by-product of a manufacturing process, and which can be used to create useful heat and/or mechanical energy.

Env-A 1302.22 "Industrial boiler" means a steam generating unit that generates steam to supply power and/or heat to an industrial, institutional or commercial operation, excluding boilers used by electric utilities, small power producers and cogenerators to generate electricity.

Env-A 1302.23 "Internal combustion engine" means any engine in which power, produced by heat and/or pressure developed in the engine cylinder(s) by burning a mixture of air and fuel, is subsequently converted to mechanical work by means of one or more pistons.

Env-A 1302.24 "Lean burn engine" means "lean burn engine" as defined in 40 CFR 60, Subpart JJJJ, as reprinted in Appendix B.

Env-A 1302.25 "Limited at all times" means that the NO_x emissions of a source or device does not exceed the prescribed NO_x emission limit over the averaging time specified in the applicable section of this part during the entire period of time that the source or device operates.

Env-A 1302.26 "Liquid petroleum gas" means a flammable mixture of hydrocarbon gases derived from petroleum refining or natural gas processing that meets the ASTM Standard Specification for Liquid Petroleum Gases, D1835-97.

Env-A 1302.27 "Load shaving unit" means a device that operates for other than an emergency to generate electricity for sale or use on-site, including but not limited to stationary combustion turbines or stationary internal combustion engines.

Env-A 1302.28 "Low-NO_x emitting process" means a process that results in NO_x emission reductions which constitute NO_x RACT as approved by the division and EPA pursuant to Env-A 1314.05.

Env-A 1302.29 "Manufacturing process" means any process directly related to the manufacturing of goods and/or supplies, both finished and intermediate, whose operations result in pollutant emissions to the ambient air from process or manufacturing equipment or machinery directly or through exhaust or ventilating systems, including elevated stacks.

Env-A 1302.30 "Maximum allowable emission rate" means the maximum amount of an air contaminant which is allowed to be emitted into the ambient air during a prescribed interval of time.

Env-A 1302.31 "Maximum heat input rate" means the maximum steady state fuel firing rate, in Btus per hour of gross heat input, of fuel burning equipment as determined in the design rating of the equipment manufacturer and the characteristics of the fuel-burning devices.

Env-A 1302.32 "Miscellaneous stationary source" means that portion of a stationary source, as defined in Env-A 101.187, consisting of devices and processes that are:

- (a) Unclassifiable; or
- (b) Classifiable.

Env-A 1302.33 "Mole" means the specific amount of chemical substance in a system proportional to its number of molecules, calculated as the mass of the chemical divided by its molecular weight.

Env-A 1302.34 "Natural gas" means a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane.

Env-A 1302.35 "Nitrogen Oxides (NOx)" means all oxides of nitrogen, except nitrous oxide, as measured in accordance with test methods specified in Env-A 800 and approved by EPA.

Env-A 1302.36 "Normalized stoichiometric ratio (NSR)" means the actual mole ratio of urea to NOx divided by the theoretical stoichiometric ratio, which is 0.5 for the reaction between urea and NOx.

Env-A 1302.37 "NOx control technique" means a system, design modification, or use of equipment and technology to reduce NOx emissions to the ambient air from NOx-emitting devices or processes, including combustion modifications, low-NOx burners, overfire air systems, low excess air systems, flue gas recirculation, natural gas reburn, burners out of service, fuel switching, selective catalytic reduction, selective non-catalytic reduction, or other device or procedure approved pursuant to Env-A ~~1314~~ 1315.

Env-A 1302.38 "Ozone season" means the period between ~~May~~ March 1 and September 30, inclusive.

Env-A 1302.39 "RACT order" means a written order, providing for inventories and emission limits for NOx-emitting devices or processes and RACT-compliance procedures and schedules, issued by the division to a miscellaneous stationary source or a stationary source seeking alternative RACT emission limits pursuant to Env-A 1314.04.

Env-A 1302.40 "Rated brake horsepower (bhp)" means the brake horsepower rating specified by the manufacturer and listed on the nameplate.

Env-A 1302.41 "Regenerative cycle combustion turbine" means any stationary gas or oil-fired turbine which recovers heat from the turbine exhaust gases to preheat inlet combustion air to the turbine.

Env-A 1302.42 "Repowering" means the replacement or conversion of an existing emissions unit with a new or converted unit which results in lower emission rates of NOx.

Env-A 1302.43 "Rich burn engine" means "rich burn engine" as defined in 40 CFR 60 subpart JJJJ, as reprinted in Appendix B.

Env-A 1302.44 "Simple cycle combustion turbine" means any stationary gas or oil-fired turbine which does not recover heat from the turbine exhaust gases to preheat the inlet combustion air to the turbine, heat water or generate steam.

Env-A 1302.45 "Shaker grate or vibrating grate" means a grate that mechanically oscillates or vibrates during loading of solid fuel to assist in the introduction of the fuel into the combustion zone, and in removing accumulation of fuel particle deposits on the grate surface.

Env-A 1302.46 "Small power production facility" means a power production facility that is designed for or capable of operating at a capacity of less than 30 megawatts and is not a cogeneration facility.

Env-A 1302.47 "Spark ignition" means "spark ignition" as defined in 40 CFR 60, subpart IIII, as reprinted in Appendix B.

Env-A 1302.48 "Stationary combustion turbine" means any simple cycle combustion turbine, regenerative cycle combustion turbine, or any combustion turbine portion of a combined cycle steam/ electric generating system that is not self-propelled, but which can be mounted on a vehicle for portability.

Env-A 1302.49 "Stationary grate" means a grate that is permanently affixed during normal boiler operation.

Env-A 1302.50 "Stationary internal combustion engine" means "stationary internal combustion engine" as defined in 40 CFR 60, subpart IIII, as reprinted in Appendix B.

Env-A 1302.51 "Steam electric boiler" means a steam generating unit, as defined in Env-A 1302.51, that is constructed and operated for the purpose of supplying more than one-third of its potential electrical output to any utility power distribution system for sale which is located at a cogeneration or small power production facility.

Env-A 1302.52 "Steam generating unit" means a device that combusts any fuel to produce steam or to heat water or any other heat transfer medium.

Env-A 1302.53 "Stoker" means a furnace design that incorporates a feeding mechanism, fuel distribution and ash residue collection system for the purpose of introducing solid fuel into the combustion zone of the furnace by feeding the fuel onto a grate.

Env-A 1302.54 "Tangential firing" means a boiler firing design where the burners and air nozzles are mounted in each corner of the furnace chamber where the vertical furnace walls meet. Both the fuel and air are directed from the furnace corners along a line tangential to a circle lying in a horizontal plane of the furnace.

Env-A 1302.55 "Temporary boiler" means "temporary boiler" as defined in 40 CFR 63, subpart JJJJJ, as reprinted in Appendix B.

Env-A 1302.56 "Theoretical potential emissions" means the quantity of nitrogen oxides that could be emitted by a source, prior to the application of add-on controls, based on either of the following:

- (a) Continuous operation of 8760 hours per year at the maximum heat input rate of the source; or
- (b) Hours of operation, process conditions, or both that are limited by the conditions of a federally enforceable permit.

