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SUBTITLE B: AIR POLLUTION  
CHAPTER I: POLLUTION CONTROL BOARD  
SUBCHAPTER C : EMISSION STANDARDS AND LIMITATIONS FOR STATIONARY  
SOURCES

PART 217  
NITROGEN OXIDES EMISSIONS

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Authority: Implementing Sections 9.9 and 10 and authorized by Sections 27 and 28.5 of the Environmental Protection Act [415 ILCS 5/9.9, 10, 27 and 28.5 (2004)].

Source: Adopted as Chapter 2: Air Pollution, Rule 207: Nitrogen Oxides Emissions, R71-23, 4 PCB 191, April 13, 1972, filed and effective April 14, 1972; amended at 2 Ill. Reg. 17, p. 101, effective April 13, 1978; codified at 7 Ill. Reg. 13609; amended in R01-9 at 25 Ill. Reg. 128, effective December 26, 2000; amended in R01-11 at 25 Ill. Reg. 4597, effective March 15, 2001; amended in R01-16 and R01-17 at 25 Ill. Reg. 5914, effective April 17, 2001; amended in R06- at \_\_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_.

## SUBPART A: GENERAL PROVISIONS

### Section 217.101 Measurement Methods

Measurement of nitrogen oxides shall be according to:

- a) The phenol disulfonic acid ~~procedures~~method, 40 CFR 60, Appendix A, Method 7, as incorporated by in Section 217.104 of this Subpart (1999);
- b) Continuous emissions monitoring pursuant to 40 CFR 75, as incorporated by reference in Section 217.104 of this Subpart (1999); ~~and~~
- c) Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure), 40 CFR 60, Appendix A, Method 7E, as incorporated by in Section 217.104 of this Subpart; and (1999).
- d) Monitoring with portable monitors pursuant to ASTM D6522-00, as incorporated by in Section 217.104 of this Subpart;

(Source: Amended at \_\_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### Section 217.102 Abbreviations and Units

- a) The following abbreviations are used in this Part:

<u>Bbtu</u>	British thermal unit ( <del>60</del> <sup>60</sup> °F)
<u>bhp</u>	brake horsepower
<u>CEMS</u>	<u>continuous emissions monitoring system</u>
<u>EGU</u>	Electrical Generating Unit
<u>dscf</u>	dry standard cubic feet
<u>g/bhp-hr</u>	grams per brake horsepower-hour

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kg	kilogram
kg/MW-hr	kilograms per megawatt-hour, usually used as an hourly emission rate
lb	pound
<del>NO<sub>x</sub></del>	<del>Nitrogen Oxides</del>
lbs/mmbtu	pounds per million btu, usually used as an hourly emission rate
Mg	megagram or metric tonne
<u>mm</u>	<u>million</u>
<u>mmBbtu</u>	million British thermal units
mmBbtu/hr	million British thermal units per hour
MWe	megawatt of electricity
MW	megawatt; one million watts
MW-hr	megawatt-hour
<u>NO<sub>2</sub></u>	<u>nitrogen dioxide</u>
<u>NO<sub>x</sub></u>	<u>nitrogen oxides</u>
<u>O<sub>2</sub></u>	<u>oxygen</u>
peoc	potential electrical output capacity
<u>PTE</u>	<u>potential to emit</u>
ppm	parts per million
ppmv	parts per million by volume
T	English ton
<u>TPY</u>	<u>tons per year</u>

- b) The following conversion factors have been used in this Part:

English	Metric
2.205 lb	1 kg
1 T	0.907 Mg
1 lb/T	0.500 kg/Mg
<del>Mmbtu/hr</del>	<del>0.293 MW</del>
1 lb/ <u>mmBbtu</u>	1.548 kg/MW-hr
<u>1 mmBtu/hr</u>	<u>0.293 MW</u>
<u>1 mmBtu/hr</u>	<u>393 bhp</u>

(Source: Amended at \_\_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

## Section 217.104 Incorporations by Reference

The following materials are incorporated by reference. These incorporations do not include any later amendments or editions.

