

This model rule was developed by the Ozone Transport Commission (OTC) as part of a regional effort to attain and maintain the one-hour ozone standard, address emission reduction shortfalls that were identified by the U.S. Environmental Protection Agency in specific State's plans to attain the one-hour ozone standard, and reduce eight-hour ozone levels. A June 1, 2000 Memorandum of Understanding (MOU) designated the list of control measures evaluated as part of this effort. This model rule is being reviewed by the OTC at its March 6, 2001 Winter Meeting.

Please note that States opting to promulgate rules based on this model rule must comply with State specific administrative requirements and procedures.

NOTE: "XXXX" is a place holder for State-specific section numbers, title numbers, or State names.

Model Rule for Additional Nitrogen Oxides (NO_x) Control Measures

PART Env-A xxxx ADDITIONAL NITROGEN OXIDES (NO_x) CONTROL MEASURES

- 01 Definitions
- 02 Applicability
- 03 Emission Standards for Industrial Boilers
- 04 Emission Standards for Stationary Combustion Turbines
- 05 Emission Standards for Stationary Reciprocating Engines
- 06 Emission Standards and Control Options for Emergency Generators
- 07 Emission Standards for Load Shaving Units
- 08 Emission Requirements for Cement Kilns
- 09 Compliance Schedule
- 10 Alternative Emission Limits
- 11 Emissions Averaging
- 12 NO_x Testing
- 13 NO_x Monitoring Requirements

Env-A xxxx.01 Definitions. The following words, terms, and abbreviations used in this part (subchapter) shall have the following meanings:

(a) "Bhp-hr" means brake horsepower-hour.

(b) "Clinker" means the product of a Portland cement kiln from which finished cement is manufactured by milling and grinding. This product consists essentially of hydraulic calcium silicates.

(c) "Coal" means all solid fuels classified as anthracite, bituminous, lignite, or

subbituminous according to the ASTM Standard Specification for Classification of Coals by Rank, ASTM D 388-77, coal refuse, and petroleum coke. This term includes coal-derived synthetic fuels, including but not limited to, solvent refined coal, gasified coal, coal-oil mixtures, and coal-water mixtures.

(d) "Cogeneration facility" means a unit that both generates steam for the purpose of supplying useful heat and/or energy to a process (i.e. manufacturing process, office park, etc.) and generates electricity which is consumed at the facility where the unit is located or is sold for consumption elsewhere.

(e) "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.

(f) "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.

(g) "Control apparatus" means any device which prevents or controls the emission of any air contaminant directly or indirectly into the outdoor atmosphere.

(h) "Dual fuel engine" means a compression ignited stationary internal combustion engine that is capable of burning liquid fuel and gaseous fuel.

(i) "Electric generating unit" means a unit that generates electricity that is sold by the owner or operator of the unit. This term includes, but is not limited to, stationary combustion turbines or stationary internal combustion engines used to generate electricity.

(j) "Electric public utility" means a public utility that transmits and distributes electricity to end users within a State and which is regulated by a Public Utilities Commission.

(k) "Emergency generator" means a stationary internal combustion engine located at a facility that serves solely as a secondary source of mechanical or thermal energy or electrical power when the primary energy or power source is disrupted or discontinued during an emergency due to circumstances beyond the control of the owner or operator of the facility, such as when a power outage has occurred or is forecast to occur within the next three (3) hours by the electric service provider; and that is operated only during such an emergency or when normal testing procedures as recommended by the manufacturer are being performed. This term shall not include any of the following:

- (1) Equipment that serves as an energy or power source in circumstances other than emergencies, such as a load shaving unit;
- (2) Equipment which continues to be used after the primary energy or power source has either become operable again or should have become operable had the owner or operator made a reasonable effort to repair it;
- (3) A peaking electric generating unit;

(4) A stationary internal combustion engine or stationary combustion turbine used at a nuclear power plant as an emergency generator which is subject to the regulations of the Nuclear Regulatory Commission (NRC).

(l) "Emergency standby engine" means an internal combustion engine used only when the primary energy or power source is disrupted or discontinued during an emergency due to circumstances beyond the control of the owner or operator of the facility, such as when a power outage has occurred or is forecast to occur within the next three (3) hours by the electric service provider, or an internal combustion engine used for the emergency pumping of water for either fire protection or flood relief. An emergency standby engine shall only be operated during such an emergency or when normal testing procedures as recommended by the manufacturer are being performed and may not be operated to supplement a primary power source when the load capacity or rating of the primary power source has been either reached or exceeded.

(m) "Emission unit" means an individual piece of equipment or control apparatus from which any air contaminant is emitted to the ambient air, e.g. an individual boiler.

(n) "Fuel-bound nitrogen" means the nitrogen content, in weight fraction, of a fuel.

(o) "Gas" or "Gaseous fuel" means any of the following, if they can be used to create useful heat and/or mechanical energy:

- (1) Natural gas;
- (2) Gaseous substances produced synthetically from coal or oil;
- (3) Gaseous substances derived from the decomposition of organic matter; or
- (4) Gaseous substances derived as a by-product of a manufacturing process.

(p) "Industrial boiler" means a steam generating unit that generates steam to supply power and/or heat to an industrial, institutional, or commercial operation. This term does not include boilers that serve electric generating units and cogeneration facilities.

(q) "Internal combustion engine" means either a reciprocating engine or a combustion turbine in which power, produced by heat and/or pressure that is developed in the engine combustion chambers by the burning of a mixture of air and fuel, is subsequently converted to mechanical work.

(r) "Lean burn engine" means a stationary reciprocating engine in which the amount of O₂ in the engine exhaust gases is 1.0% or more, by volume on a dry basis.

(s) "Limited at all times" means, with respect to the NO_x emissions of a source or device, prohibited from exceeding the applicable NO_x emission limit in any averaging

period that the source or device operates. The averaging period shall correspond to the time parameter of the applicable emission limit; for example, if the emission limit is expressed in pounds per hour, then the averaging period shall be an hour.

(t) "Load shaving unit" means an electric generating unit which generates electricity for sale or use primarily during high electric demand days.

(u) "Long dry kiln" means a kiln which employs no preheating of the feed and which has an inlet feed that is dry.

(v) "Long wet kiln" means a kiln which employs no preheating of the feed and which has an inlet feed to the kiln that is a slurry.

