# Clearinghouse Rule 07-016

ORDER OF THE STATE OF WISCONSIN
NATURAL RESOURCES BOARD
AMENDING AND CREATING RULES

The Wisconsin Natural Resources Board proposes an order to **amend** NR 428.04(2)(h)1. and 2., 428.05(3)(e)1. to 4. and 484.04(13), (21m)(d), and (27) and **create** NR 428 Subch. IV and NR 484.04 (15m),(16m) and (26m)(cm) relating to implementation of Reasonably Available Control Technology (RACT) $NO_x$ emission limitations applicable to major sources in the 8-Hour ozone non-attainment area in southeastern Wisconsin.

AM-17-05

Summary Prepared by the Department of Natural Resources

1. **Statute interpreted:** s. 285.11(6), Stats. The State Implementation Plan developed under s. 285.11(6), Stats., is revised.

2. **Statutory authority:** s. 227.11(2)(a) and 285.11(1) and (6), Stats.

3. **Explanation of agency authority:** Section 227.11(2)(a), Stats., gives state agencies general rule-making authority. Section 285.11(1) Stats., gives the Department the authority to promulgate rules consistent with ch. 285, Stats. Section 285.11(6), Stats., authorizes the Department to develop and revise a state implementation plan for the prevention, abatement and control of air pollution.

4. **Related statute or rule:** The current provisions of ch. NR 428 established nitrogen oxide emission limits for new and existing facilities which are located in the 1-hour ozone non-attainment counties. The primary intent in creating these past provisions of ch. NR 428 was to fulfill Clean Air Act (CAA) requirements for demonstrating rate-of-progress towards attaining the 1-hour ozone standard. The proposed rule will create a new subchapter in ch. NR 428 for purposes of establishing Reasonably Available Control Technology (RACT) emission limitations for major sources of nitrogen oxide emissions in counties designated as nonattainment under the 8-hour ozone standard. Modifications are also proposed to existing portions of NR 428 in relation to the creation of the new subchapter and in s. NR 484.04 to reflect incorporation by reference of standards.

5. **Plain language analysis:** The Clean Air Act requires states to adopt and implement a control program of reasonably available control technology (RACT) for major $NO_x$ stationary sources in the moderate ozone nonattainment area. To meet this requirement the proposed rule establishes emission limitations and combustion tuning requirements for emission units at facilities with a total potential to emit 100 tons of $NO_x$ in total for all emission units.

The proposed emission limits apply to electric utility generating units and larger industrial emission units. The rule also proposes combustion requirements for all emission units capable of firing 50 mmbtu/hr or greater of fuel (including those with emission limits). Both the emission limit and combustion requirements are applicable based on the unit operating more than 5 to 10% of capacity over the ozone season. The

source categories affected by the rule include industrial boilers, combustion turbines, glass and steel furnaces, reciprocating engines, and other miscellaneous large combustion processes.

The rule provides compliance flexibility by providing phased implementation for electric generation units subject to CAIR, emissions averaging programs, alternative RACT determinations, demonstration of CAIR actions satisfying RACT emission limits, and a reliability waiver option.

The primary requirement for most sources in demonstrating compliance with the emission rate limits is to install and operate continuous emissions monitoring systems. However, for several source categories which have low variability in emissions, the monitoring requirement is periodic stack testing. Compliance with good combustion requirements is demonstrated through various levels of combustion flue gas monitoring and continuous or period combustion tuning. The rule allows an owner to request an alternative to any of the emissions monitoring or good combustion requirements.

6. **Summary of, and comparison with, existing or proposed federal regulation:** In 2004, the federal $NO_x$ SIP Call became effective in 21 eastern states requiring control of $NO_x$ emissions. However, the NOx SIP call did not apply to Wisconsin. The sources affected by the SIP call include electric utility generating units greater than 25 megawatts and very large industrial emission units. The USEPA estimated the average cost in meeting the $NO_x$ SIP call requirements to be approximately $2,000 per ton of controled $NO_x$ emissions and described this cost level as highly cost-effective $NO_x$ control. The Wisconsin $NO_x$ RACT rule is based on considering controls with a cost ceiling of $2,500 per ton of $NO_x$.

The EPA is requiring implementation of best available retrofit technology (BART) control by 2013 to reduce NOx emissions from certain large emission sources which have visibility impacts in scenic Class I areas. The BART requirement is a case-by-case determination and therefore cannot be accurately represented for this discussion. However, EPA assumes default BART controls resulting in approximately 50% to 90% reduction in $NO_x$ emissions. The proposed emission limits in the Wisconsin rule are similar and do not exceed an anticipated 90% reduction for similar sources.