Env-A 1302.57 "Traveling grate" means a grate designed to move at a constant velocity during the loading of solid fuel to assist in the introduction of fuel into the combustion zone.

Env-A 1302.58 "Unclassifiable process or device" means any process or device that emits NO_x but is not included in any of the categories listed in Env-A 1301.02(b) through (l).

Env-A 1302.59 "Utility boiler" means a steam generating unit that is constructed and operated for the purpose of supplying more than one-third of its potential electrical output capacity to any utility power distribution system for sale, except for steam electric boilers, as defined in Env-A 1302.50.

Env-A 1302.60 "Wet bottom" means the boiler has a furnace bottom temperature above the ash melting point and the bottom ash is removed as a liquid.

PART Env-A 1303 UTILITY BOILERS

Env-A 1303.01 Applicability. All utility boilers meeting the applicability criteria of Env-A 1301.02(b) shall be subject to this part.

Env-A 1303.02 Work Practice Standard; Performance Tune-ups. The owner or operator of one or more utility boiler(s) having a heat input rate of at least 5 million Btu per hour but less than 50 million Btu per hour per boiler shall, at least once every 12 months:

(a) Conduct a performance tune-up on each such boiler, as follows:

(1) Using the procedures specified in 40 CFR 63, Subpart JJJJJJ, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources, or 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters; and

(2) Burning the type of fuel, or fuels in the case of boilers that routinely burn two types of fuels at the same time, that provide the majority of the heat input to the boiler over the 12 months prior to the tune-up; and

(3) Within 30 days of startup, if the unit is not operating on the date by which a tune-up is required; and

(b) Perform gaseous concentration measurements for each such boiler in accordance with NO_x RACT Testing, as specified in Env-A 800.

Env-A 1303.03 Recordkeeping for Performance Tune-ups.

(a) The owner or operator of one or more utility boiler(s) with a heat input rate of at least 5 million Btu per hour but less than 50 million Btu per hour per boiler shall maintain, in a format that can be retained unaltered for the time period specified in Env-A 902, the following information for each performance tune-up:

(1) The identification of the boiler;

(2) The date(s) on which the tune-up was conducted;

(3) The name(s), title(s), and affiliation(s) of the individual(s) who conducted the tune-up;

(4) The concentrations of NO_x in the effluent stream, in parts-per-million by volume, (ppmv), measured at high fire or typical operating load, before and after the tune-up of the boiler;

(5) The concentration of CO in the effluent stream, in ppmv, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler;

(6) A description of any corrective actions taken as a part of the tune-up of the boiler; and

(7) For boilers capable of using more than one type of fuel, the fuel burned in the boiler during the tune-up and the type and amount of fuel used over the 12 months prior to the tune-up. For units sharing a fuel meter the allocation of fuel between those units may be estimated.

(b) Concentration measurements may be taken by either a dry or wet basis, provided that

- (1) The same basis is used before and after the tune-up; and
- (2) All gases are measured using the same basis.

Env-A 1303.04 RACT Requirements. Each utility boiler having a heat input rate of at least 50 million BTU per hour shall comply with the applicable NOx RACT requirements specified in Env-A 1303.05 through Env-A 1303.07.

Env-A 1303.05 RACT Requirements: Wet-Bottom Utility Boilers Firing Coal. For wet-bottom utility boilers firing coal, whether by itself or in combination with any other fuel(s), the NOx RACT requirements shall be as follows:

(a) For tangential or face-fired boilers, an emission limit of 1.0 lb. per million Btu, based on a 24-hour calendar day average;

(b) For cyclone-fired boilers having a maximum net power output of less than 320 megawatts and equipped with a selective catalytic reduction (SCR) system at all times, an emission limit of 0.22 lb. per million Btu, based on a 7-boiler operating day rolling average; or

(c) For cyclone-fired boilers having a maximum net power output of equal to or greater than 320 megawatts and equipped with a SCR system at all times, an emission limit of 0.25 lb. per million Btu, based on a 7-boiler operating day rolling average.

Env-A 1303.06 RACT Requirements: Dry-Bottom Utility Boilers Firing Coal and/or Oil. For dry-bottom utility boilers that fire, or that are capable of firing, coal or oil, or any combination thereof, the NOx RACT requirements shall be as follows:

(a) For tangential-fired boilers, an emission limit of 0.38 lb. per million Btu, based on a 24-hour calendar day average;

(b) For face-fired boilers, an emission limit of 0.50 lb. per million Btu, based on a 24-hour calendar day average; and

(c) For stoker-fired boilers, an emission limit of 0.30 lb. per million Btu, based on a 24-hour calendar day average.

Env-A 1303.07 RACT Requirements: Utility Boilers Firing Oil, Gas, and/or Wood.

(a) For utility boilers that fire, or that are capable of firing, oil or gas, or any combination thereof, the NOx RACT requirements shall be as follows:

(1) For tangential or face-fired boilers when firing exclusively oil, an emission limit of 0.35 lb. per million Btu, based on a 24-hour calendar day average;

(2) For face-fired boilers when firing gas or any combination of oil and gas, an emission limit of 0.25 lb. per million Btu based on a 24-hour calendar day average; and

(3) For tangential-fired boilers when firing gas or any combination of oil and gas, an emission limit of 0.25 lb. per million Btu based on a 24-hour calendar day average;

(b) For boilers that fire gas exclusively, an emission limit of 0.20 lb. per million Btu, based on an hourly average, for tangential or face-fired boilers; and

(c) For boilers that fire wood fuel or that are capable of firing a combination of wood fuel and oil:

(1) For boilers equipped with a traveling, shaker, or vibrating grate, an emission limit of 0.33 lb. per million Btu, based on a 24-hour calendar day average; and

(2) For boilers equipped with a stationary grate, an emission limit of 0.25 lb. per million Btu, based on a 24-hour calendar day average.

(d) Utility boilers that fire any fuel or combination of fuels excluding coal shall be limited at all times to the equivalent of 3.8 tons of NO_x per 24-hour calendar day.

Env-A 1303.08 Retiring or Repowering Utility Boilers. Nothing in this chapter shall prohibit the retiring or repowering of a utility boiler at any time after the effective date of this chapter. Utility boilers shall remain subject to the applicable NO_x RACT emission limits specified in this chapter, regardless of a decision to retire or repower the boiler.

PART Env-A 1304 STEAM ELECTRIC BOILERS

Env-A 1304.01 Applicability. All steam electric boilers that meet the applicability criteria of Env-A 1301.02(c) shall be subject to this part.

Env-A 1304.02 Work Practice Standard; Performance Tune-ups. The owner or operator of one or more steam electric boiler(s) having a heat input rate of at least 5 million Btu per hour but less than 50 million Btu per hour per boiler shall comply with Env-A 1303.02 and Env-A 1303.03, .

Env-A 1304.03 RACT Requirements.