(w) "Low-NOx burner" means a burner used in combustion equipment that is designed to reduce flame turbulence by delaying the mixing of fuel and air and by establishing fuel-rich zones for initial combustion. In the context of cement kilns, low-NOx burner means a type of cement kiln burner for the purpose of reducing NOx emissions that has a series of channels or orifices that: (1) allow for the adjustment of the volume, velocity, pressure, and direction of the air carrying the fuel (known as primary air) and the combustion air (known as secondary air) into the kiln and (2) impart high momentum and turbulence to the fuel stream to facilitate the mixing of the fuel and secondary air. To reduce the amount of primary air used by the low NOx burner, an indirect firing system must be used with the low NOx burner. The indirect firing system: (1) separates the powdered fuel from the air stream that carried the fuel from the drying/milling equipment, (2) stores the fuel briefly, and (3) uses an independent, significantly smaller stream of hot primary air to blow the fuel to the burner.

(x) "Maximum allowable emission rate" means the maximum amount of an air contaminant that may be emitted into the ambient air during one of the following:

- (1) A prescribed interval of time, such as one hour or one day;
- (2) The period of time required for a unit activity, such as the burning of one gallon of fuel; or
- (3) The period of time required to produce a given unit of output, such as the generation of one megawatt of electricity.

(y) "Maximum heat input rate" means, for a given unit of fuel-burning equipment, its maximum steady state fuel firing rate, in Btus per hour of gross heat input as determined by the design rating of the equipment manufacturer.

(z) "Mid-kiln firing" means a secondary combustion modification that may be used in long wet or long dry kilns for the purpose of decreasing NOx emissions. Such firing is done by injecting a portion of the fuel requirements, i.e., solid fuel, through the kiln shell at an intermediate point near the calcining zone of the kiln using a specially designed feed injection mechanism.

(aa) "MM Btu" means million British thermal units.

(ab) "Natural gas" means:

- (1) 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; or
- (2) Liquid petroleum gas, as defined by the ASTM Standard Specification for Liquid Petroleum Gases, D1835- 82.

(ac) "Output" means, with respect to an internal combustion engine, the shaft work output from the engine plus the energy reclaimed by any useful heat recovery system.

(ad) "Oxides of nitrogen (NO_x)" means all oxides of nitrogen, except nitrous oxide, as measured in accordance with test methods approved by the State of xxxx and EPA, such as the test methods set forth at 40 CFR 60 Appendix A Method 7E.

(ae) "Peaking electric generating unit" means a load shaving unit.

(af) "Portland cement" means a hydraulic cement produced by pulverizing clinker consisting of hydraulic calcium silicates, usually containing one or more forms of calcium sulfate as an interground addition.

(ag) "Portland cement kiln" means a kiln system, including any solid, gaseous, or liquid fuel combustion equipment serving the system, used to calcine and fuse raw materials, including limestone and clay, to produce Portland cement clinker.

(ah) "Power outage" means an interruption in the provision of electricity to customers because normally available sources of electrical energy are unavailable due to circumstances beyond the control of both the customer and the power supplier.

(ai) "ppmvd" means parts per million dry volume.

(aj) "Precalciner kiln" means a kiln where the feed to the kiln system is preheated in cyclone chambers and utilizes a second burner to calcine material in a separate vessel attached to the preheater prior to the final fusion in a kiln which forms clinker.

(ak) "Preheater kiln" means a kiln where the feed to a Portland cement kiln system is preheated in cyclone chambers prior to final fusion in a kiln which forms clinker.

(al) "Reciprocating engine" means an engine with a crankshaft.

(am) "Regenerative cycle combustion turbine" means any stationary gas or oil-fired turbine that recovers heat from the turbine exhaust gases to preheat the inlet combustion air fed into the turbine.

(an) "Rich burn engine" means a stationary reciprocating engine that is not a lean burn engine.

(ao) "Secondary combustion" means, in the context of cement kilns, a system that employs a second combustion point in addition to the primary flame. This definition

would include mid-kiln firing in long wet and dry kilns and also additional combustion at the raw material feed end of the kiln in preheater/precalciner kilns.

(ap) "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 fed into the turbine, heat water or generate steam.

(aq) "Small electric generating facility" means an electric generating facility that is designed to operate, or is only capable of operating, at a capacity of less than 30 megawatts and is not a cogeneration facility.

(ar) "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:

- (1) Is not self-propelled, but which may be mounted on a vehicle for portability; or
- (2) Is self-propelled on tracks at a facility, but which does not in the course of its normal operation leave the facility.

(as) "Stationary reciprocating engine" means a reciprocating internal combustion engine that will remain for more than thirty (30) days at a single site (e.g., any building, structure, facility, or installation). A stationary reciprocating engine may not be self-propelled, but may be mounted on a vehicle for portability; or may be propelled on tracks at a facility, but not leave the facility in the course of its normal operation. This term does not include non-road engines, locomotive engines, construction engines, or engines that are used solely in officially sanctioned off-highway racing competitions.

(at) "Steam generating unit" means fuel-burning equipment or combustion equipment that combusts any fuel, process byproduct, or waste in order to produce steam or to heat water or any other heat transfer medium.

(au) "Stoker" means a furnace with a design that incorporates a feeding mechanism and a fuel distribution system for the purpose of introducing solid fuel into the combustion zone of the furnace by feeding the fuel onto a grate, and a system for collecting ash residue.

Env-A xxxx.02 Applicability.

(a) This part (subchapter) applies on or after January 1, **XXXX** * to any emission unit that belongs to one of the following categories:

- (1) An industrial boiler shall be subject to the requirement of Env-A xxxx.03 if the maximum heat input rate of the boiler equals or exceeds 5,000,000 Btu per hour;
- (2) A stationary combustion turbine shall be subject to the requirements of Env-A xxxx.04 if the maximum heat input rate of such turbine equals or exceeds 25,000,000 Btu per hour, except that this category shall not include stationary combustion turbines mounted on aircraft and combustion turbines operating as load shaving units or emergency generators;
- (3) A stationary reciprocating engine shall be subject to the requirements of Env-A xxxx.05 if the maximum output of such engine equals or exceeds 200 HP, except that this category shall not include: stationary internal combustion engines operating as load shaving units; stationary internal combustion engines operating as emergency generators; or stationary internal combustion engines used at a nuclear power plant as an emergency generator which are subject to regulations of the Nuclear Regulatory Commission (NRC).
- (4) A cement kiln shall be subject to the requirements of Env-A xxxx.08 if the processing capacity of the kiln is at least:
 - a. 12 tons per hour for a long dry kiln;
 - b. 10 tons per hour for a long wet kiln;
 - c. 16 tons per hour for a preheater kiln; and
 - d. 22 tons per hour for a precalciner or a preheater/precalciner kiln.