The proposed RACT rule proposes emission limits for the type of industrial sources that would be affected by federal NOx SIP Call or BART requirements. The proposed emission limits for industrial sources reflect a control cost range of approximately $500 to $2,500 per ton of $NO_x$ removed. The proposed controls for electric utility generating sources reflect a cost range of approximately $1,000 to $2,200 per ton of $NO_x$.The proposed emission limits in the Wisconsin rule are similar to default BART levels and do not exceed an anticipated 90% reduction for similar sources. It should be noted that both the NOx SIP Call and BART requlations primarily affect larger sources and that the proposed RACT rule establishes emission limits for additional sources based on the CAA definition of a major sources.

7. **Comparison with rules in adjacent states:** States adjacent to Wisconsin with moderate 8-hour ozone nonattainment areas are Illinois and Indiana. The Michigan nonattainment areas are of a lower non-attainment designation of either "Basic" or "Marginal".

Wisconsin: The proposed RACT rule contains emission limits and combustion tuning requirements. The emission limits apply to electric utility generating units and large industrial stationary sources. The combustion requirements apply to smaller units as well as the units subject to emission limits. The emission limits for large coal fired boilers is based on post combustion controls ranging from 35% to 90% reduction of uncontrolled emission levels at an estimated cost ranging from $1,000 to $2,500 per ton of $NO_x$ removed. The emission limits for other industrial sources are based primarily on low $NO_x$ combustion technology at an estimated cost from $500 to $2,500 per ton of $NO_x$ removed.

Illinois: The state of Illinois has proposed a statewide RACT rule for industrial boilers and other sources with a potential to emit of 100 tons per year or greater. The Illinois proposed RACT emission limits are based on a cost-effectiveness ranging up to $2,500 per ton of $NO_x$ removed. The resulting controls and emission limits are similar in stringency to the Wisconsin proposed emission limits and apply to similar sources. Illinois EPA negotiated very stringent SO2 and NOx limitations with the utilities in Illinois that generate about 90% of the electric power in the state. The resulting emission limits for the Chicago area are more stringent than what the Department has proposed for NOx RACT in the Milwaukee area.

Indiana: Indiana is not proceeding with NOx RACT rule development at this time.

Michigan: The state of Michigan has made no determination regarding the need for developing RACT rules. A Michigan RACT rule is required only if attainment in the basic areas cannot be demonstrated by the state's SIP submittal deadline of June 2007.

Ohio: Ohio is developing NOx RACT rules for the Cleveland nonattainment area. Their proposal would affect emission units of 25 mmBtu/hr. Smaller units would be required to implement good combustion technology. Larger units could comply with over-fire air and low-NOx burners. Ohio is proposing to include electric generating units in their NOx RACT requirements.

8. **Summary of factual data and analytical methodologies:**

Department staff identified potentially affected units and source categories based on information contained in the air emissions inventory and source permits. A review of available emission control technologies and options was conducted based on available EPA resources, industry information, and other technical resources. General control assumptions and cost factors for each source category were used in evaluating appropriate emission limits and applicability. The proposed emission limitations were also compared to both existing and proposed RACT emission limits or $NO_x$ emission control programs in other states.

9. **Analysis and supporting documents used to determine effect on small business or in preparation of economic impact report:**

The proposed rule is expected to affect only large industrial sources and therefore it is not anticipated to have an impact on small businesses.

10. **Effect on small business:**

The proposed rule is expected to affect only large industrial sources and therefore it is not anticipated to have an impact on small businesses.

11. **Agency contact person:**

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12. **Place where comments are to be submitted and deadline for submission:**
Written comments may be submitted at the public hearings, by regular mail, fax or email to:

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Written comments may also be submitted to the Department using the Wisconsin Administrative Rules Internet Web site at http://adminrules.wisconsin.gov.

Hearing dates and submission deadline are to be determined.

The consent of the Attorney General and the Revisor of Statutes will be requested for the incorporation by reference of new test methods in ch. NR 484.

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SECTION 1. NR 428.04(2)(h)1. and 2. are amended to read:

NR 428.04(2)(h)1. 6.9 grams per brake horsepower-hour for a compression ignition unit with a maximum design power output of 1000 hp or greater.

2. 4.0 grams per brake horsepower-hour for a spark ignition unit with a maximum design power output of 1000 hp or greater.