(a) Any steam electric boiler having a heat input rate of at least 50 million Btu per hour but less than 100 million Btu per hour shall comply with the applicable NO_x RACT requirements specified in Env-A 1305.03, for the applicable fuel type and fuel-firing design.

(b) Any steam electric boiler having a heat input rate of 100 million Btu per hour or more shall comply with the applicable NO_x RACT requirements specified in Env-A 1305.09 for the applicable fuel type and fuel-firing design.

PART Env-A 1305 INDUSTRIAL BOILERS

Env-A 1305.01 Applicability. All industrial boilers that meet the applicability criteria of Env-A 1301.02(d) shall be subject to this part.

Env-A 1305.02 Work Practice Standard; Performance Tune-ups. The owner or operator of one or more industrial boiler(s) having a heat input rate of at least 5 million Btu per hour but less than 50 million Btu per hour per boiler shall comply with Env-A 1303.02 and Env-A 1303.03, .

Env-A 1305.03 RACT Requirements for Industrial Boilers with Heat Input Rates Less than 100 Million Btu Per Hour.

(a) Any industrial boiler having a heat input rate of at least 50 million Btu per hour but less than 100 million Btu per hour shall comply with the applicable NO_x RACT requirements specified in Env-A 1305.04 through Env-A 1305.08.

(b) For purposes of Env-A 1305.05 through Env-A 1305.07, NO_x RACT control technology shall be:

(1) The installation, operation, and maintenance of low NO_x burners (LNB); or

(2) The installation, operation, and maintenance of air pollution control equipment or an air pollution control process having equivalent or greater NO_x removal efficiency as LNB, as approved by the department and EPA as specified in Env-A 1315 relative to NO_x RACT orders.

Env-A 1305.04 RACT Requirements: Dry Bottom Industrial Boilers Firing Coal and/or Oil. In accordance with Env-A 1305.03(a), the NO_x RACT requirements for dry-bottom industrial boilers that fire, or that are capable of firing, coal or oil, or any combination thereof, shall be as follows:

- (a) For tangential-fired boilers, an emission limit of 0.38 lb. per million Btu, based on a 24-hour calendar day average;
- (b) For face-fired boilers, an emission limit of 0.50 lb. per million Btu, based on a 24-hour calendar day average; and
- (c) For stoker-fired boilers, an emission limit of 0.30 lb. per million Btu, based on a 24-hour calendar day average.

Env-A 1305.05 RACT Requirements: Boilers Firing Oil Exclusively. In accordance with Env-A 1305.03(a), the NO_x RACT requirements for tangential or face-fired boilers only capable of firing oil, shall be as follows:

- (a) For boilers firing No. 2 fuel oil exclusively, an emission limit of 0.12 lb. per million Btu, based on an hourly average; and
- (b) For boilers firing No. 4, 5, or 6 fuel oil, or any combination thereof:
 - (1) An emission limit of 0.30 lb. per million Btu, based on a 24-hour calendar day average; or
 - (2) Implement NO_x RACT control technology as specified in Env-A 1305.04(b).

Env-A 1305.06 RACT Requirements: Boilers Firing Oil and Gas. In accordance with Env-A 1305.03(a), the NO_x RACT requirements for tangential or face-fired boilers that fire, or that are capable of firing, a combination of oil and gas, shall be as follows:

- (a) When firing gas exclusively:
 - (1) An emission limit of 0.10 lb. per million Btu, based on an hourly average; or
 - (2) Implement NO_x RACT control technology as specified in Env-A 1305.04(b).
- (b) When firing oil exclusively:
 - (1) When firing No. 2 fuel oil exclusively, an emission limit of 0.12 lb. per million Btu, based on an hourly average; and
 - (2) When firing No. 4, 5, or 6 fuel oil, or any combination thereof:
 - a. An emission limit of 0.30 lb. per million Btu, based on a 24-hour calendar day average; or
 - b. Implement NO_x RACT control technology as specified in Env-A 1305.04(b).
- (c) When firing a combination of oil and gas:
 - (1) When firing gas and No. 2 fuel oil, an emission limit of 0.12 lb. per million Btu, based on an hourly average; and
 - (2) When firing gas and No. 4, 5, or 6 fuel oil, or any combination thereof:
 - a. An emission limit of 0.30 lb. per million Btu, based on a 24-hour calendar day average; or
 - b. Implement NO_x RACT control technology as specified in Env-A 1305.04(b).

Env-A 1305.07 RACT Requirements: Boilers Firing Gas Exclusively. In accordance with Env-A 1305.03(a), the NO_x RACT requirements for boilers only capable of firing gas, shall be as follows:

- (a) An emission limit of 0.10 lb. per million Btu, based on an hourly average; or
- (b) Implement NO_x RACT control technology as specified in Env-A 1305.04(b).

Env-A 1305.08 RACT Requirements: Boilers Firing Wood. In accordance with Env-A 1305.03(a), for boilers that fire wood fuel, or that are capable of firing wood fuel, whether alone or in combination with oil, the NOx RACT requirements shall be as follows:

- (a) For boilers equipped with a traveling, shaker, or vibrating grate, an emission limit of 0.33 lb. per million Btu, based on a 24-hour calendar day average; and
- (b) For boilers equipped with a stationary grate, an emission limit of 0.25 lb. per million Btu based on a 24-hour calendar day average.

Env-A 1305.09 RACT Requirements for Industrial Boilers with Heat Input Rates of 100 Million Btu Per Hour or More.

- (a) Any industrial boiler having a heat input rate of 100 million Btu per hour or more shall comply with the applicable NOx RACT requirements specified in Env-A 1305.10 through Env-A 1305.14.
- (b) For purposes of Env-A 1305.12 and Env-A 1305.13, NOx RACT control technology shall be:
 - (1) The installation, operation, and maintenance of low NOx burners (LNB); or
 - (2) The installation, operation, and maintenance of air pollution control equipment or an air pollution control process having equivalent or greater NOx removal efficiency as LNB, as approved by the department and EPA as specified in Env-A 1315 relative to NOx RACT orders.

Env-A 1305.10 RACT Requirements: Wet-Bottom Industrial Boilers Firing Coal. In accordance with Env-A 1305.09(a), wet-bottom boilers that fire coal or that are capable of firing coal, whether by itself or in combination with any other fuel(s), the NOx RACT requirements shall be as follows:

- (a) For tangential or face-fired boilers, an emission limit of 1.0 lb. per million Btu, based on a 24-hour calendar day average; and
- (b) For cyclone-fired boilers, an emission limit of 0.92 lb. per million Btu, based on a 24-hour calendar day average.

Env-A 1305.11 RACT Requirements: Dry-Bottom Industrial Boilers Firing Coal and/or Oil. In accordance with Env-A 1305.09(a), dry-bottom boilers that fire, or that are capable of firing, coal or oil, or any combination thereof, the NOx RACT requirements shall be as follows:

- (a) For tangential-fired boilers, an emission limit of 0.38 lb. per million Btu, based on a 24-hour calendar day average;
- (b) For face-fired boilers, an emission limit of 0.50 lb. per million Btu, based on a 24-hour calendar day average; and
- (c) For stoker-fired boilers, an emission limit of 0.30 lb. per million Btu, based on a 24-hour calendar day average.