(b) The requirements of Env-A xxxx.06 shall apply to a stationary reciprocating engine or a combustion turbine used as an emergency generator if:

- (1) The engine or turbine is only operated during emergencies due to circumstances beyond the control of the owner or operator of the facility including a power outage or when a power outage is forecast to occur within the next three (3) hours by the electric service provider, or for testing the engine to ensure operability;
- (2) The owner or operator complies with the provisions of Env-A xxxx.06 Emission Standards and Control Options for Emergency Generators; and

*** It is anticipated that the applicability year will be between 2003 & 2005.**

- (3) The combined potential NOx emissions from testing all emergency generators at the facility are limited by an enforceable permit condition to less than 10 tons of NOx for any consecutive 12 month period.

(c) The requirements of Env-A xxxx.07 shall apply to load shaving units if the combined potential NOx emissions from all load shaving units at the facility are not limited by an enforceable permit condition to less than 10 tons of NOx for any consecutive 12 month period.

Env-A xxxx.03 Emission Standards for Industrial Boilers.

(a) The owner or operator of an industrial boiler which meets the applicability criteria of Env-A xxxx.02(a)(1) above shall ensure that the boiler conforms to the provisions of this section.

(b) The owner or operator of an industrial boiler with heat input rate of at least 5,000,000 Btu per hour but less than 50,000,000 Btu per hour shall:

(1) Annually, before April 1st of each year:

- a. Perform an efficiency test using the test procedures specified in ASME/ANSI Boiler Test Code 4.1;
- b. Adjust the combustion process of the boiler in accordance with the procedures specified in Chapter 5, Combustion Efficiency Tables, Taplin, Harry, R., Fairmont Press, 1991;
- c. Measure the concentration of NOx, CO, and oxygen in the effluent/exhaust stream after the combustion process of the boiler has been adjusted using the procedures specified in Env-A xxxx.12 (h); and
- d. Measure the opacity of the effluent/exhaust stream after the combustion process of the boiler has been adjusted using the procedures specified in Env-A xxxx.12 (i); and

(2) Maintain, in a permanently bound log book or other format approved by the director the following information for each occasion on which the efficiency test and combustion process adjustment is performed as required in (b)(1) above:

- a. The date on which:
 - I. The efficiency test is conducted;
 - II. The combustion process is adjusted;
 - III. The concentration of NOx, CO, and oxygen in the effluent/exhaust stream; and

- IV. The opacity of the effluent/exhaust stream;
- b. The names, titles and affiliation of the persons who:
 - I. Conducted the efficiency test;
 - II. Made the adjustments;
 - III. Measured the concentration of NO_x, CO, and oxygen in the effluent/exhaust stream; and
 - IV. Measured the opacity of the effluent/exhaust stream;
 - c. The NO_x emission concentration, in ppmvd as measured after the adjustment is made;
 - d. The CO emission concentration, in ppmvd as measured after the adjustment is made;
 - e. The oxygen concentration, in percent by volume dry as measured after the adjustment is made;
 - f. The opacity reading of the effluent/exhaust stream, as measured after the adjustment is made; and
 - g. Any other information required by Env-A xxxx, Env-A xxxx and Env-A xxxx [These sections refer to individual State recordkeeping, reporting and emission statement requirements].

(c) The NO_x emissions of an industrial boiler with heat input rate of at least 50,000,000 Btu per hour but less than 100,000,000 Btu per hour shall be limited at all time to conform with one of the following two applicable NO_x emission limits:

(1) For a natural gas-fired boiler:

- a. 0.10 pounds of NO_x per million Btu or equivalent output-based NO_x emission limit, based on:
 - I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or
 - II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; or

- b. The emission rate, in pounds of NO_x per million Btu or equivalent output-based NO_x emission rate, which is equal to a 50% NO_x reduction from the uncontrolled NO_x emission level based on:
 - I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or
 - II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; and

(2) For a boiler firing coal or fuel oil:

- a. 0.30 pounds of NO_x per million Btu or equivalent output-based NO_x emission limit, based on:
 - I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or
 - II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; or
- b. The emission rate, in pounds of NO_x per million Btu or equivalent output-based NO_x emission rate, which is equal to a 50% NO_x reduction from the uncontrolled NO_x emission level based on:
 - I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or
 - II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; and

(d) The NO_x emissions of an industrial boiler with heat input rate of at least 100,000,000 Btu per hour but less than or equal to 250,000,000 Btu per hour shall be limited at all times to conform with one of the following two NO_x emission limits:

(1) For a natural gas-fired boiler:

- a. 0.10 pounds of NO_x per million Btu or equivalent output-based NO_x emission limit, based on:
 - I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or
 - II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; or

b. The emission rate, in pounds of NOx per million Btu or equivalent output-based NOx emission rate, which is equal to a 50% NOx reduction from the uncontrolled NOx emission level based on:

- I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or
- II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; and

(2) For boilers firing fuel oil or coal:

a. 0.20 pounds of NOx per million Btu or equivalent output-based NOx emission limit, based on:

- I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or
- II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; or

b. The emission rate, in pounds of NOx per million Btu or equivalent output-based NOx emission rate, which is equal to a 50% NOx reduction from the uncontrolled NOx emission level based on:

- I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or
- II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; or

(e) The NOx emissions of an industrial boiler with heat input rate greater than 250,000,000 Btu per hour which is not subject to the U.S. EPA's NOx SIP call shall be limited at all times to conform with one of the following two applicable NOx emission limits:

(1) For natural gas, fuel oil, coal and all other fuels:

a. 0.17 pounds of NOx per million Btu or equivalent output-based NOx emission limit, based on:

- I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or
- II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; or

b. The emission rate, in pounds of NOx per million Btu or equivalent output-based NOx emission limit, which is equal to a 50% NOx reduction from the uncontrolled NOx emission level.