SECTION 2. NR 428.05(3)(e)1. to 4. are amended to read:

NR 428.05(3)(e)1. 9.5 grams per brake horsepower-hour for rich-burn units.

2. 10.0 grams per brake horsepower-hour for lean-burn units.

3. 8.5 grams per brake horsepower-hour for distillate fuel oil-fired units.

4. 6.0 grams per brake horsepower-hour for dual-fuel units.

SECTION 3. NR 428 subch. IV to follow NR 428.11 is created to read:

SUBCHAPTER 1V

$NO_X$ REASONABLY AVAILABLE CONTROL TECHNOLOGY REQUIREMENTS

**NR 428.20 Applicability and purpose.** (1) APPLICABILITY. The requirements of this subchapter apply to the owner or operator of a $NO_X$ emissions unit which is in a source category identified in s. NR 428.22 or 428.23 and which is located at a facility with a combined total potential to emit for all $NO_X$ emissions units of 100 tons per year or more of $NO_X$ and which is in the county of Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington or Waukesha.

(2) PURPOSE. The purpose of this subchapter is to establish reasonably available control technology requirements for $NO_X$ emissions units in the ozone nonattainment area consisting of the counties of Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha to comply with sections 172(c) and 182(f) of the Act, (42 USC 7502(c) and 7511a(f)).

**NR 428.21 Emissions unit exceptions**. (1) LOW OPERATING UNIT. (a) Except as provided in par. (b) an emissions unit described in s. NR 428.20 is exempt from the emission limitations and the good combustion requirements of ss. NR 428.22 and 428.23 if the emissions unit's ozone season capacity utilization is less than the product of the source category ozone season potential utilization and the appropriate capacity factor in subd. 1. or 2.. The source category ozone season potential utilization is the capacity threshold or design output threshold for the unit's source category described in ss. NR 428.22 and 428.23. Where a capacity range is used as the threshold for a source category, the lower value of the range shall be used in determining ozone season potential utilization. The capacity factors are:

1. 0.10, except as specified in subd. 2.

2. 0.05 for an emissions unit described in s. NR 428.22(1)(g),(h) and (i).

(b) Once an emissions unit previously qualifying as a low operating unit exceeds the product in par. (a), the owner or operator shall meet the requirements of ss. NR 428.22 and 428.23 by May 1 of the following calendar year unless an extension is granted in writing by the department.

(2) OTHER REGULATED UNIT. An emissions unit which is subject to and meeting an emission limitation in s. NR 428.04 or 428.05(3) and which is subject to a federally enforceable permit condition limiting

its potential to emit to less than 50 tons of $NO_X$ per year is exempt from the emission limitations in s. NR 428.22.

**NR 428.22 Emission limitation requirements.** (1) EMISSION LIMITS. Except as provided in sub. (2), on or after May 1, 2009, no person may cause, allow or permit $NO_X$ to be emitted in excess of the following emission limitations on a 30-day rolling average basis:

(a) *Boilers.* 1. For a solid fuel-fired boiler with a maximum heat input capacity equal to or greater than 1,000 mmBtu per hour, one of the following, as applicable:

a. If tangential, wall, cyclone or fluidized bed-fired, 0.10 pound per mmBtu of heat input.

b. If arch-fired, 0.18 pound per mmBtu of heat input.

2. For a solid fuel-fired boiler with a maximum heat input capacity equal to or greater than 500 mmBtu per hour and less than 1,000 mmBtu per hour, one of the following, as applicable:

a. If tangential-fired, 0.15 pound per mmBtu of heat input.

b. If wall-fired with a heat release rate equal to or greater than 0.12 mmBtu per hour per square foot of water-cooled surface, 0.17 pound per mmBtu of heat input.

c. If wall-fired with a heat release rate less than 0.12 mmBtu per hour per square foot of water-cooled surface, 0.15 pound per mmBtu of heat input.

d. If cylcone-fired, 0.15 pound per mmBtu of heat input.

e. If arch-fired, 0.18 pound per mmBtu of heat input.

g. If fluidized bed-fired, 0.10 pound per mmBtu of heat input.

3.For a solid fuel-fired boiler with a maximum heat input capacity equal to or greater than 250 mmBtu per hour and less than 500 mmBtu per hour, one of the following, as applicable:

a. If tangential-fired, 0.15 pound per mmBtu of heat input.

b. If wall-fired with a heat release rate equal to or greater than 0.12 mmBtu per hour per square foot of water-cooled surface, 0.17 pound per mmBtu of heat input.

c. If wall-fired with a heat release rate less than 0.12 mmBtu per hour per square foot of water-cooled surface, 0.15 pound per mmBtu of heat input.

d. If cylcone-fired, 0.15 pound per mmBtu of heat input.

f. If arch-fired, 0.18 pound per mmBtu of heat input.

g. If fluidized bed-fired, 0.10 pound per mmBtu of heat input.

h. If stoker-fired boiler, 0.20 pound per mmBtu of heat input.