- a) The phenol disulfonic acid ~~procedures~~method, as published in 40 CFR 60, Appendix A, Method 7 (2000)(1999);
- b) 40 CFR 96, subparts B, D, G, and H (1999);

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- c) 40 CFR §§ 96.1 through 96.3, 96.5 through 96.7, 96.50 through 96.54, 96.55 (a) & (b), 96.56 and 96.57 (1999);
- d) 40 CFR 60, 72, 75 & 76 (2006)~~(1999)~~;
- e) Alternative Control Techniques Document---- NO<sub>x</sub> Emissions from Cement Manufacturing, EPA-453/R-94-004, U. S. Environmental Protection Agency-Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, March 1994;
- f) Section 11.6, Portland Cement Manufacturing, AP-42 Compilation of Air Emission Factors, Volume 1: Stationary Point and Area Sources, U.S. Environmental Protection Agency-Office of Air Quality Planning and Standards, Research Triangle Park, N. C. 27711, revised January 1995;
- g) 40 CFR § 60.13 (2001)~~(1999)~~; and
- h) 40 CFR 60, Appendix A, Methods 3A, 7, 7A, 7C, 7D, and 7E, 19, and 20 (2000)~~(1999)~~; and
- i) ASTM D6522-00, Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers.

(Source: Amended at \_\_\_\_ Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### SUBPART Q: STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES AND TURBINES

#### Section 217.386      Applicability

- a) A stationary reciprocating internal combustion engine or turbine that meets the criteria in subsection (a)(1) or (a)(2) of this Section is an affected unit and is subject to the requirements of this Subpart.
  - 1) The engine is rated at equal to or greater than 500 bhp output; or
  - 2) The turbine is rated at equal to or greater than 3.5 MW(2,682 bhp) output.
- b) Notwithstanding subsection (a) of this Subpart, an engine or turbine shall not be an affected unit and is not subject to the requirements of this Subpart, except for the requirement to submit a certification of exemption pursuant to Section 217.392(b) of this Subpart, and retain records as required by Sections 217.398(b) and (c) of this Subpart, if the engine or turbine is:

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- 1) Used as an emergency or standby unit as defined by 35 Ill. Adm. Code 211.1920;
  - 2) Used for research or for the purposes of performance verification or testing;
  - 3) Used to control emissions from landfills, where at least 50 percent of the heat input is gas collected from a landfill;
  - 4) Used for agricultural purposes including the raising of crops or livestock that are produced on site, but not associated businesses like packing operations, sale of equipment or repair;
  - 5) Rated at less than 1500 bhp (1118 kW) output, mounted on a chassis or skids, designed to be moveable, and moved to a different source at least once every 12 months;
  - 6) Regulated under Subpart W of this Part; or
  - 7) Located at a source where the aggregate hp-hr from all affected units not exempt pursuant to subsections (b)(1), (b)(2), (b)(3), (b)(4), (b)(5), or (b)(6), and not complying with the requirements of Section 217.388 of this Subpart, are less than:
    - A) 5 mm bhp-hrs or less on an annual basis for engines; or
    - B) 20,000 MW-hrs or less on an annual basis for turbines.
- c) If an exempt unit ceases to fulfill the criteria specified in subsection (b) of this Section, the owner or operator shall notify the Agency within 30 days after becoming aware that the exemption no longer applies.
- d) The requirements of this Subpart shall continue to apply to any engine or turbine that has ever been subject to the control limits of Section 217.388 of this Subpart, even if the affected unit ceases to fulfill the rating requirements of subsection (a) of this Section or becomes eligible for an exemption pursuant to subsection (b) of this Section,.

### Section 217.388 Control and Maintenance Requirements

On and after the applicable compliance date in Section 217.392 of this Subpart, an owner or operator of an affected unit shall:

- a) Limit the discharge from an affected unit into the atmosphere of any gases that contain NO<sub>x</sub> to no more than:

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- 1) 150 ppmv (corrected to 15 percent O<sub>2</sub> on a dry basis) for spark-ignited rich-burn engines;
  - 2) 210 ppmv (corrected to 15 percent O<sub>2</sub> on a dry basis) for spark-ignited lean-burn engines;
  - 3) 660 ppmv (corrected to 15 percent O<sub>2</sub> on a dry basis) for diesel engines;
  - 4) 42 ppmv (corrected to 15 percent O<sub>2</sub> on a dry basis) for gas-fired turbines; and
  - 5) 96 ppmv (corrected to 15 percent O<sub>2</sub> on a dry basis) for liquid-fired turbines.
- b) Inspect and perform periodic maintenance on the affected unit, in accordance with a Maintenance Plan that documents the manufacturer's recommended inspection and maintenance of the air pollution control equipment and affected units. If the original equipment manual is not available, the plan for inspection and maintenance shall be done in accordance with what is customary for the type of air pollution control equipment and emission unit.

### Section 217.390 Averaging Plans

- a) Notwithstanding the concentration limits in Section 217.388 of this Subpart, an owner or operator of certain affected units may comply through an emissions averaging plan. The following types of affected units may not be included in an emissions averaging plan:
- 1) Units that commenced operation after January 1, 2002, unless the unit replaced an engine or turbine that commenced operation on or before January 1, 2002, or it replaced an engine or turbine that replaced a unit that commenced operation on or before January 1, 2002, and the new unit is used for the same purpose as the replaced unit.
  - 2) Units electing to comply with Section 217.392(c) or (d) of this Section during the term of the extension.
  - 3) Units which are exempt pursuant to Section 217.386(b) of this Subpart.
- b) An owner or operator shall submit an emissions averaging plan to the Agency by the applicable compliance date set forth in Section 217.392(a) of this Subpart. All affected units listed in the emissions averaging plan must be owned and operated by the same owner or operator. An affected unit may be listed in only one averaging plan. The plan shall include, but is not limited to:
- 1) The list of affected units included in the plan by unit identification number

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and permit number; and

- 2) A sample calculation demonstrating compliance using the methodology provided in subsection (f) of this Section for both the ozone season and calendar year.
- c) An owner or operator may amend an averaging plan only once per calendar year. Such an amended plan must be submitted to the Agency by May 1 of the applicable calendar year. If an amended plan is not received by the Agency by May 1 of the applicable calendar year, the previous year's plan will be the applicable emissions averaging plan.
- d) Notwithstanding subsection (c) of this Section, if a unit that is listed in an emissions averaging plan is sold or taken out of service, the owner or operator, and the buyer, if applicable, must submit to the Agency, within 60 days of such occurrence, an updated emissions averaging plan or plans.
- e) An owner or operator must demonstrate compliance for both the ozone season (May 1 through September 30) and the calendar year (January 1 through December 31) by:
  - 1) Using the methodology in subsection (f) of this Section, the units listed in the most recent emissions averaging plan submitted to the Agency, and the monitoring data or test results determined in Section 217.394 of this Subpart, whichever is most recent, to determine compliance.
  - 2) Notifying the Agency by October 31 following the ozone season, if he or she cannot demonstrate compliance for that ozone season.
  - 3) Submitting to the Agency by January 31 following each calendar year, a compliance report containing the information required by Section 217.398(c)(4) of this Subpart.
- f) The total mass of actual  $\text{NO}_x$  emissions from the units listed in the emissions averaging plan, must be equal to or less than the total mass of allowable  $\text{NO}_x$  emissions for those units for both the ozone season and calendar year. The following equation shall be used to determine compliance:

$$N_{\text{act}} \leq N_{\text{all}}$$

Where:

$$N_{\text{act}} = \sum_{i=1}^n \text{EM}_{\text{act}(i)}$$

$$N_{\text{all}} = \sum_{i=1}^n \text{EM}_{\text{all}(i)}$$

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- $N_{act}$  = Total sum of the actual  $NO_x$  mass emissions from units included in the averaging plan for each fuel used (pounds per ozone season and year).  
 $N_{all}$  = Total sum of the allowable  $NO_x$  mass emissions from units included in the averaging plan for each fuel used (pounds per ozone season and year).  
 $EM_{all(i)}$  = Total mass of allowable  $NO_x$  emissions in lbs for a unit as determined in subsection (f)(1), (f)(2) or (f)(3) of this Section.  
 $EM_{act(i)}$  = Total mass of actual  $NO_x$  emissions in lbs for a unit as determined in subsection (f)(1), (f)(2) or (f)(3) of this Section.  
 $i$  = Subscript denoting an individual engine or turbine and fuel used.  
 $N$  = Number of different engines or turbines in the averaging plan.