I. a 1-hour average of three stack test runs if stack testing is used to demonstrate compliance; or

II. a 24-hour calendar day average if a CEM is used to demonstrate compliance; or

(f) Compliance with the NOx emission standards specified in this section shall be determined by:

(1) the emissions data from the CEM system, if a CEM system for NOx is required for the boiler under Env-A xxxx or Env-A xxxx.13; or

(2) the emissions data obtained from the NOx test methods specified in Env-A xxxx.12.

(g) Compliance with the NOx emission standards specified in this section may be achieved through the purchase of NOx allowances.

(h) The recordkeeping and reporting requirements for industrial boilers shall be in accordance with the provisions of Env-A xxxx, Env-A xxxx and Env-A xxxx, respectively [These sections refer to individual State recordkeeping, reporting, and emission statement requirements].

Env-A xxxx.04 Emission Standards for Stationary Combustion Turbines.

(a) The owner or operator of a stationary combustion turbine which meets the applicability criteria of Env-A xxxx.02(a)(2) above shall ensure that the turbine conforms to the provisions of this section, unless the turbine is operating as an emergency generator or a load shaving unit. In such case the owner or operator shall instead ensure that the turbine conforms to the provisions of Env-A xxxx.06 or Env-A xxxx.07, as applicable.

(b) The NOx emissions of a stationary combustion turbine shall be limited at all times by the following applicable hourly average NOx emission limits:

(1) For a combined cycle combustion turbine or a regenerative cycle combustion turbine:

a. For a gas-fired turbine without oil back-up, 1.3 pounds of NOx per MWh (42 ppmvd, corrected to 15% O₂);

b. For a gas-fired turbine with oil back-up, the following as applicable:

I. When operating on gas, 1.3 pounds of NOx per MWh (42 ppmvd, corrected to 15% O₂); or

- II. When operating on oil, 2.0 pounds of NO_x per MWh (65 ppmvd, corrected to 15% O₂); and
 - c. For an oil-fired turbine, 2.0 pounds of NO_x per MWh (65 ppmvd, corrected to 15% O₂); and
- (2) For a simple cycle combustion turbine:
- a. For a gas-fired turbine without oil back-up, 2.2 pounds of NO_x per MWh (55 ppmvd, corrected to 15% O₂);
 - b. For an oil-fired turbine, 3.0 pounds of NO_x per MWh (75 ppmvd, corrected to 15% O₂), and
 - c. For a gas-fired turbine with oil back-up:
 - I. When operating on gas, 2.2 pounds of NO_x per MWh (55 ppmvd, corrected to 15% O₂); and
 - II. When operating on oil, 3.0 pounds of NO_x per MWh (75 ppmvd, corrected to 15% O₂).

(c) Compliance with the NO_x emission standards specified in this section shall be determined by:

- (1) The emissions data from the CEM system, if a CEM system for NO_x is required for the stationary combustion turbine under Env-A xxxx or Env-A xxxx.13; or
- (2) The emissions data obtained from the NO_x test methods specified in Env-A xxxx.12.

(d) Compliance with the NO_x emission standards specified in this section may be achieved through the purchase of NO_x allowances.

(e) The recordkeeping and reporting requirements for stationary combustion turbines shall be in accordance with the provisions of Env-A xxxx, Env-A xxxx and Env-A xxxx, respectively [These sections refer to individual State recordkeeping, reporting, and emission statement requirements].

Env-A xxxx.05 Emission Standards for Stationary Reciprocating Engines.

(a) The owner or operator of a stationary reciprocating engine which meets the applicability criteria of Env-A xxxx.02(a)(3) above shall ensure that the engine conforms to the provisions of this section, unless the reciprocating engine is operating as an emergency generator or a load shaving unit. In such case the owner or operator on the engine shall instead ensure that the engine conforms to the provisions of Env-A xxxx.06 or Env-A xxxx.07, as applicable.

(b) The NO_x emissions of a stationary reciprocating engine shall be limited at all times to conform with the following applicable NO_x emission limit, given as an hourly average for stationary reciprocating engines equal to or greater than 200 HP:

- (1) For a spark-ignited rich burn engine, 1.5 grams per Bhp-hr;
- (2) For a spark-ignited lean burn engine equal to or greater than 200 HP but less than 2000 HP, 1.5 grams per Bhp-hr or an emission rate in grams per Bhp-hr which is equivalent to an 80% NO_x reduction from the uncontrolled NO_x emission level;
- (3) For a spark-ignited lean burn engine equal to or greater than 2000 HP, 1.5 grams per Bhp-hr or an emission rate in grams per Bhp-hr which is equivalent to an 90% NO_x reduction from the uncontrolled NO_x emission level;
- (4) For a compression ignition reciprocating engine firing diesel fuel, 2.3 grams per Bhp-hr;
- (5) For a compression ignition reciprocating engine firing dual fuels, (gas and diesel fuel), 2.3 grams per Bhp-hr; and
- (6) For engines firing landfill gas or digester gas 2.0 grams per Bhp-hr.

(c) Compliance with the NO_x emission standards specified in this section shall be determined by:

- (1) The emissions data from the CEM system, if a CEM system for NO_x is required for the stationary reciprocating engine under Env-A xxxx or Env-A xxxx.13; or
- (2) The emissions data obtained from the NO_x test methods specified in Env-A xxxx.12.

(d) Compliance with the NO_x emission standards specified in this section may be achieved through the purchase of NO_x allowances.

(e) The recordkeeping and reporting requirements for stationary reciprocating engines shall be in accordance with the provisions of Env-A xxxx, Env-A xxxx and Env-A xxxx, respectively [These sections refer to individual State recordkeeping, reporting, and emission statement requirements].

Env-A xxxx.06 Emission Standards and Control Options for Emergency Generators.

(a) The owner or operator of an emergency generator which meets the applicability criteria of Env-A xxxx.02(b) shall ensure that the emergency generator conforms to the provisions of this section.

(b) The emergency generator is operated only during emergencies due to circumstances beyond the control of the owner or operator of the facility including a power outage or when a power outage is forecast to occur within the next three (3) hours by the electric service provider, or for testing the engine to ensure operability.

(c) The owner or operator of an emergency generator shall not test the emergency generator on days when air quality is predicted by the State or designated Agency to be at least "unhealthy for sensitive groups" as defined in the U.S. EPA's Air Quality Index.