4. For a solid fuel-fired boiler with a maximum heat input capacity less than 250 mmBtu per hour, one of the following, as applicable:

a. If tangential-fired, 0.15 pound per mmBtu of heat input.

b. If wall-fired with a heat release rate equal to or greater than 0.12 mmBtu per hour per square foot of water-cooled surface, 0.17 pound per mmBtu of heat input.

c. If wall-fired with a heat release rate less than 0.12 mmBtu per hour per square foot of water-cooled surface, 0.15 pound per mmBtu of heat input.

d. If cylcone-fired, 0.15 pound per mmBtu of heat input.

e. If fluidized bed-fired, 0.10 pound per mmBtu of heat input.

f. If stoker-fired, 0.25 pound per mmBtu of heat input.

5. For a gaseous fuel-fired boiler with a maximum heat input capacity equal to or greater than 100 mmBtu per hour, 0.08 pound per mmBtu of heat input.

6. For a distillate fuel oil-fired boiler with a maximum heat input capacity equal to or greater than 100 mmBtu per hour, 0.10 pound per mmBtu of heat input.

7. For a residual fuel oil-fired boiler with a maximum heat input capacity equal to or greater than 60 mmBtu per hour, 0.15 pound per mmBtu of heat input.

(b) *Lime kilns.* For a lime kiln with a maximum heat input capacity equal to or greater than 50 mmBtu per hour, one of the following as applicable:

1. For a gaseous fuel-fired unit, 0.10 pound per mmBtu of heat input.

2. For a distillate oil-fired unit, 0.12 pound per mmBtu of heat input.

3. For a residual oil-fired unit, 0.15 pound per mmBtu of heat input.

4. For a coal-fired unit, 0.60 pound per mmBtu of heat input.

5. For a coke-fired unit, 0.70 pound per mmBtu of heat input.

(c) *Reheat, annealing or galvanizing furnaces.* For a reheat, annealing or galvanizing furnace with a maximum heat input capacity equal to or greater than 75 mmBtu per hour, 0.08 pounds per million Btu of heat input.

(d) *Glass furnaces.* For a glass manufacturing furnace with a maximum heat input capacity equal to or greater than 50 mmBtu per hour, 2.0 pounds per ton of produced glass.

(e) *Asphalt plants.* For an asphalt plant with a maximum heat input capacity equal to or greater than 65 mmBtu per hour, one of the following as applicable:

1. For a gaseous fuel-fired unit, 0.15 pound per million Btu of heat input.

2. For a distillate fuel oil-fired unit, 0.20 pound per million Btu of heat input.

3. For a residual fuel oil-fired or waste oil-fired unit, 0.27 pound per million Btu of heat input.

(f) *Process heaters.* For a process heater, including a dryer, oven or other external combustion unit which is not subject to another emission limit under this section, with a maximum heat input capacity equal to or greater than 50 mmBtu per hour, one of the following as applicable:

1. For a gaseous fuel-fired unit, 0.10 pound per mmBtu of heat input.

2. For a distillate oil-fired unit, 0.12 pound per mmBtu of heat input.

3. For a residual oil-fired unit, 0.18 pound per mmBtu of heat input.

(g) *Simple cycle combustion turbines.* For a simple cycle combustion turbine, one of the following exhaust outlet concentrations as applicable:

1. For a unit with a maximum design power output of 50 megawatts or greater, one of the following, as applicable:

a. If natural gas-fired, 9 parts per million dry volume, corrected to 15% $O_2$.

b. If distillate oil-fired, 25 parts per million dry volume, corrected to 15% $O_2$.

c. If biologically derived gaseous fuel-fired, 35 parts per million dry volume, corrected to 15% $O_2$.

2. For a unit with a maximum design power output less than 50 megawatts, one of the following as applicable:

a. If natural gas-fired, 25 parts per million dry volume, corrected to 15% $O_2$.

b. If distillate oil-fired, 65 parts per million dry volume, corrected to 15% $O_2$.

c. If biologically derived gaseous fuel-fired, 35 parts per million dry volume, corrected to 15% $O_2$.

(h) *Combined cycle combustion turbines.* For a combined cycle combustion turbine with a maximum design power output of 10 megawatt, 9 parts per million dry volume, corrected to15% $O_2$.