- 1) For each engine or turbine in the averaging plan, and each fuel used by such engines and turbines, determine actual and allowable  $NO_x$  emissions using the following equations:

$$EM_{act(i)} = E_{act(i)} \times H_i$$

$$EM_{all(i)} = E_{all(i)} \times H_i$$

$$E_{act(i)} = \frac{\sum_{j=1}^m C_{d(act(j))} \times F_d \times \left( \frac{20.9}{20.9 - \%O_{2d(j)}} \right)}{m}$$

$$E_{all(i)} = \frac{\sum_{j=1}^m C_{d(all)} \times F_d \times \left( \frac{20.9}{20.9 - \%O_{2d(j)}} \right)}{m}$$

Where:

- $EM_{act}$  = Total mass of actual  $NO_x$  emissions in lbs for a unit.  
 $EM_{all}$  = Total mass of allowable  $NO_x$  emissions in lbs for a unit  
 $E_{act}$  = Actual  $NO_x$  emission rate (lbs/mmBtu) calculated according to the above equation.  
 $E_{all}$  = Allowable  $NO_x$  emission rate (lbs/mmBtu) calculated according to the above equation.  
 $H$  = Heat input (mmBtu/ozone season or mmBtu/year) calculated from fuel flow meter and heating value of the fuel used.

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- $C_{d(act)}$  = Actual concentration of  $NO_x$  in lb/dscf (ppmv x  $1.194 \times 10^{-7}$ ) on a dry basis for fuel used. Actual concentration is determined on each of the most recent test runs performed pursuant to ASTM D 6522-00 or stack test data as specified by Section 217.394.
- $C_{d(all)}$  = Allowable concentration of  $NO_x$  in lb/dscf (ppmv x  $1.194 \times 10^{-7}$ ) on a dry basis for fuel used and allowable limit specified in Section 217.388(a) and (b).
- $F_d$  = The ratio of the gas volume of the products of combustion to the heat content of the fuel (dscf/mmBtu) as given in the table of F Factors or as determined using 40 CFR 60, Appendix A, Method 19.
- $\%O_{2d}$  = Percent oxygen in effluent gas stream measured on a dry basis during each of the applicable test runs used for determining emissions.
- $i$  = Subscript denoting an individual engine or turbine and fuel used.
- $j$  = Subscript denoting each test run of an affected unit and fuel used.
- $m$  = The number of test runs of an affected unit using a given fuel.

- 2) For a replacement unit that is electric-powered, the allowable  $NO_x$  emissions from the affected unit that was replaced should be used in the averaging calculations and the actual  $NO_x$  emissions for the electric-powered replacement are zero. Allowable  $NO_x$  emissions for the electric-powered replacement are calculated using the actual total bhp-hrs generated by the electric-powered replacement unit on an ozone season and on an annual basis multiplied by the allowable  $NO_x$  emission rate in lb/bhp-hr of the replaced engine or turbine.

The allowable mass of  $NO_x$  emissions from an electric-powered replacement unit ( $N_{all\ elec}$ ) shall be determined by multiplying the nameplate capacity of the unit by the hours operated during the ozone season or annually and the  $NO_x$  emission rate of the replaced unit ( $E_{all\ rep}$ ) in lb/mmBtu converted to lb/bhp-hr. For this calculation the following equation should be used:

$$N_{all\ elec} = bhp \times OP \times F \times E_{all\ rep}$$

Where:

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$N_{\text{all elec}}$	=	Mass of allowable $\text{NO}_x$ emissions from the electric-powered replacement unit in pounds per ozone season and year.
bhp	=	Nameplate capacity of the electric-powered replacement unit in brake-horsepower.
OP	=	Operating hours during the ozone season or annually.
F	=	Conversion factor of 0.0077 mmBtu/bhp-hr .
$E_{\text{all rep}}$	=	Allowable $\text{NO}_x$ emission rate (lbs/mmBtu) of the replaced unit.