(d) The owner or operator of a stationary combustion turbine operating as an emergency generator shall:

(1) Annually, before April 1st of each year, adjust the combustion process of the combustion turbine as follows:

- a. Inspect the burner, the flame pattern from the burner, and the systems which control the air-to-fuel ratio;
- b. Adjust the air-to-fuel ratio in accordance with the results of the inspections performed;
- c. Determine the effect of the adjustment upon NO_x, CO, oxygen, and opacity by:
 - I. Measuring the concentration of NO_x, CO, and oxygen in the effluent/exhaust using the procedures specified in Env-A xxxx.12 (h); and
 - II. Measuring the opacity of the effluent/exhaust stream after the air-to-fuel ratio has been adjusted using the procedures specified in Env-A xxxx.12 (i);
- d. Re-adjust the air-to-fuel ratio based on results of the previous adjustment performed to minimize total NO_x emissions; and
- e. Confirm that NO_x emissions from the equipment or source operation do not cause an exceedance of any maximum allowable emission rate for NO_x or any other state and federally regulated air pollutant, or any opacity standard specified in Env-A xxxx;

(2) Maintain, in a permanently bound log book or other format approved by the director, the following information for each occasion on which the combustion process is adjusted as required in (d)(1) above:

- a. The date on which the combustion process is adjusted;

- b. The name, title and affiliation of the person who made the adjustments;
 - I. The NO_x emission concentration, in ppmvd, as measured after the adjustments are made;
 - II. The CO emission concentration, in ppmvd, as measured after the adjustments are made;
 - III. The oxygen concentration, in percent by volume dry basis, as measured after the adjustments are made;
 - IV. The opacity of the effluent/exhaust stream, as measured after the adjustments are made; and
 - V. Any other information required by Env-A xxxx, Env-A xxxx and Env-A xxxx [These sections refer to individual State recordkeeping, reporting, and emission statement requirements];

(3) Install, operate, and maintain an elapsed time meter for each stationary combustion turbine to indicate, in cumulative hours, the elapsed turbine operating time for the previous 12 months;

(4) Determine the hours of operation for each stationary combustion turbine for the previous 12 month period on a monthly basis; and

(5) Notify the State of xxxx in writing in the event that a turbine fails to comply with the requirements of Env-A xxxx.06 (b) or (c).

(e) The owner or operator of a stationary reciprocating engine which is operating as an emergency generator shall:

(1) Set and maintain at all times the ignition/injection timing of the engine four degrees retarded relative to standard timing, provided that the ignition/injection timing shall not be retarded beyond the point that:

a. The CO emission concentration increases beyond 100 ppmvd, corrected to 15% oxygen;

b. The turbocharger speed is increased beyond the maximum operating speed recommended by the manufacturer;

c. The exhaust port temperature increases beyond the manufacturer's recommended maximum operating temperature;

- d. The opacity of the emissions from the engine exhaust is equal to or greater than 20% opacity; or
 - e. The engine will not be able to start-up fast enough in order to comply with emergency start-up requirements specified for engines used at health care facilities.
- (2) Inspect and adjust the ignition/injection timing of the stationary reciprocating engine at least once every three years;
- (3) Maintain, in a permanently bound log book or other format approved by the director, the following information for each occasion on which the ignition timing of the engine has been inspected and adjusted as required in (e)(1) above :
- a. The date on which the ignition/injection timing is adjusted;
 - b. The name, title, and affiliation of the person who made the adjustments; and
 - c. Any other information required by Env-A xxxx, Env-A xxxx, and Env-A xxxx [These sections refer to individual State recordkeeping, reporting, and emission statement requirements];
- (4) Install, operate, and maintain an elapsed time meter for each stationary reciprocating engine to indicate, in cumulative hours, the elapsed engine operating time for the previous 12 months;
- (5) Determine the hours of operation for each stationary reciprocating engine for the previous 12 month period on a monthly basis; and
- (6) Notify the State of xxxx in writing in the event that an engine fails to comply with the requirements of Env-A xxxx.06 (b) or (c).
- (f) The emissions from emergency generators shall be included in the calculation of both the actual and potential emissions of a facility.
- (g) The recordkeeping and reporting requirements for emergency generators shall be in accordance with the provisions of Env-A xxxx, Env-A xxxx and Env-A xxxx, respectively [These sections refer to individual State recordkeeping, reporting, and emission statement requirements].

Env-A xxxx.07 Emission Standards for Load Shaving Units.

- (a) The owner or operator of a load shaving unit which meets the applicability criteria of Env-A xxxx.02(c) shall ensure that the load shaving unit conforms to the provisions of this section.

(b) The NO_x emissions from a stationary combustion turbine operating as a load shaving unit shall be limited at all times to conform with the applicable hourly average NO_x emission limits specified in Env-A xxxx.04 Emission Standards for Stationary Combustion Turbines.

(c) The NO_x emissions from a stationary reciprocating engine operating as a load shaving unit shall be limited at all times to conform with the applicable hourly average NO_x emission limits specified in Env-A xxxx.05 Emission Standards for Stationary Reciprocating Engines.

(d) Compliance with the NO_x emission standards specified in this section shall be determined by:

- (1) The emissions data from the CEM system, if a CEM system for NO_x is required for the stationary combustion turbine or stationary reciprocating engine under Env-A xxxx or Env-A xxxx.13; or
- (2) The emissions data obtained from the NO_x test methods specified in Env-A xxxx.12.

(e) Compliance with the NO_x emission standards specified in this section may be achieved through the purchase of NO_x allowances.

(f) The recordkeeping and reporting requirements for load shaving units shall be in accordance with the provisions of Env-A xxxx, Env-A xxxx and Env-A xxxx, respectively [These sections refer to individual State recordkeeping, reporting, and emission statement requirements].

Env-A xxxx.08 Emission Requirements for Cement Kilns.

(a) The owner or operator of a cement kiln which meets the applicability criteria of Env-A xxxx.02(a)(4) shall ensure that the kiln conforms to the provisions of this section.

(b) An owner or operator of any Portland cement kiln, which is subject to the provisions of this section, shall not operate the kiln unless one of the following conditions is met:

- (1) Low NO_x burners have been installed in the kiln, and the owner or operator ensures that the low NO_x burners are utilized when the kiln operates;
- (2) The kiln utilizes mid-kiln firing or secondary combustion when operating;
- (3) The NO_x emission rate of the kiln is equivalent to a 30% NO_x emissions reduction from the established uncontrolled baseline NO_x emission rate; or

- (4) Air pollution control equipment or an air pollution control process having 30% or greater NO_x removal efficiency approved by the State of xxxx and EPA has been installed and is utilized when the kiln operates.