Env-A 1305.12 RACT Requirements: Industrial Boilers Firing Oil and/or Gas. In accordance with Env-A 1305.09(a), boilers that fire, or that are capable of firing, oil or gas, or any combination thereof, the NOx RACT requirements shall be as follows:

- (a) For tangential or face-fired boilers when firing oil exclusively:
 - (1) An emission limit of 0.30 lb. per million Btu, based on a 24-hour calendar day average; or
 - (2) Implement NOx RACT control technology as specified in Env-A 1305.1009(b); and
- (b) For tangential or face-fired boilers when firing gas, or any combination of oil and gas, an emission limit of 0.25 lb. per million Btu based on a 24-hour calendar day average.

Env-A 1305.13 RACT Requirements: Industrial Boilers Firing Gas Exclusively. In accordance with Env-A 1305.09(a), boilers that are only capable of firing gas, the NOx RACT requirements shall be as follows:

- (a) For tangential or face-fired boilers, an emission limit of 0.10 lb. per million Btu, based on an hourly average; or
- (b) Implement NOx RACT control technology as specified in Env-A 1305.09(b).

Env-A 1305.14 RACT Requirements: Boilers Firing Wood. In accordance with Env-A 1305.09(a), boilers that fire wood fuel, or that are capable of firing wood fuel, whether alone or in combination with oil, the NOx RACT requirements shall be as follows:

- (a) For boilers equipped with a traveling, shaker, or vibrating grate, an emission limit of 0.33 lb. per million Btu, based on a 24-hour calendar day average; and
- (b) For boilers equipped with a stationary grate, an emission limit of 0.25 lb. per million Btu, based on a 24-hour calendar day average.

PART Env-A 1306 STATIONARY COMBUSTION TURBINES

Env-A 1306.01 Applicability.

- (a) All stationary combustion turbines meeting the applicability criteria of Env-A 1301.02(e) and not used as load shaving units, shall be subject to Env-A 1306.02 and Env-A 1306.03.
- (b) Stationary combustion turbines excluded from Env-A 1301.02(e) because they are used as emergency generators shall be subject to Env-A 1311 in lieu of this part if they meet the applicability criteria of Env-A 1301.02(j).
- (c) All stationary combustion turbines that meet the applicability criteria of Env-A 1301.02(e) and are used as load shaving units shall be subject to Env-A 1306.04.

Env-A 1306.02 Emission Standards for Stationary Combustion Turbines Constructed After May 27, 1999. A gas-fired turbine constructed after May 27, 1999 shall not exceed an hourly average NOx RACT emission limit of 25 ppmvd, corrected to 15% O₂, equivalent to 0.092 lb. per million Btu, when operating on gas.

Env-A 1306.03 Emission Standards for Stationary Combustion Turbines Constructed on or Before May 27, 1999. A stationary combustion turbine that was constructed prior to May 27, 1999 shall be limited at all times to the applicable hourly average NOx RACT emission limits specified below:

- (a) For combined and regenerative cycle combustion turbines:
 - (1) For gas-fired turbines without oil back-up, 42 ppmvd, corrected to 15% O₂, or 0.155 lb. per million Btu;
 - (2) For gas-fired turbines with oil back-up, the more stringent of:
 - a. When operating on gas, 42 ppmvd, corrected to 15% O₂, or 0.155 lb. per million Btu; or
 - b. When operating on oil, 65 ppmvd, corrected to 15% O₂, or 0.253 lb. per million Btu; and
 - (3) For oil-fired turbines, 65 ppmvd, corrected to 15% O₂, or 0.253 lb. per million Btu;
- (b) For simple cycle combustion turbines:
 - (1) For gas-fired turbines without oil back-up, 55 ppmvd, corrected to 15% O₂, or 0.203 lb. per million Btu;

- (2) For oil-fired turbines, 75 ppmvd, corrected to 15% O₂, or 0.292 lb. per million Btu; and
- (3) For gas-fired turbines with oil back-up:
 - a. When operating on gas, 55 ppmvd, corrected to 15% O₂, or 0.203 lb. per million Btu; and
 - b. When operating on oil, 75 ppmvd, corrected to 15% O₂, or 0.292 lb. per million Btu.

Env-A 1306.04 Emission Standards for Stationary Combustion Turbines used as Load Shaving Units. Stationary combustion turbines used as load shaving units shall not exceed a NO_x RACT emission limit of 0.90 lbs per million Btu heat input based on an hourly average for any type of fuel.

PART Env-A 1307 STATIONARY INTERNAL COMBUSTION ENGINES

Env-A 1307.01 Applicability.

- (a) All stationary internal combustion engines meeting the applicability criteria of Env-A 1301.02(f) and (l) shall be subject to this part.
- (b) Stationary internal combustion engines excluded from Env-A 1301.02(f) because they are used as emergency generators shall be subject to Env-A 1311 in lieu of this part if they meet the applicability criteria of Env-A 1301.02(j).

Env-A 1307.02 Emission Standards for Stationary Internal Combustion Engines not Subject to New Source Performance Standards. Stationary internal combustion engines that do not meet the applicability criteria of 40 CFR §60.4200 or §60.4230, shall be subject to the hourly average NO_x RACT emission limits specified below:

- (a) For gas-fired units:
 - (1) That are rich burn stationary internal combustion engines, the standard shall be 1.5 grams per rated brake horsepower - hour (bhp-hr); and
 - (2) That are lean burn stationary internal combustion engines, the standard shall be 2.5 grams per brake horsepower per hour (bhp-hr);
- (b) For liquid fuel-fired units:
 - (1) Stationary internal combustion engines with a maximum engine power of greater than 560 KW or 750 hp, shall be 6.4 grams per kilowatt-hour (kW-hr); and
 - (2) Stationary internal combustion engines with a maximum engine power of less than or equal to 560 KW or 750 hp, shall be 4.0 grams per kilowatt-hour (kW-hr).

Env-A 1307.03 Emission Standards for Stationary Internal Combustion Engines subject to New Source Performance Standards. Stationary internal combustion engines that meet the applicability criteria of 40 CFR §60.4200 or §60.4230, shall be subject to the following NO_x RACT emission limits:

- (a) For stationary compression ignition internal combustion engines, compliance with the NO_x emission standards for non-emergency engines in 40 CFR §60.4204 and 60.4206 shall constitute compliance with Env-A 1307; and
- (b) For stationary spark ignition internal combustion engines, compliance with the NO_x emission standards listed for non-emergency engines in 40 CFR §60.4233 through §60.4234 shall constitute compliance with Env-A 1307.

PART Env-A 1308 ASPHALT PLANT ROTARY DRYERS

Env-A 1308.01 Applicability. Any asphalt plant rotary dryer meeting the applicability criteria of Env-A 1301.02(g) shall be subject to this part.