- 3) For engines or turbines that use CEMS, compliance shall be determined based on the sum of the total mass of actual  $\text{NO}_x$  emissions from each affected unit using CEMS data collected in accordance with 40 CFR 60. The data must be less than or equal to the total mass of allowable  $\text{NO}_x$  emissions calculated in accordance with the equation in subsection (f) of this Section for both the ozone season and calendar year.

### Section 217.392 Compliance

#### a) Compliance dates:

- 1) On and after May 1, 2007, an owner or operator of an affected engine listed in Appendix G of this Part shall not operate the affected unit unless the requirements of this Subpart are met or a certification of exemption is submitted to the Agency pursuant to subsection (b) of this Section.
- 2) On and after January 1, 2009, an owner or operator of an affected engine rated at 1500 bhp or more or an affected turbine rated at 5 MW (6,702 bhp) or more, and not listed in Appendix G of this Part shall not operate the affected unit unless the requirements of this Subpart are met, a certification of exemption is submitted to the Agency pursuant to subsection (b) of this Section, or the requirements for a technology-based compliance extension are met pursuant to subsection (c) of this Section.
- 3) On and after January 1, 2011, an owner or operator of an affected engine rated at less than 1500 bhp or an affected turbine rated at less than 5 MW (6,702 bhp), and not listed in Appendix G of this Part shall not operate the affected unit unless the requirements of this Subpart are met, a certification of exemption is submitted to the Agency pursuant to subsection (b) of this Section, or the requirements for a technology-based compliance extension are met pursuant to subsection (c) of this Section.

#### b) Certification of exemption.

- 1) Owners or operators of engines or turbines that commence operation

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before the applicable compliance date set forth in subsection (a) of this Section and that are claiming an exemption pursuant to the provisions in Section 217.386(b) of this Subpart shall submit a certification of exemption by the applicable compliance date, that includes documentation for the exemption being claimed.

- 2) Owners or operators of affected engines or turbines that commence operation on or after the applicable compliance date set forth in subsection (a) of this Section, and that are claiming an exemption pursuant to the provisions of Section 217.386(b) of this Subpart shall submit a certification of exemption that includes documentation for the exemption being claimed with the application for a construction permit.
- c) Technology-based compliance extension. Notwithstanding the compliance dates in subsections (a)(2) or (a)(3) of this Section, a technology-based extension for one year from the applicable compliance date is granted if the owner or operator and affected unit or units meet the following requirements:
  - 1) The owner or operator installs and operates the following type of technology, as applicable, on the affected unit:
    - A) Gas-fired rich burn engines must have non-selective catalytic reduction (NSCR) with air to fuel ratio control;
    - B) Gas-fired lean burn engines must have low emission combustion technology (LEC);
    - C) Gas-fired turbines must have low NO<sub>x</sub> combustors or steam, or water injection;
    - D) Oil-fired engines must have electronic injection timing retard; and
    - E) Oil-fired turbines must have steam or water injection.
  - 2) The technology-based extension in subsection (c) of this Section may be extended for one additional year. The owner operator shall submit to the Agency a technology-based extension notification containing the information listed below by October 1, 2008, if subject to the compliance date in subsection (a)(2) of this Section or October 1, 2010, if subject to (a)(3) of this Section:
    - A) Documentation that the applicable type of technology has been installed and is operating on the affected unit;
    - B) A copy of the compliance test as specified in Section 217.394(a)(1) or (a)(2) of this Subpart; and

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- C) An analysis of why the affected unit is not in compliance.
- d) Extension of the one year term. The technology-based compliance extension in subsection (c) of this Section may be extended for one additional year. The owner operator shall submit to the Agency a one-year extension notification containing the information listed below by October 1, 2009, if subject to the compliance date in subsection (a)(2) of this Section or October 1, 2011, if subject to (a)(3) of this Section:
  - 1) A description of the measures that have already been taken to bring the unit into compliance; and
  - 2) A description of the factors that currently prevent more effective control of NO<sub>x</sub> emissions from the affected unit, including a summary of the NO<sub>x</sub> emissions data based on monitoring performed pursuant to Section 217.394(b) of this Subpart.