(c) Compliance with this section shall be determined by the emissions data from a CEM system.

(d) Compliance with this section may be achieved through the purchase of NO_x allowances.

(e) The recordkeeping and reporting requirements for cement kilns shall be in accordance with the provisions of Env-A xxxx, Env-A xxxx and Env-A xxxx, respectively [These sections refer to individual State recordkeeping, reporting, and emission statement requirements].

Env-A xxxx.09 Compliance Schedule.

This section is inserted as *an example* of an existing rule that deals with this issue.

(a) The owner or operator of an emission unit subject to the provisions of this part (subchapter) shall modify the equipment and/or install NO_x control equipment, if such modification or installation is required pursuant to this part (subchapter), as expeditiously as possible but by not later than January 1, **XXXX***.

(b) By a date that is 120 days after the effective date of this part (subchapter), the owners or operator of an existing emission unit subject to the requirements of this part (subchapter) shall develop, and submit to the State of xxxx for approval, a schedule for bringing the affected emission unit into compliance with the applicable provisions of this part (subchapter).

This compliance schedule shall indicate the method by which the owner or operator shall achieve compliance and the dates by which the owner or operator commits to complete major increments of progress toward achieving compliance, including the dates for the following, as applicable:

- (1) Completion of engineering;
- (2) Submission of air pollution permit applications;
- (3) Awarding of contracts for construction and/or installation;
- (4) Initiation of construction;
- (5) Completion of construction;
- (6) Commencement of trial operation;

*** It is anticipated that the applicability year will be between 2003 & 2005.**

- (7) Initial compliance testing;
- (8) Submission of compliance testing reports; and
- (9) Commencement of normal operation in full compliance with the requirements of this part (subchapter).

(c) For an owner or operator limiting the emissions of an emissions unit through operating limits in an enforceable permit (such as a limit on the hours of operation), the compliance schedule required under Env-A xxxx.09(b), above, shall also include the following:

- (1) The actual amount of NO_x emitted from the affected emission unit for each calendar year, commencing with calendar year **XXXX***;
- (2) A complete permit application as required by Env-A xxxx.xx, including a description of the design and operation of the affected emission unit; and
- (3) Any other information required by part Env-A xxxx.

(d) The State of xxxx shall review each compliance schedule submitted for approval within 60 days of receipt; and approve or disapprove the schedule; or request additional information from the owner or operator pertaining to the schedule.

(e) In the event that the State of xxxx finds that it needs additional information in order to evaluate a compliance schedule submitted for approval, the owner or operator of the emission unit shall submit such additional information to the State of xxxx in writing within 30 days of receiving a request from the State of xxxx.

(f) The State of xxxx shall approve a compliance schedule only if:

- (1) The owner or operator would be taking all actions necessary to bring the emission unit into full compliance with the applicable requirements of this part (subchapter); and
- (2) Under the schedule the emissions unit would commence normal operation in full compliance with the requirements of this part (subchapter) as expeditiously as possible and in no case later than January 1, **XXXX***.

Env-A xxxx.10 Alternative Emission Limits.

This section is inserted as *an example* of an existing rule that deals with this issue.

(a) An owner or operator with one or more emission units subject to a NO_x limit specified in Env-A xxxx.03 through Env-A xxxx.08, may seek approval from the State of xxxx for the unit or units to comply instead with an alternative emission limit in accordance with the provisions of this section.

*** It is anticipated that the applicability year will be between 2003 & 2005.**

(b) The owner or operator seeking the State of xxxx 's approval of an alternative NOx emission limit for an emissions unit subject to the provisions of this part (subchapter) shall submit a request for approval of the alternative emission limit to the State of xxxx as follows:

- (1) For an emission unit that is a new or modified source, the request shall be submitted with the permit application; and
- (2) For an emission unit that is an existing source as of [the date which is the operative date of these rules], the request shall be submitted with 120 days of the effective date of this part (subchapter).

(c) A request for approval of an alternative emission limit shall include the following:

- (1) Specification of all emission units at the facility for which an alternative emission limit for NOx is sought;
- (2) Each specified emission unit's potential to emit under the requirements of this part (subchapter);
- (3) The actual amount of NOx emitted per unit of heat input, expressed in MM Btus, or other unit acceptable to the State of xxxx, for each day during **[insert year]** calendar year, by each specified unit;
- (4) For each specified unit, a listing of all available NOx control options. This list shall include, but not be limited to, 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; and
 - h. Selective non-catalytic reduction; and
- (5) An evaluation of the technical and economic feasibility of each available NOx control option. The evaluation should include consideration of using ERCs or DERs credits as an alternate or supplement to NOx control option;

- (6) For each specified unit, a listing of all available means of modifying the unit or process so that the unit or process becomes a lower emitter of NO_x;
- (7) An evaluation of the technical and economic feasibility of each available means of modifying the unit or process so that the unit or process becomes a low emitter of NO_x.
- (8) For each specified unit or process, a demonstration that no control option or means of modifying the unit or process which would enable the unit or process to achieve the applicable NO_x limit in this part (subchapter) is technologically and economically feasible; identification of the options or means of modifying the unit or process that are technologically and economically feasible; and of these which is the most effective method of reducing the unit's NO_x emissions, based on the evaluations required pursuant to (5) and (7) above;
- (9) For each specified unit, with respect to the method of reducing the unit's emissions identified as being most effective in reducing NO_x emissions, the following information:
 - a. The alternative emission limit for NO_x that the emission unit would meet;
 - b. The methods and/or other test methods that would be used to measure initial compliance and on-going continuous compliance; and
 - c. The applicable recordkeeping and reporting procedures in accordance with the provisions of Env-A xxxx, Env-A xxxx and Env-A xxxx, respectively. [These sections refer to individual State recordkeeping, reporting, and emission statement requirements];
- (10) For each specified emission unit, a comparison of the unit's potential to emit under the proposed alternative emission limit with its potential to emit, were the applicable NO_x limit in this part (subchapter) is met;
- (11) An implementation schedule for the alternative compliance containing the elements in Env-A xxxx.09 and a demonstration of compliance consistent with the requirements of this part (subchapter).