Env-A 1308.02 Definitions. For the purpose of this part, the following definitions shall apply:

(a) "Batch type asphalt plant" means an asphalt plant where equipment external to the rotary dryer is used to mix the aggregate and asphalt cement or other binder;

(b) "Drum mix type asphalt plant" means an asphalt plant where the asphalt cement or other binder is added to the aggregate while the aggregate is in the rotary dryer; and

(c) "Rotary dryer" means a cylinder which rotates about a fixed axis and through which hot gases are passed for the purpose of removing moisture from solid material.

Env-A 1308.03 Emission Standards for Asphalt Plant Dryers. Any asphalt plant rotary dryer, whether a batch type asphalt plant or a drum mix type asphalt plant, shall not exceed an hourly average NO_x RACT emission limit of 0.12 lb. per ton of asphalt produced, equivalent to 0.429 lb. per million Btu.

PART Env-A 1309 INCINERATORS

Env-A 1309.01 Applicability.

(a) All incinerators meeting the applicability criteria of Env-A 1301.02(h) shall be subject to the provisions of this part.

(b) Incinerators excluded from Env-A 1301.02(h) because they combust sewage sludge shall be subject to 40 CFR 62, subpart LLL in lieu of this part if they meet the applicability criteria of Env-A 1301.02(l).

Env-A 1309.02 Emission Standards for Incinerators.

(a) Subject to (b), below, an incinerator shall not exceed a 24-hour calendar day average NO_x RACT emission limit of 0.53 lb. per million Btu.

(b) Beginning one year after the effective date of this rule, an incinerator shall not exceed a 24-hour calendar day average NO_x RACT emission limit of 150 ppmvd at 7%, except during periods of startup, during which an incinerator shall not exceed a 24-hour calendar day average NO_x RACT emission limit of 205 ppmvd at 7%.

(c) Startup periods shall not exceed 3 hours per occurrence.

PART Env-A 1310 WALLBOARD MANUFACTURING FACILITIES

Env-A 1310.01 Applicability. Any wallboard dryer, calcining mill, calciner, or gypsum rock dryer meeting the applicability criteria of Env-A 1301.02(i) shall be subject to this part.

Env-A 1310.02 Emission Standards for Wallboard Manufacturing Facilities.

(a) Any wallboard dryer, calcining mill, calciner, or gypsum rock dryer shall comply with the applicable NO_x RACT requirements specified in Env-A 1310.03 and Env-A 1310.04.

(b) For purposes of Env-A 1310.03 and Env-A 1310.04, NO_x RACT control technology shall be:

(1) The installation, operation, and maintenance of low NO_x burners (LNB); or

- (2) The installation, operation, and maintenance of air pollution control equipment or an air pollution control process having equivalent or greater NO_x removal efficiency as LNB, as approved by the department and EPA as specified in Env-A 1315 relative to NO_x RACT orders.

Env-A 1310.03 Emission Standards for Wallboard Manufacturing Facilities Firing Natural Gas. For wallboard dryers, calcining mills, calciners, and gypsum rock dryers firing natural gas, the NO_x RACT requirements shall be as follows:

- (a) An emission limit of 0.10 lb. per million Btu, based on an hourly average; or
- (b) Implement NO_x RACT control technology as specified in Env-A 1310.02(b).

Env-A 1310.04 Emission Standards for Wallboard Manufacturing Facilities Firing Oil. For wallboard dryers, calcining mills, calciners, and gypsum rock dryers firing fuel oil, the NO_x RACT requirements shall be as follows:

- (a) When firing #2 fuel oil:
 - (1) An emission limit of 0.10 lb. per million Btu, based on an hourly average; or
 - (2) Implement NO_x RACT control technology as specified in Env-A 1310.02(b).
- (b) When firing #4, #5, or #6 fuel oil:
 - (1) An emission limit of 0.30 lb. per million Btu, based on a 24- hour calendar day average; or
 - (2) Implement NO_x RACT control technology as specified in Env-A 1310.02(b).

PART Env-A 1311 EMERGENCY GENERATORS – STATIONARY INTERNAL COMBUSTION ENGINES AND STATIONARY COMBUSTION TURBINES

Env-A 1311.01 Applicability. Emergency generators meeting the applicability criteria of Env-A 1301.02(j) shall be subject to this part.

Env-A 1311.02 Operating Hours: Limit, Consequences of Exceeding Limit.

- (a) Each emergency generator subject to this part shall be limited to less than 500 hours of operation per year during any consecutive 12-month period by an enforceable permit issued by the department.
- (b) If the hours of operation of any emergency generator exceed 500 hours for any consecutive 12-month period, then:
 - (1) The owner or operator of the emergency generator shall notify the department in writing within 10 days of the exceedance; and
 - (2) The emergency generator shall immediately become subject to the requirements of Env-A 1306 or Env-A 1307, as applicable to the device type and fuel type.

Env-A 1311.03 Control Requirements for Stationary Combustion Turbines. The owner or operator of a stationary combustion turbine used as an emergency generator shall:

- (a) Adjust the combustion process of the combustion turbine, before April 1st of each year, in accordance with the following:
 - (1) Inspect the burner, the flame pattern from the burner, and the systems which control the air-to-fuel ratio;
 - (2) Adjust the air-to-fuel ratio in accordance with the results of the inspections performed;
 - (3) Determine the effect of the adjustment upon NO_x emissions;

- (4) Re-adjust the air-to-fuel ratio based on results of the previous adjustment performed to minimize total NOx emissions; and
 - (5) Confirm that NOx emissions from the equipment or source operation do not cause an exceedance of any maximum allowable emission rate for NOx or any other state and federally regulated air pollutant, or any opacity standard specified in Env-A 2000;
- (b) Maintain, in a format that can be retained unaltered for the time period specified in Env-A 902, the following information:
- (1) The date on which the combustion process was last adjusted;
 - (2) The name, title, and affiliation of the individual who made the adjustments;
 - (3) The NOx emission concentration, in ppmvd, corrected to 15% oxygen, after the adjustments are made;
 - (4) The CO emission concentration, in ppmvd, corrected to 15% oxygen, after the adjustments are made;
 - (5) The opacity readings; and
 - (6) Any other information required by Env-A 903 or Env-A 905;
- (c) Install, operate, and maintain an elapsed time meter for each emergency generator to indicate, in cumulative hours, the elapsed operating time for the previous 12 months; and
- (d) Determine the hours of operation for each emergency generator for the previous 12-month period on a monthly basis.

Env-A 1311.04 Control Requirements for Stationary Internal Combustion Engines Having Manual Adjustment Capabilities. The owner or operator of a stationary internal combustion engine that is used as an emergency generator and that allows for manual adjustment of the air-to-fuel ratio or ignition timing in order to affect the combustion process, shall:

- (a) Set and maintain the ignition timing of the engine 4 degrees retarded relative to standard timing, provided that the ignition timing shall not be retarded beyond the point that:
 - (1) The CO emission concentration increases beyond 100 ppmvd, corrected to 15% oxygen;
 - (2) The turbocharger speed is increased beyond the maximum operating speed recommended by the manufacturer;
 - (3) The exhaust port temperature increases beyond the manufacturer's recommended maximum operating temperature; or
 - (4) The opacity of the emissions from the engine exhaust is equal to or greater than 20% opacity;
- (b) Install, operate, and maintain an elapsed time meter for each engine to indicate, in cumulative hours, the elapsed engine operating time for the previous 12 months;
- (c) Determine the hours of operation for each engine for the previous 12-month period on a monthly basis; and
- (d) Maintain records to certify that the ignition timing of the engine has been inspected and adjusted at least once every 3 years.