(i) *Reciprocating engines.* For a reciprocating engine with a maximum design power output of 250 horsepower, one of the following as applicable:

1. For a rich-burn spark ignition unit, 2.0 grams per brake horsepower-hour.

2. For a lean-burn spark ignition unit, 2.0 grams per brake horsepower-hour.

3. For a diesel fuel-fired compression unit, 2.6 grams per brake horsepower-hour.

4. For a dual fuel-fired compression unit, 2.0 grams per brake horsepower-hour.

(2) ELECTRIC UTILITY BOILER COMPLIANCE SCHEDULE. The owner or operator of an electric utility boiler subject to provisions of 40 CFR part 97 shall demonstrate compliance with the following interim emission limitations, as applicable, on a 30-day rolling average by May 1, 2009 and with the emission limitations in sub. (1)(a) on and after May 1, 2013:

(a) For a solid fuel-fired boiler with a maximum heat input capacity equal to or greater than 1,000 mmBtu per hour one of the following as applicable:

1 If tangential, wall, cyclone or fluidized bed-fired, 0.15 pound per mmBtu of heat input.

2. If arch-fired, 0.18 pound per mmBtu of heat input.

(b) For a solid fuel-fired boiler with a maximum heat input capacity equal to or greater than 500 mmBtu per hour and less than 1,000 mmBtu per hour one of the following as applicable:

1. If tangential-fired, 0.15 pound per mmBtu of heat input.

2. If wall-fired with a heat release rate equal to or greater than 0.12 mmBtu per hour per square foot of water-cooled surface, 0.20 pound per mmBtu of heat input.

3. If wall-fired with a heat release rate less than 0.12 mmBtu per hour per square foot of water-cooled surface, 0.20 pound per mmBtu of heat input.

4. If cylcone-fired, 0.20 pound per mmBtu of heat input.

5. If arch-fired, 0.18 pound per mmBtu of heat input.

6. If fluidized bed-fired, 0.10 pound per mmBtu of heat input.

**NR. 428.23 GOOD COMBUSTION REQUIREMENTS.** The owner or operator of an emissions unit at a facility identified under s. NR 428.20 which has a capacity to utilize 50 mmBtu/hr or greater of heat input shall meet the combustion requirements of this section for the emissions unit.

(1) COMBUSTION MEASUREMENT AND ADJUSTMENT. On and after May 1, 2009, an emissions unit shall be tuned and maintained to achieve a balance between combustion efficiency and emissions according to the following procedures:

(a) *Frequency*. 1. Except as specified in subd. 2., for an emissions unit subject to an emission limitation in s. NR 428.22, the combustion emissions shall be measured and combustion settings tuned during operation of the emissions unit on an hourly basis or on reaching steady state conditions after load changes of more than 15% of the emissions unit's capacity.

2. For an emissions unit subject to an emission limitation in s. NR 428.22(1)(f) or (i), the combustion emissions shall be measured and combustion settings tuned as follows:

a. Initially within the 90-day period prior to May 1, 2009.

b. After May 1, 2009, on a semi-annual basis with one tuning performed within the 60-day period prior to May 1 of each calendar year.

3. For an emissions unit not subject to tuning under subd. 1 or 2., the combustion emissions shall be measured and combustion settings tuned initially within the 90-day period prior to May 1, 2009 and then annually within the 60-day period prior to May 1 of each calendar year after 2009.

(b) *Methods.* 1. Combustion air leak checks and maintenance shall be conducted prior to initial tuning and then annually or more frequently as recommended by the manufacturer.

2. For an external combustion unit using a common windbox to distribute combustion air to multiple entry points of the combustion chamber, the individual airflows exiting the windbox shall be tested and balanced prior to tuning required in par. (a). Thereafter, the balance of the combustion air for the emissions unit shall be tested and adjusted every 2 years.

3. Measurements shall be taken of combustion flue gas concentrations of $NO_X$, CO and $O_2$, flue gas temperature, and unit load or fuel consumption rate prior to and after each adjustment of the combustion settings.