(d) Upon receipt of a request for approval of alternative emission limits for NO_x, the State of xxxx review the request and may issue to the owner or operator:

- (1) A written notification of its determination of sufficiency; or

- (2) An initial determination of insufficiency, together with a request for the additional or revised information that would be necessary for the State of xxxx to issue a determination of sufficiency.

(e) The State of xxxx shall not issue a determination of sufficiency for a request for approval of an alternative emissions limit for NO_x unless it is satisfied that:

- (1) The emission unit cannot meet the applicable emission limit set forth in Env-A xxxx.03 through Env-A xxxx.08 utilizing any technologically and economically feasible control option or other technologically and economically means of modifying the emission unit or process; and
- (2) The alternative NO_x emission limit proposed by the owner or operator is the most stringent emission limit that the emissions unit can meet, given the available control options and means of modifying the unit or the process.

(f) In the event that a determination of sufficiency is made, the owner or operator shall obtain a new or revised permit for the emission unit which includes the information required under Env-A xxxx.10(c)(1), (9), and (11) above.

(g) In the event that an initial determination of insufficiency is made, this determination shall become a final determination of insufficiency and the owner or operator shall be required to comply with the applicable NO_x emissions of this part (subchapter), without relying on an alternative emissions limit, unless the owner or operator submits within 60 days the additional or revised information that the State of xxxx has specified would be necessary for the State of xxxx to issue a determination of sufficiency.

Env-A xxxx.11 Emissions Averaging.

This section is inserted as *an example* of an existing rule that deals with this issue.

(a) An owner or operator with two or more emission units subject to the NO_x limits of this part (subchapter), may comply with these limits using emissions averaging in accordance with the provisions of this section.

(b) An owner or operator may comply using emissions averaging only if the owner or operator:

- (1) Develops an emissions averaging plan which includes the following elements:
 - a. Identification of each emission unit which will participate in the emissions averaging plan;
 - b. Identification of the NO_x emission limit with which each emission unit, individually, would be required to comply under this part (subchapter), if the unit were not participating in the emissions averaging plan;

c. A statement by the owner or operator that they will, by [date] each year, submit a demonstration of compliance to the State of xxxx in accordance with the requirements of this part (subchapter); and

d. A certification of compliance by the owner or operator;
and

(2) Holds a federally-enforceable permit, for each participating unit, which incorporates the emissions averaging plan.

(c) An emissions unit may be included in an emissions averaging plan only if it is:

(1) Located in [specify State];

(2) Located at a single facility; and

(3) Under the control of a single owner.

(d) Determination of an owner or operator's compliance, with respect to all emission units included in the emissions averaging plan, is based on demonstration that the units' combined actual NOx emissions do not exceed their combined allowable NOx emissions during any 24-hour calendar day during the ozone season. The unit's combined actual NOx emissions generally represent the sum of the actual NOx emissions from the emission units included in an emissions averaging plan that are operating on a given day and shall be calculated in accordance with Env-A xxxx.11(j) below. The unit's combined allowable NOx emissions represent the sum of the allowable NOx emissions of those units that are operating on a given day, and shall be calculated in accordance with Env-A xxxx.11(i) below.

(e) Emission reductions used for the purpose of offsetting emission increases, pursuant to an emissions averaging plan shall be real, surplus, permanent, quantifiable, and federally enforceable.

(f) For the purpose of complying with the NOx limits in this part (subchapter) through an emissions averaging plan, the NOx emissions from lower-emitting units may offset the NOx emissions from higher-emitting only if the emissions are concurrent, i.e., occur within the same calendar year.

(g) Each year, by [date], the owner or operator of emission units complying under this section will submit a demonstration of compliance to the State of xxxx. This demonstration of compliance shall include the following:

(1) A report summarizing each participating emission unit's annual NOx emissions;

(2) Calculations performed pursuant to Env-A xxxx.11(j) to determine the combined actual NOx emissions of the participating units that were operating on a given day, for each 24-hour calendar day in the ozone season;

- (3) Calculations performed pursuant to Env-A xxxx.11(i) to determine the combined allowable NOx emissions of the participating units that were operating on a given day, for each 24-hour calendar day in the ozone season;
- (4) A statement by the owner or operator that the emission units complied or failed to comply with the emission requirements; and
- (5) A certification of compliance by the owner or operator.

(h) The owner or operator of emission units complying with the requirements of this part pursuant to an emissions averaging plan shall carry out the recordkeeping and reporting requirements set forth at Env-A xxxx, Env-A xxxx and Env-A xxxx. This recordkeeping and reporting shall include, but not be limited to, the following:

- (1) A record of the data on which the determination of each unit's daily NOx emissions is based;
- (2) An annual report which sets forth each unit's daily NOx emissions;
- (3) The annual demonstrations submitted pursuant to Env-A xxxx.11(g) above by the owner or operator showing that the emissions units complied or failed to comply with the emission requirements of this section. summary of the emissions, the emissions reduction credit transfers, the applicable transfer ratios, and the adjusted emissions, after transfer, of each affected stationary source; and
- (4) The recordkeeping and reporting requirements specified in Env-A xxxx, Env-A xxxx, and Env-A xxxx [These sections refer to individual State recordkeeping, reporting, and emission statement requirements].

(i) The combined allowable NOx emissions of the emission units participating in an emissions averaging plan shall, for each 24-hour calendar day within the ozone season, be based only on the units within the emissions averaging plan operating on that day and shall be calculated in accordance with the following equation:

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

Where: "E" = the combined allowable NOx emissions of the emission units participating in the emissions averaging plan, expressed in pounds of NOx emissions per day;

"A1, A2, ..., An = the NOx emission limit, applicable under this part (subchapter), for a given emission unit operating on that day, expressed in pounds of NOx emissions per MM Btu of gross heat input; and

"B1, B2, ..., Bn = the maximum gross heat input per day, allowed by the given emissions unit under its permit, expressed as MM Btu.

(j) The combined actual NO_x emissions of the emissions units participating in an emissions averaging plan shall, for each 24-hour calendar day within the ozone season, be based only on the units within the emissions averaging plan operating on that day. For each unit with a CEMS for measuring NO_x, the unit's actual emissions shall be the NO_x emissions measured for that day by the CEMS; otherwise the unit's actual emissions shall be calculated in accordance with the following equation:

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

Where: "E" = the combined actual NO_x emissions of the emission units participating in the emissions averaging plan, expressed in pounds of NO_x emissions per day;

"A1, A2, ..., An = the actual NO_x emission rate determined pursuant to (k)(2) below; and

"B1, B2, ..., Bn = the emission unit's actual gross heat input expressed as MM Btu for the given day.