Env-A 1311.05 Control Requirements and Emission Limits for Stationary Internal Combustion Engines Not Having Manual Adjustment Capabilities. The owner or operator of a stationary internal combustion engine that is used as an emergency generator and that does not allow for manual adjustment of the air-to-fuel ratio or ignition timing in order to affect the combustion process, shall:

- (a) Install, operate, and maintain an elapsed time meter for each engine to indicate, in cumulative hours, the elapsed operating time for the previous 12 months;
- (b) Determine the hours of operation for each engine for the previous 12-month period on a monthly basis;
- (c) Operate the engine in conformance with the engine manufacturer's instructions, such as following maintenance and operating requirements to help minimize emissions; and
- (d) Engines subject to 40 CFR Part 60 shall maintain the engine manufacturer's instructions at the facility so that they are available for review.

Env-A 1311.06 Calculating Emissions. The emissions from emergency generators shall be included in the calculation of both the actual and theoretical potential emissions from a stationary source.

PART Env-A 1312 AUXILIARY BOILERS

Env-A 1312.01 Applicability. An auxiliary boiler meeting the applicability criteria of Env-A 1301.02(k) shall be subject to this part.

Env-A 1312.02 Emission Standards for Auxiliary Boilers.

(a) An auxiliary boiler with a heat input rate of at least 5 million Btu per hour but less than 50 million Btu per hour shall comply with Env-A 1305.02 and Env-A 1305.03.

(b) An auxiliary boiler with a heat input rate of at least 50 million Btu per hour, shall not exceed a NO_x RACT emission limit of 0.20 lb. per million Btu based on a 24-hour calendar day average, regardless of the type of fuel burned.

Env-A 1312.03 Calculating Emissions. The emissions from all auxiliary boilers shall be included in the calculation of both the actual and theoretical potential emissions from the stationary source.

PART Env-A 1313 MISCELLANEOUS STATIONARY SOURCES

Env-A 1313.01 Emission Standards and Control Options for Miscellaneous Stationary Sources. Owners or operators of any miscellaneous stationary sources meeting the applicability criteria of Env-A 1301.02(l) shall:

- (a) Initiate and implement a study of RACT control options, consisting of a detailed examination of technological and economic feasibility of available NO_x control techniques for all classifiable and unclassifiable NO_x-emitting sources, devices, or processes; and
- (b) Apply for and obtain from the department a RACT order in accordance with Env-A 1315.

PART Env-A 1314 RACT COMPLIANCE

Env-A 1314.01 Testing, Recordkeeping, and Recording for NO_x RACT Compliance.

(a) Stationary sources subject to this chapter shall comply with the testing requirements specified in Env-A 800.

(b) Except when a source is subject to (d) or (e), below, compliance with the NO_x RACT emission standards specified in this chapter shall be determined:

- (1) In accordance with Env-A 803; or

(2) By a CEM system for NO_x, if a CEM system is required by a permit issued pursuant to Env-A 600 or by Env-A 1314.02.

(c) Except when purchasing NO_x allowances pursuant to Env-A 3100, recordkeeping and reporting shall be in accordance with Env-A 900.

(d) The owner or operator of a source subject to Env-A 2900, Multiple Pollutant Annual Budget Trading and Banking Program, shall comply with the testing and monitoring requirements specified in Env-A 800 and in Env-A 2900 and the recordkeeping and reporting requirements of Env-A 900 and Env-A 2900. In the event of a conflict between Env-A 2900 and Env-A 800 or Env-A 900, the requirements of Env-A 2900 shall apply.

(e) The owner or operator of a source subject to Env-A 3200, NO_x Budget Trading Program, shall comply with the testing and monitoring requirements specified in Env-A 800 and in Env-A 3200 and the recordkeeping and reporting requirements of Env-A 900 and Env-A 3200. In the event of a conflict between Env-A 3200 and Env-A 800 or Env-A 900, the requirements of Env-A 3200 shall apply.

(f) Unless otherwise specified by the department in a permit or order, for a source that operates a CEM system that satisfies the requirements of Env-A 800, compliance with the emission limitations in this part shall be determined based on a 24-hour calendar day average.

Env-A 1314.02 CEM Requirements for NO_x. The department shall require installation, operation, maintenance, and quality assurance testing of a CEM system for NO_x which meets all applicable requirements specified in Env-A 800 if any of the following conditions exist:

(a) A source uses air pollution control equipment in order to maintain compliance with a NO_x emission limit, and continuous emission monitoring is necessary to ensure that the emission limit is not exceeded and that the control equipment is performing correctly;

(b) A stationary source is otherwise subject to the CEM provisions of Env-A 800;

(c) A stationary source or device generates emissions credits for the purpose of emission averaging pursuant to Env-A 1314.04; or

(d) A stationary source or device uses seasonal emission control techniques, in accordance with Env-A 1314.06, in order to comply with NO_x RACT.

Env-A 1314.03 Alternatives to Meeting Specified RACT Emission Limits.

(a) Compliance with the NO_x RACT emission limits specified in this chapter may be achieved through the purchase of NO_x allowances that are converted to and used as discrete emission reductions (DERs) in accordance with Env-A 3100.

(b) NO_x RACT emission limits other than those specified in Env-A 1303 through Env-A 1312 shall be allowable as an alternative to the specified limits for all NO_x emitting processes and devices regulated under this chapter, except for wet-bottom cyclone fired utility boilers subject to the NO_x RACT requirements specified in Env-A1303.05.

(c) To obtain alternative NO_x RACT emission limits for a source, the owner or operator of the source shall request a NO_x RACT order from the department in accordance with Env-A 1315.

Env-A 1314.04 Emissions Averaging for Multiple Sources Under Common Ownership.

(a) For the purposes of this section, "bubble" means an option taken by the owner of 2 or more stationary sources to use emissions averaging so as to impose controls that are more stringent than RACT level on one or more emissions units at one or more of the owner's stationary sources while simultaneously imposing controls that are less stringent than RACT level on other emissions units at the same or other of

the owner's stationary sources, including the option of no controls on such units, in order to achieve the same overall amount of emission reduction required by the SIP in a more cost effective manner.

(b) Emissions averaging shall be allowed for NO_x emissions from 2 or more stationary sources only if all of the requirements of this section are met.

(c) All of the stationary sources to be included in the emissions averaging shall be:

- (1) Located in New Hampshire; and
- (2) Under the control of a single owner.

(d) Emissions averaging, including identifying allowable emission averaging periods, shall be done in accordance with EPA's emissions trading policy, as described at 51 FR 43814 and 51 FR 43850.