### Section 217.394 Testing and Monitoring

- a) Compliance Testing: Once every five years, the owner or operator shall demonstrate that the affected unit complies with the applicable concentration set forth in Section 217.388 or emissions level determined in Section 217.390 of this Subpart by conducting a compliance test pursuant to subsection (a)(1) or (a)(2) of this Section. An initial compliance test for affected engines listed in Appendix G of this Part must be performed by May 1, 2007. An initial compliance test must be performed for all other affected units by the later of the applicable compliance date as set forth in Section 217.392 of this Subpart, or within 180 days after initial startup. Subsequent tests must be performed in the calendar year by May 1 or within 60 days of starting operation, whichever is later.
  - 1) For an engine: The owner or operator shall conduct a compliance performance test using Method 7 or 7E of 40 CFR 60, Appendix A, as incorporated by reference in Section 217.104 of this Part. Each compliance test consists of three separate runs, each lasting a minimum of 60 minutes. NO<sub>x</sub> emissions shall be measured while the affected unit is operating at peak load. If the unit combusts both oil and gas as primary or backup fuels, a separate performance test is required for each fuel.
  - 2) For a turbine: The owner operator shall conduct a compliance test using the procedures and methods in Section 217.396 of this Subpart.
- b) Monitoring: Except for those years in which a compliance test is conducted pursuant to subsection (a) of this Section, the owner or operator shall monitor NO<sub>x</sub> concentrations annually, once between January 1 and May 1 or within 60 days of starting operation for the applicable calendar year, whichever is later, as

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follows:

- 1) A portable monitor and method ASTM D6522-00, as incorporated by reference in Section 217.104 of this Part, shall be used. If the engine or turbine combusts both oil and gas as primary or backup fuels, separate testing is required for each fuel.
  - 2) NO<sub>x</sub> and O<sub>2</sub> concentrations shall be evaluated three times while the affected unit is operating at representative maximum emissions for a duration of at least 20 minutes. The concentrations from the three runs shall be averaged to determine whether the affected unit is in compliance with the applicable concentration specified in Section 217.388 or applicable concentrations used in the equations of Section 217.390 of this Subpart.
  - 3) If the monitor data shows that the unit or units is not in compliance with the applicable concentration or emissions limit specified in the applicable averaging plan, the owner or operator must report the deviation to the Agency within 30 days and conduct a compliance test pursuant to subsection (a) of this Section within 90 days of the determination of noncompliance.
- c) Instead of complying with the requirements of subsections (a) and (b) of this Section, an owner or operator may install and operator a CEMS on an affected unit that meets the applicable requirements of 40 CFR 60, subpart A, and Appendix B, incorporated by reference in Section 217.104 of this Subpart, and complies with the quality assurance procedures specified in 40 CFR 60, Appendix F, incorporated by reference in Section 217.104 of this Subpart. The CEMS shall be used to demonstrate compliance with the applicable concentration or emissions limit specified in the applicable averaging plan.
- d) Other Tests: When in the opinion of the Agency or USEPA it is necessary to conduct testing to demonstrate compliance with Section 217.388 or Section 217.390 of this Subpart, the owner or operator of an affected unit shall, at his or her own expense, conduct such test in accordance with the applicable test methods and procedures specified in this Section.

### Section 217.396 Specifications for Testing Turbines

- a) Performance Tests: Owners or operators of turbines must conduct performance tests, as required in 40 CFR § 60.8, as incorporated by reference in Section 217.104 of this Part, as follows:
  - 1) For each test run, measure the NO<sub>x</sub> and O<sub>2</sub> concentrations, using either Methods 7E and 3A, Method 20 in 40 CFR 60, Appendix A, or ASTM Method D6522-00, as incorporated by reference in Section 217.104 of this

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Part.