(k) The actual emissions data to be utilized to calculate the combined actual NO_x emissions of the emissions units participating in an emissions averaging plan shall be determined as follows:

(1) For an emissions unit for which a CEMS is required to be installed, or for which a CEMS has been installed to measure NO_x emissions, the unit's daily NO_x emissions shall be as measured by the CEMS for NO_x;

(2) For an emissions unit for which a CEMS is not required to be installed and for which a CEMS has not been installed to measure NO_x emissions, the unit's daily NO_x emissions shall be based on the following:

a. The unit's actual NO_x emission rate shall be the higher of the following:

I. The unit's worst case emission rate established through stack testing performed in accordance with the provisions of Env-A xxxx.13 and approved by the State of xxxx and EPA;

II. The NO_x limit, applicable under this part (subchapter), to the unit, expressed in pounds of NO_x emissions per MM Btu of gross heat input; or

III. The NO_x emission limit given for the emission unit in its permit, expressed in pounds of NO_x emissions per MM Btu of gross heat input; and

(3) The emission unit's actual daily gross heat input measured in accordance with a method approved by the State of xxxx and EPA.

Env-A xxxx.12 NOx Testing.

This section is inserted as *an example* of an existing rule that deals with this issue.

(a) Except for those devices specified in Env-A xxxx.xx [refers to State specific requirement], all stationary sources subject to this part shall conduct an initial compliance stack test to demonstrate compliance with the NOx emission limits or NOx air pollution control technology requirements specified in Env-A xxxx.03 through Env-A xxxx.08.

(b) Except for those devices specified in Env-A xxxx.xx [refers to State specific requirement], all stationary sources subject to this part shall conduct periodic stack testing, no less frequently than once every 3 years, in order to demonstrate compliance with the NOx air pollution control requirements specified in Env-A xxxx.03 through Env-A xxxx.08. The first test shall occur no later than 3 years from the date of the initial compliance stack test required by Env-A xxxx.

(c) The owner or operator of a stationary source or device required to conduct an initial compliance stack test or periodic stack testing shall submit a stack test report to the State of xxxx within 30 days of the date of such stack test.

(d) For stationary sources, including industrial boilers and stationary reciprocating engines, the following test methods shall be used:

- (1) Method 7, 7A, 7C, 7D or 7E, 40 CFR Part 60, Appendix A or ISO 8178-2 to determine NOx concentrations in stack gases from applicable stationary sources.
- (2) Method 1 or 2, 40 CFR Part 60, Appendix A to determine the exit velocity of stack gases from applicable stationary sources.

(e) Method 3 or 3A, 40 CFR Part 60, Appendix A to determine carbon dioxide, oxygen, excess air and molecular weight (dry basis) of stack gases from applicable stationary sources.

(f) Method 4, 40 CFR Part 60, Appendix A to determine moisture content (volume fraction of water vapor) of stack gases from applicable stationary sources.

(g) Method 19 or Method 20, 40 CFR Part 60, Appendix A may be used as an alternative test method in lieu of the methods identified in Env-A xxxx.12(d) and (f), above, to determine NOx concentrations in stationary combustion turbine or stationary reciprocating engine stack gases.

(h) Gaseous concentration measurements required by Env-A xxxx.03 (b) and Env-A xxxx.06 (d) for nitrogen oxides (NOx), carbon monoxide (CO), and oxygen (O₂) shall be conducted with the following procedures and with the following equipment:

- (1) Any of the following monitors shall be acceptable for making the gaseous concentration measurements:
 - a. All analyzers meeting the specifications set forth in the applicable sections of 40 CFR Part 60, Appendix B, Performance Specifications 2 through 4;
 - b. Portable extractive monitors using an electrochemical sensor performing the gas concentration measurement; and
 - c. Alternative monitors, if written technical information is provided to the State of xxx demonstrating that the analyzer in the alternative monitor is at least as accurate as the analyzer using the electrochemical sensor;
- (2) All concentration monitors shall be operated following the operating procedures specified by the manufacturer;
- (3) Measurements shall be taken at one minute intervals at each representative operation condition over a minimum of a 15-minute period following the achievement of stable operation;
- (4) All measurement shall be documented and averaged over the period of the testing;
- (5) Prior to and following measurement, a zero and span calibration shall be performed following the manufacturer's recommended procedures. The span calibration values shall be chosen by the operator of the instrument at a value between 80 and 150% of the expected concentration based on manufacturer's data or EPA-published emission factors for the emission unit;
- (6) All calibration data shall be recorded and kept on-site; and
- (7) Concentration measurements shall be reported on a dry basis. If the direct measurement is on a wet basis, the basis for the percentage moisture used and the correction calculation to dry basis shall be documented.

(i) Opacity measurements required by Env-A xxx.03 (b) and Env-A xxx.06 (d) shall be conducted following the procedures set forth:

- (1) In 40 CFR 60, Appendix A, Method 9, VISUAL DETERMINATION OF THE OF EMISSIONS FROM STATIONARY SOURCES; or
- (2) In 40 CFR 60, Appendix A, Method 22, VISUAL DETERMINATION OF FUGITIVE EMISSIONS FROM MATERIAL SOURCES AND SMOKE EMISSIONS FROM FLARES.

(j) Stationary sources subject to this part shall also comply with the testing requirements specified in Env-A xxxx [Refers to other State specific testing requirements].

Env-A xxxx.13 NOx Monitoring Requirements.

This section is inserted as *an example* of an existing rule that deals with this issue.

The State of xxxx shall require installation, operation, maintenance, and quality assurance testing of a CEM system for NOx which meets all of the requirements specified in Env-A xxxx [Refers to other State specific CEM requirements], if any of the following conditions exist:

(a) A source utilizes air pollution control equipment in order to maintain compliance with a NOx emission limit and continuous emission monitoring is determined by the State of xxxx to be necessary in order to ensure that this emission limit is not exceeded and that the control equipment is performing correctly;

(b) Any stationary source subject to the provisions of Env-A xxxx.xx [Refers to other State specific CEM requirements];

(c) Any stationary source or device generating emissions credits for the purpose of emission averaging pursuant to Env-A xxxx.11.

(d) Any industrial boiler with heat input rate equal to or greater than 250,000,000 Btu per hour.