(e) Emission reduction credits generated for the purpose of emission averaging shall:

- (1) Be real, surplus, permanent, quantifiable, federally-enforceable, and transferable within the bubble within a given calendar year; and
- (2) Conform to 40 CFR 51.165, as revised June 28, 1989, RSA 125-J, Env-A 3000, and Env-A 3100.

(f) Emissions averaging shall be enforced by means of federally-enforceable conditions contained in the permits for the stationary sources issued by the department as a source-specific SIP revision, or by federally-enforceable permits issued by the department or EPA, for all stationary sources to be included in the averaging.

(g) The recordkeeping and reporting requirements for emission averaging shall:

- (1) Be in accordance with Env-A 900; and
- (2) Include a summary of the emissions, emissions reduction credit transfers, applicable transfer ratios, and adjusted emissions, after transfer, of each affected stationary source.

(h) Each stationary source to be included in the emissions averaging shall calculate the total allowable NO_x emissions using the equation specified in Env-A 1314.05 for each 24-hour calendar day. Compliance with the NO_x RACT weighted average allowable emission rate so calculated shall be based on the weighted average actual NO_x emissions from the emissions unit(s) that are operating on a given day.

(i) Emission reduction credits generated from reductions at any stationary source included in emissions averaging may be used for compliance with the total allowable NO_x emissions calculated pursuant to (h), above, by any other stationary source(s) within the bubble.

(j) The owner or operator of each stationary source to be included in the emissions averaging shall:

- (1) Calculate daily emissions:
 - a. For those emissions units generating credits for the purpose of emissions averaging, based on the installation of CEMs in accordance with Env-A 1314.02; or
 - b. For those emissions units for which CEMs are not required under Env-A 1314.02, based on:
 1. The worst case emission rate(s) for the device(s) or source(s) established through stack testing performed in accordance with Env-A 800 and approved by EPA; and
 2. The hours of operation measured in accordance with a method approved by EPA; and
- (2) Comply with the recordkeeping and reporting requirements specified in Env-A 900.

Env-A 1316.05 Emissions Averaging Equation.

(a) "E" means the total allowable emissions from all stationary sources included in the emissions averaging, in pounds per day.

(b) "A1, A2, ..., An" means the applicable emission limit for each unit of production, such as lb/MMBtu, as specified in this chapter.

(c) "B1, B2, ..., Bn" means the maximum number of units of production per day, such as MMBtu/day, based on the maximum gross heat input rate of each emissions unit included in the emissions averaging.

(d) To calculate the total allowable emissions from all stationary sources included in the emissions averaging in pounds per day, the owner or operator shall multiply A1 times B1, A2 times B2, and so forth, and then sum the products, as in the formula below:

$$E = (A1 \times B1) + (A2 \times B2) + \dots + (An \times Bn)$$

Env-A 1314.06 Seasonal Control of NOx Emissions.

(a) A stationary source that is subject to this chapter may use seasonal emission control techniques in order to comply with NOx RACT, as specified in (b) through (f), below.

(b) Any stationary source using post-combustion NOx air pollution control equipment to comply with NOx RACT during the ozone season shall continue to operate said equipment during the remainder of the calendar year.

(c) The allowable annual NOx mass emission rate, in tons per year, shall be less than or equal to the annual NOx mass emission rate that would be calculated by multiplying the actual annual production rate, for example Btu per year, by the applicable emission limit, for example lbs. NOx per million Btu, as specified in Env-A 1303 through Env-A 1312 for all emissions units and fuels in use prior to December 31, 1990.

(d) Annual NOx emissions limits shall be based on the lower of the actual or allowable NOx emissions for calendar year 1990, unless NOx emissions and operational data submitted by the owner or operator, and approved by the department in accordance with (e), below, demonstrate that NOx emissions from the source for calendar year 1990 are not representative of normal operations. In no case shall NOx emissions data for years prior to calendar year 1989 be used to represent normal operations for the purpose of emissions averaging.

(e) The department shall use EPA-approved methods and procedures as specified in 40 CFR §51.165 for determining whether the NOx and operational data submitted by the owner or operator is adequate to demonstrate that NOx emissions for calendar year 1990 are not representative of normal operations.

(f) Emissions averaging to meet NOx RACT requirements on a seasonal basis shall be allowable in accordance with the following requirements:

(1) A 24-hour calendar day average NOx mass emission limit shall be established for the ozone season based on the applicable limit specified in Env-A 1303 through Env-A 1312 for all emissions units and fuels in use prior to December 31, 1992;

(2) A 24-hour calendar day average NOx mass emission limit shall be established for the remainder of the year based on the uncontrolled emission rate of the emissions unit determined by CEM data or stack test data;

(3) An allowable average annual NOx mass emission limit shall be established in accordance with (c), above;

- (4) The sum of the NO_x mass emissions during the ozone season and the NO_x mass emissions during the remainder of the calendar year shall be less than or equal to the lesser of the annual NO_x mass emissions that would have been allowed under Env-A 1303 through Env-A 1312 or the annual NO_x mass emissions otherwise allowed under Env-A 611, Env-A 618, Env-A 619, Env-A 1313, Env-A 1314.03, Env-A 1314.04, Env-A 2900 through Env-A 3300, Env-A 3500, Env-A 3700, and Env-A 4300;
- (5) Emissions from replacement power sources shall be calculated by multiplying the actual production rate for the device, for example Btu per hour, by the allowable NO_x mass emission rate for the device, for example lb. NO_x per million Btu;
- (6) For multiple sources under common ownership using the bubble specified in Env-A 1314.04, the applicable emission limit for each unit of production referred to in the formula in Env-A 1314.05 shall be established in accordance with the applicable provisions of this part; and
- (7) All stationary sources using seasonal controls shall:
- a. Install CEMs to the extent required by Env-A 1314.02 and Env-A 800;
 - b. Calculate daily emissions in accordance with Env-A 1314.02 and Env-A 800;
 - c. Calculate annual emissions in accordance with this part ; and
 - d. Comply with the applicable recordkeeping and reporting requirements specified in Env-A 900.

PART Env-A 1315 NO_x RACT ORDERS

Env-A 1315.01 Definitions. For the purpose of this part, the following definitions shall apply:

- (a) "Determination of insufficiency" means a written determination by the department that the documentation submitted by an applicant pursuant to Env-A 1315.02(a), is inadequate for the department to issue a NO_x RACT order; and
- (b) "Determination of sufficiency" means a written determination by the department that the documentation submitted by an applicant pursuant to Env-A 1315.02(a), is adequate for the department to issue a NO_x RACT order.

Env-A 1315.02 Requests for NO_x RACT Orders; Initial Determinations Regarding Sufficiency.

- (a) To request a NO_x RACT order, the owner or operator of any miscellaneous stationary source subject to the provisions of Env-A 1313 or any source, device or process seeking alternative RACT emission limits pursuant to Env-A 1314.03 shall submit the information, including a feasibility study, as specified in Env-A 1315.04 to the department within 120 days of the date when the source becomes subject to this chapter.
- (b) Within 60 days of receipt of information submitted pursuant to (a), above, the department shall review all information submitted and notify the person requesting the alternative emissions limits (requestor) in writing of its initial determination of sufficiency or initial determination of insufficiency.
- (c) If the department makes an initial determination of insufficiency, the notice sent pursuant to (b), above, shall include:
- (1) A request for the additional information that is necessary for the department to make a determination of sufficiency; and

- (2) A statement that if a complete response to the request for additional information is not received by the department within 60 days of the date of the notice sent pursuant to (b), above, a final determination of insufficiency will be made.