- 2) Select sampling traverse points for NO<sub>x</sub> and O<sub>2</sub> gas by following Method 20 or Method 1 (non-particulate procedures) of 40 CFR 60, Appendix A, as incorporated by reference in Section 217.104 of this Part, and sample for equal time intervals. The sampling must be performed with a traversing single-hole probe, or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.
- 3) Notwithstanding the requirements in subsection (a)(2) of this Section, testing may be done at fewer points than are specified in Method 1 or Method 20 if the following conditions are met:
  - A) Performance of a stratification test for NO<sub>x</sub> and O<sub>2</sub> pursuant to the procedures specified in section 6.5.6.1(a) through (e) of 40 CFR 75, Appendix A, as incorporated by reference in Section 217.104 of this Part.
  - B) Once the stratification sampling is completed, use one of the following alternative sample point selection criteria for the performance test:
    - i) If each of the individual traverse point NO<sub>x</sub> and O<sub>2</sub> concentrations is within +/-10 percent of the mean concentration for all traverse points, then three points (located either 16.7, 50.0 and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall) may be used. The three points must be located along the measurement line that exhibited the highest average NO<sub>x</sub> concentration during the stratification test.
    - ii) If each of the individual traverse point NO<sub>x</sub> and O<sub>2</sub> concentrations is within +/-5 percent of the mean concentration for all traverse points, then sampling at a single point, located at least 1 meter from the stack wall or at the stack centroid, may be done.
- b) The performance test must be done at peak load level. Testing at the highest achievable load point may be performed, if 90 to 100 percent of peak load cannot be achieved in practice. Three test runs are required. The minimum time per run is 20 minutes. In addition, as applicable, the test must include the following:

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- 1) If the stationary combustion turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel.
- 2) For a combined cycle turbine system with supplemental heat (duct burner), the total NO<sub>x</sub> emissions after the duct burner rather than directly after the turbine must be measured.
- 3) If water or steam injection is used to control NO<sub>x</sub> with no additional post-combustion NO<sub>x</sub> control and either the steam or water to fuel ratio is monitored, then that monitoring system must be operated concurrently with each Method 20, ASTM D6522-00, or Method 7E and 3A run, as incorporated by reference in Section 217.104 of this Part, and must be used to determine the fuel consumption and the steam or water to fuel ratio necessary to comply with the concentration contained in Section 217.388(a)(2) or Section 217.390 of this Subpart.
- 4) Compliance with the concentration contained in Section 217.388(a)(2) or Section 217.390 of this Subpart must be demonstrated at each tested load level. Compliance is achieved if the three-run arithmetic average NO<sub>x</sub> emission at the tested level meets the applicable emission limit.

### Section 217.398 Recordkeeping and Reporting

- a) Recordkeeping. The owner or operator of an affected unit that is not exempt pursuant to Section 217.386(b) of this Subpart must maintain records that demonstrate compliance with the requirements of this Subpart which include, but are not limited to:
  - 1) Identification, type (e.g., lean-burn, gas-fired), and location of each affected unit subject to the requirements of this Section;
  - 2) Calendar date of the record;
  - 3) The number of hours the affected unit operated on a monthly basis, and during each ozone season;
  - 4) Type and quantity of the fuel used on a daily basis;
  - 5) The results of all monitoring performed on an affected unit and reported deviations;
  - 6) The results of all tests performed on an affected unit;
  - 7) A plan for performing the manufacturer's recommended inspection and maintenance of the affected units and air pollution control equipment. If the original equipment manual is not available, the plan for inspection and

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maintenance shall be in accordance with what is customary for this type of air pollution control equipment and unit;

- 8) A log of all inspections and maintenance performed on the affected unit and air pollution control device. Such records shall include, at a minimum, date, load levels and any manual adjustments along with the reason for the adjustment (e.g., air to fuel ratio, timing or other settings): and
  - 9) If complying through an emissions averaging plan, copies of the calculations used to demonstrate compliance with the ozone season and annual control period limits, noncompliance reports for the ozone season, and ozone and annual control period compliance reports submitted to the Agency.
  - 10) Identification of time periods for which operating conditions and pollutant data were not obtained by either the CEMS or alternate monitoring procedures including the reasons for not obtaining sufficient data and a description of corrective actions taken.
- b) The owner or operator of an affected unit claiming an exemption pursuant to Section 217.386(b) of this Subpart, for each affected unit must:
- 1) Maintain a copy of the certification of exemption and supporting documentation; and
  - 2) If claiming an exemption pursuant to Section 217.386(b)(7) of this Subpart, maintain a record of bhp or MW hours operated each calendar year.
- c) The owner or operator of an affected unit shall maintain the records required by subsections (a) and (b) of this Section for a period of 5 years at the source at which the affected unit is located. The records shall be made available to the Agency and USEPA upon request.
- d) Reporting requirements:
- 1) The owner or operator shall notify the Agency in writing 30 days and 5 days prior to testing pursuant to Section 217.394(a) of this Subpart and:
    - A) If after the 30-days notice for an initially scheduled test is sent, there is a delay (e.g., due to operational problems) in conducting the performance test as scheduled, the owner or operator of an affected unit shall notify the Agency as soon as possible of the delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by