4. The adjustment of combustion settings shall be based on the measurements taken in subd. 3. and conducted to minimize overall $NO_X$ emissions while maintaining or improving combustion efficiency according to the following criteria:

a. The $NO_X$ emission rate shall be reduced through balancing and reducing combustion air flows in relation to fuel flow while maintaining safe and steady state combustion conditions.

b. An increase or decrease in anticipated mass emissions of $NO_X$, on an annual or ozone season basis, related to combustion efficiency, shall be used in identifying target combustion settings for the tuning process.

c. An increase or decrease in anticipated emissions of other pollutants of concern related to combustion efficiency may be used to demonstrate target combustion settings for the tuning process.

d. The balance of combustion settings and efficiency shall maintain compliance with all applicable regulatory requirements and may be based on maintaining or reducing emissions of particulates, sulfur dioxide or other pollutants of concern.

5. For an emissions unit subject to semi-annual or annual tuning under par. (a)2. or 3., the tuning shall be conducted for the primary fuel to be used in the operating period and at unit capacity load points for which the unit operated in the load ranges of 20 to 30%, 45 to 55%, 70 to 80%, and 90 to 100%.

(2) EQUIPMENT AND MEASUREMENT SPECIFICATIONS. The measurement of flue gas concentrations and combustion air flows taken to meet the requirements in sub. (1)(b) shall be conducted according to the specifications of this subsection.

(a) The combustion analyzer equipment used in measuring $NO_X$, CO and $O_2$ concentrations shall have an accuracy of 1 part per million and a span drift of less than 2%. The combustion analyzer test cells shall be replaced and the analyzer calibrated and maintained according to manufacturer's specifications.

(b) All flue air flow and flue gas concentration monitoring and sampling shall be taken in a location and manner consistent with the standard testing practices of s. NR 439.07 for obtaining representative measurements. The potential for air leakage into the flue system that may affect the measured flue gas concentrations shall be considered when determining sampling locations.

(3) TRAINING. The owner or operator of an emissions unit shall provide or ensure proper training of personnel responsible for meeting requirements of this section.

(4) COMPLIANCE DEMONSTRATION AND RECORDKEEPING. The owner or operator of an emissions unit shall demonstrate compliance by maintaining a record of each of the following:

(a) For each record required in pars. (b) to (g), the name of the personnel or third party entity responsible for performing the activity and the date and time.

(b) Combustion air leak checks including the location of leaks and corrective actions.

(c) Combustion air adjustments required under sub. (1)(b)2. including air flow sampling locations and measurement values.

(d) For each tuning required under sub. (1)(a), the fuel type and the measurements specified in sub. (1)(b)3. for $NO_x$, CO and $O_2$ flue gas concentrations, flue gas temperature, and unit load or fuel flow rate.

(e) An evaluation identifying flue gas concentrations and temperatures which address objectives in sub. (1)(b)4. for the potential range of unit loads and fuel flows

(f) A determination of the operating load ranges for tuning under sub. (1)(b)5.

(g) For all combustion monitoring equipment a log of the maintenance and calibration activities and a description of any malfunction including the time, duration, and corrective actions.

(5) ALTERNATIVE COMBUSTION REQUIREMENTS. (a) The owner or operator of an emissions unit subject to the requirements of s. NR 428.05(2) may comply with the requirements of this section by satisfying combustion optimization requirements in s. NR 428.05(2).

(b) The owner or operator of an emissions unit may use an alternative equivalent method for meeting the combustion tuning requirements of this section with written approval of the department.

**NR 428.24 Demonstrating compliance with emission limitations.** The owner or operator of an emissions unit shall determine the emissions unit's $NO_x$ emissions and determine compliance with the emission limitations in s. NR 428.22 according to the following applicable methods:

(1) EMISSIONS MONITORING REQUIREMENTS. (a) *Installation and operation*. No later than April 1, 2009 or April 1 of the year an emissions unit first becomes subject to an emission limitation in s. NR. 428.22, the owner or operator of the emissions unit shall do the following:

1. Submit to the department in writing, a certification of the installation and operation of all monitoring systems or completion of initial emission performance tests required under par. (b).

2. Begin and continue to monitor, measure and record all data necessary to determine emissions in the units of the applicable emission limitation according to the methods of this section.

(b) *Monitoring systems and procedures*. 1. 'Part 75 continuous emissions monitoring.' The owner or operator of an affected unit as defined under s. NR 400.02(11), or an emissions unit subject to 40 CFR Part 97 shall meet the requirements of this subsection by installing and operating monitoring equipment and

measuring and recording $NO_x$ emissions data according to methods and specifications of 40 CFR part 75 and 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04(27).