Env-A 1315.03 Final Determinations Regarding Sufficiency; Proposed NOx RACT Orders.

(a) If an initial determination of sufficiency is made, then within 60 days of the initial determination of sufficiency the department shall:

- (1) Make a final determination of sufficiency and present to EPA and the requestor a proposed RACT order that contains the information specified in (c), below; and
- (2) Proceed as specified in Env-A 1315.05 relative to public notice.

(b) If an initial determination of insufficiency is made, then within 60 days of the initial determination of insufficiency the department shall:

(1) If the requestor files a response within the specified time period which contains information that is sufficient to allow a determination of sufficiency to be made, make a final determination of sufficiency and:

- a. Present to EPA and the requestor a proposed NOx RACT order that contains the information specified in (c), below; and
- b. Proceed as specified in Env-A 1315.05 relative to public notice; or

(2) If the requestor does not file a response within the specified time period which contains information that is sufficient to allow a determination of sufficiency to be made, terminate the permit process and issue a final determination of insufficiency.

(c) A proposed NOx RACT order issued pursuant to (a)(1) or (b)(1) shall contain the following:

- (1) An inventory of all NOx-emitting sources, devices, or processes;
- (2) Emission limits for all NOx-emitting sources, devices, or processes;
- (3) A schedule requiring compliance with the RACT emission limits that contains the elements described in Env-A 1315.04(g);
- (4) Procedures for determining initial compliance with the emission limits;
- (5) Procedures for assessing continuous compliance with the emission limits; and
- (6) Recordkeeping and reporting requirements in accordance with the provisions of Env-A 900.

Env-A 1315.04 Information Required for NOx RACT Order Request. The information required by Env-A 1315.02(a) shall be as follows:

- (a) An inventory of all NOx-emitting sources, devices, or processes at the facility;
- (b) The maximum NOx-emitting capacity of each NOx-emitting source, device, or process;
- (c) The actual amount of NOx emitted based on heat input, fuel consumption, or equivalent method acceptable to the department, for each day during the previous calendar year, from each affected NOx-emitting source, device or process at the facility;
- (d) A feasibility study of RACT options, comprising:
 - (1) Identification of all available NOx control techniques and other options for all applicable NOx emitting sources, devices, or processes for which alternative RACT emission limits are

sought, including but not limited to using ERCs or DERs, changing to low-NOx emitting processes, and, for utility boilers, the following:

- a. Low-NOx burners;
 - b. Overfire air;
 - c. Flue gas recirculation;
 - d. Natural gas reburn;
 - e. Burners out of service;
 - f. Use of alternative fuels;
 - g. Selective catalytic reduction (SCR); and
 - h. Selective non-catalytic reduction (SNCR); and
- (2) An examination of the technical and economical feasibility of each option identified;
- (e) The control option selected, stating emission limits, monitoring, recordkeeping and reporting procedures, and test methods to demonstrate compliance;
- (f) The amount of NOx that is proposed to be controlled from each NOx-emitting source, device or process identified in the inventory required by (a), above; and
- (g) A schedule for implementation, which identifies the commitment dates for the major increments of progress toward compliance, including:
- (1) Completion of engineering;
 - (2) Submission of air pollution permit application;
 - (3) Awarding of contract;
 - (4) Initiation of construction;
 - (5) Completion of construction;
 - (6) Initial compliance testing;
 - (7) Submission of compliance tests reports; and
 - (8) Final compliance with emission or control requirements of this chapter.

Env-A 1315.05 Public Notice; Opportunity for Comment.

(a) Within 30 days of issuing a proposed NOx RACT order, the department shall cause a public notice of the proposed NOx RACT order to be published once in a newspaper of daily statewide circulation and once in a newspaper in the general locality of the source for which the alternative NOx compliance is being sought.

- (b) The notice published pursuant to (a), above, shall:
- (1) Briefly describe the proposed NOx RACT order;
 - (2) Offer the opportunity for a hearing;
 - (3) State where the full proposal is available for inspection, including whether the proposal can be accessed electronically;
 - (4) Identify the name and contact information for the individual at the department to whom a request for a hearing and written comments should be directed; and

- (5) Specify that comments are due to the department within 30 days of publication of the notice or 10 days after the public hearing, if one is requested.
- (c) If a public hearing on the proposal is requested, the department shall:
- (1) At least 30 days prior to conducting the hearing, publish a notice in a newspaper of daily statewide circulation, stating the place, date, and time of the hearing;
 - (2) Conduct the hearing on the proposed NO_x RACT order as specified in the published notice in accordance with the non-adjudicative hearing procedures specified in Env-C 200; and
 - (3) Accept written comments on the proposal until 10 days after the public hearing.

Env-A 1315.06 Issuance of NO_x RACT Order.

(a) After considering all public comment received and within 60 days of the date of the public hearing on the proposed NO_x RACT order, the department shall issue a final NO_x RACT order to the owner or operator of the affected source, device, or process.

(b) Within 60 days of the issuance of a final NO_x RACT order, the department shall submit to EPA a revision to the State Implementation Plan (SIP) to reflect the NO_x RACT order.

(c) Upon issuance of the final NO_x RACT order, the department shall issue a permit to the owner or operator of the affected source, device, or process which incorporates all of the terms and conditions of the final NO_x RACT order.

(d) The owner or operator of any source, device, or process for which a final NO_x RACT order has been issued shall comply with all of the terms and conditions of the final NO_x RACT order immediately upon the issuance of such order by the department.

APPENDIX A

Rule Section(s)	State Statute(s) Implemented	Federal Statute(s) Implemented
Env-A 1300	RSA 125-C:46, II and XI	42 U.S.C. §§ 7410, 7502(c) & 7511c

APPENDIX B: FEDERAL DEFINITIONS

40 CFR 60, subpart III:

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

Section 60.4219:

“Spark ignition” means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

“Stationary internal combustion engine” means any internal combustion engine (ICE), except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

40 CFR 60, subpart JJJJ:**Section 60.4248:**

“Lean burn engine” means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

“Rich burn engine” means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to June 12, 2006, with passive emission control technology for NOX (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

40 CFR 63, subpart JJJJJJ:**Section 63.11237:**

“Temporary boiler” means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

- (1) The equipment is attached to a foundation.
- (2) The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.
- (3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
- (4) The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

APPENDIX C: INCORPORATION BY REFERENCE INFORMATION

Rule	Title (Date)	Source
Env-A 1302.08	ASTM D388, Standard Classification of Coals by Rank	ASTM International 100 Barr Harbor Drive, PO Box C700 West Conshohocken, PA, 19428-2959 Purchase for \$46 at: https://www.astm.org/Standards/D388.htm