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- arranging a new test date with the Agency by mutual agreement;
- B) Provide a testing protocol to the Agency 60 days prior to testing; and
  - C) Not later than 30 days after the completion of the performance test, submit the results of such test to the Agency.
- 2) Pursuant to the requirements for monitoring in Section 217.394(b) of this Subpart, the owner or operator of an affected unit shall report to the Agency any monitored exceedances of the applicable NO<sub>x</sub> concentration within 30 days of the performing the monitoring.
  - 3) Within 90 days of permanently shutting down an affected unit, the owner or operator of such unit shall withdraw or amend the applicable permit to reflect that the unit is no longer in service.
  - 4) If demonstrating compliance through an emissions averaging plan, by January 30 following the applicable calendar year, the owner or operator shall submit to the Agency a report that demonstrates the following:
    - A) For all affected units that are part of the emissions averaging plan, the total mass of allowable NO<sub>x</sub> emissions for the ozone season and for the annual control period;
    - B) The total mass of actual NO<sub>x</sub> emissions for the ozone season and annual control period for each affected unit included in the averaging plan;
    - C) The calculations that demonstrate that the total mass of actual NO<sub>x</sub> emissions are less than the total mass of allowable NO<sub>x</sub> emissions using equations in Section 217.390(f) of this Subpart; and
    - D) The information required to determine the total mass of actual NO<sub>x</sub> emissions and the calculations performed in subsection (d)(4)(C) of this Section.
  - 5) If operating a CEMS, the owner or operator shall submit an excess emissions and monitoring systems performance report in accordance with the requirements of 40 CFR 60.7(c) and 60.13, incorporated by reference in Section 217.104 of this Part.

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## APPENDIX G: LARGE EXISTING RECIPROCATING INTERNAL COMBUSTION ENGINES

Plant ID	Point ID	Segment
<b>ANR Pipeline Co. – Sandwich</b>		
093802AAF	E-108	1
<b>Natural Gas Pipeline Co. of America 8310</b>		
027807AAC	730103540041	1
<b>Natural Gas Pipeline Co. of America Sta 110</b>		
073816AAA	851000140011	1
073816AAA	851000140012	2
073816AAA	851000140013	3
073816AAA	851000140014	4
073816AAA	851000140041	1
073816AAA	851000140051	1
<b>Northern Illinois Gas Co. - Stor Stat 359</b>		
113817AAA	730105440021	1
113817AAA	730105440031	1
113821AAA	730105430021	1
113821AAA	730105430051	1
<b>Panhandle Eastern Pipe Line Co.-Glenarm</b>		
167801AAA	87090038002	1
167801AAA	87090038004	1
167801AAA	87090038005	1
<b>Panhandle Eastern Pipeline - Tuscola St</b>		
041804AAC	73010573009	9
041804AAC	73010573010	10
041804AAC	73010573011	11
041804AAC	73010573012	12
041804AAC	73010573013	13
<b>Panhandle Eastern Pipeline Co.</b>		
149820AAB	7301057199G	3
149820AAB	7301057199I	1
149820AAB	7301057199J	1

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149820AAB	7301057199K	1
<b>Panhandle Eastern Pipeline Co.-Glenarm</b>		
167801AAA	87090038001	1
<b>Phoenix Chemical Co.</b>		
085809AAA	730700330101	1
085809AAA	730700330102	2
085809AAA	730700330103	3