2. 'Continuous emissions monitoring.' Except as provided in subds. 1. and 3., the owner or operator of an emissions unit shall install and operate an emissions monitoring system and determine the hourly average $NO_x$ emission rate according to this subdivision.

a. Install, calibrate, maintain and operate an $NO_x$ diluent continuous emissions analyzer.

b. Install, calibrate, maintain and operate either an $O_2$ or $CO_2$ diluent continuous emissions analzyer for correcting all emissions data and heat rate values to the same basis as specified in subd. 6.b.

c. Operate the emissions monitoring system according to the requirements of s. NR 439.09(9), the applicable operating requirements of 40 CFR 60.13, the performance specifications in 40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04(21) and the quality assurance procedures of 40 CFR part 60, Appendix F, incorporated by reference in s. NR 484.04(21m).

d. For an emissions unit subject to an $NO_x$ emission limit on a pound per million Btu basis, use the F-factor method and analysis of as fired fuel heat content according to methods in Method 19 of 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04(16m).

3. 'Periodic emissions performance testing.' For an emissions unit subject to s. NR 428.22(1)(e),(f) or (i), the owner or operator of an emissions unit shall conduct an initial and, thereafter, a bi-annual emissions performance test to determine the emissions unit's maximum $NO_x$ emission rate for each fuel fired in the emissions unit.

a. The emissions performance test shall be conducted according to one of the following methods as applicable: Method 7, 7A, 7B, 7C, 7D or 7E in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04(15m).

b. The $NO_x$ emissions shall be measured during the initial performance test at unit capacity load points for which the unit operated in the load ranges of 20 to 30%, 45 to 55%, 70 to 80% and 90 to 100%. A

performance test shall be performed within 90 days of completing an equipment modification or change in fuel which has the potential to increase the $NO_x$ emission rate.

c. The emission rate used in demonstrating compliance for the emissions unit shall be the average $NO_x$ emission value measured at the unit capacity load point demonstrating the highest emission rate over the unit capacity load points required in subd. 3.b. based on 3 test runs.

d. Subsequent bi-annual emission performance tests shall be conducted at the unit capacity load point identified in subd. 3.c. for the emission rate used in demonstrating compliance.

4. 'Continuous monitoring for an output based standard.' In addition to applicable monitoring and measuring requirements under subd. 2., the owner or operator of an emissions unit subject to an output emission limitation in NR 428.22(1)(d) shall do the following:

a. Install, maintain and operate monitoring equipment for measuring and recording the output on an hourly basis with 5% accuracy in units consistent with the applicable emission limitation.

b. Calculate on an hourly basis, the output based emission rate as the hourly mass of $NO_x$ emissions determined according to subd. 5. divided by the emissions unit's total output for that hour.

5. 'Continuous monitoring of total heat input and mass emissions.' The owner or operator of an emissions unit required to measure total heat input or mass $NO_x$ emissions for requirements of subd. 4., sub. (2)(c) and s. NR 428.26(1)(b) or (c) shall perform the applicable measurements according to following:

a. Except as provided in subd. 5.b., install, calibrate, maintain and operate a volumetric flue gas flow monitoring system meeting specifications in subd. 2.c. The hourly heat input shall be determined using the the F-factor and as fired fuel heat content according to Method 19 of 40 CFR part 60, Appendix A , incorporated by reference in s. NR 484.04(16m).

b. For a liquid or gaseous fuel fired system, the heat input may be determined using a fuel flow monitoring system capable of detemining the hourly flow with 5% accurancy. The total heat input shall then be calculated as the total fuel flow multiplied by the fuel heat content.

c. The heat content value for each fuel shall be based on a heat content analysis conducted according to Method 19 of 40 CFR part 60, Appendix A , incorporated by reference in s. NR 484.04(16m).

d. The mass of $NO_x$ emissions shall be determined on an hourly basis by either multiplying the $NO_x$ concentration by the flue gas flow rate corrected for diluent gas and moisture or, by multiplying the monitored hourly average emission rate in mass per mmBtu by the total heat input as determined under subd. 5.a. or b. The calculations of mass emissions are to be performed according to conversion procedures in 40 CFR part 75, Appendix F, incoroporated by reference in s. NR 484.04(26m).

6. 'General monitoring requirements.' Unless otherwise specified in this subsection, an owner or operator shall meet the following requirements:

a. All certification tests or emissions performance tests shall be performed according to procedures of s. NR 439.07.

b. The determination of emission rates, mass emissions and total heat input shall be calculated and corrected to the same basis for flue gas moisture and diluent gases according to Method 19 of 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (16m) or 40 CFR part 75, Appendix F, incorporated by reference in s. NR 484.04(26m).

c. For emissions units with a common flue gas stack system, all sampling locations and apportionment of emissions to an individual emissions unit shall conform to applicable procedures and methods in 40 CFR part 75, Appendix F, incorporated by reference in s. NR 484.04(26m).

7. 'Malfunction and abatement.' An owner or operator of an emissions unit subject to the malfunction and abatement plan requirement of s. NR 439.11 shall include a malfunction plan for the emissions monitoring system and a monitoring and operating plan for continuing operation of the emissions unit in a manner consistent with meeting all applicable emission limitations during any period when the monitoring system malfunctions or is inoperable other than for scheduled maintenance.

8. 'Alternate emissions monitoring.' Except for an emissions unit subject to subd. 1., an owner or operator may use, with written approval of the department, continuous parametric monitoring according to

performance specifications in 40 CFR part 75, Appendix E, incorporated by reference in s. NR 484.04(27) or an equivalent alternative to any requirement of this subsection.

(2) COMPILATION OF EMISSIONS. An owner or operator shall compile the measured emissions data in units consistent with the units of the applicable emission limitation according to the following applicable calculation and tabulation methods for purposes of demonstrating compliance:

(a) *Continuous emissions monitoring*. When measuring emissions according to requirements in sub. (1)(b)1. or 2.:

1. The average emission rate shall be the average of the hourly average emissions obtained from the continuous emissions monitoring system for the hours the emissions unit operated during the averaging period. The calculation is as follows:

$$E_A = \left(\frac{1}{n}\right)\sum_{j=1}^{n} E_{H,j} \quad \text{Equation 1}$$

where:

$E_A$ is the average emission rate for the compliance period in units consistent with units of the applicable emission limit.

$E_{H,j}$ is the hourly average emission rate for each hour, j, for which the emissions unit is operating during the compliance period in units consistent with units of the applicable emission limit.

n is the total number of hours the emissions unit operated during the compliance period.

2. The 30-day rolling period shall consist of the day of monitoring and the previous 29 consecutive calendar days. A new 30-day rolling average emission rate ($E_A$) shall be calculated and recorded at the end of each day.

(b) *Emissions performance testing*. When measuring emissions according to performance testing requirements of sub. (1)(b)3., the 30-day rolling average emission rate or concentration shall be the emissions determined in sub. (1)(b)3.c. and d. for the most recent performance test.

(c) *Multiple fuel-fired emissions units.* When measuring emissions for an emissions unit firing multiple fuels, compliance shall be determined according to one of the following methods:

1. The unit's emissions shall be monitored and compiled according to applicable methods in par. (a) or (b) for each individual fuel and compliance demonstrated with the emission limitation for each fuel.

2. The unit's emissions and a multiple fuel emission limit shall be determined on a total heat input fuel weighted basis according to equation 2. A fuel representing less than 1% of the unit's annual fuel consumption on a heat input basis may be excluded in determining the multiple fuel emission limit.

$$E_{HIWieghted} = \frac{\sum_{f=1}^{n} E_f HI_f}{\sum_{f=1}^{n} HI_f} \qquad \text{Equation 2}$$

where:

$E_{HIWeighted}$ is the heat input weighted multiple fuel emission rate or emission limitation for the compliance period in units consistent with the units of the emission limitation

$E_f$ is the emission rate or emission limit for fuel F during the compliance period in units consistent with the units of the emission limitation

$HI_f$ is the total heat input for fuel F during the compliance period

n is the number of different fuels used during the compliance period

(d) *Total heat input and mass emissions.* When measuring hourly heat input or mass of $NO_x$ emissions according to sub. (1)(b)5., the totals over a period of time shall be compiled according to the following procedures:

1. The total hourly heat input shall be summed for the hours the emissions unit operated during the applicable period of time according to equation 3.

$$HI_{total} = \sum_{h=1}^{n} HI_h \quad \text{Equation 3}$$

where:

$HI_{total}$ is the total heat input by fuel over the period of time

$HI_{jh}$ is the heat input by fuel for hour h

n is the number of hours over which the specific fuel was burned

2. The total hourly mass of $NO_x$ emissions shall be summed for the hours the emissions unit operated during the applicable period of time according to equation 4.

$$NO_x\ Mass_{total} = \sum_{h=1}^{n} Mass_h \quad \text{Equation 4}$$

where:

$NO_x\ Mass_{total}$ is the total mass of $NO_x$ emissions over the period of time

$Mass_h$ is the mass of $NO_x$ emissions for hour h

n is the number of hours the emissions unit is operating during the specified period of time

**NR 428.25 Recordkeeping and reporting.** (1) EMISSION LIMITATIONS. The owner or operator of an emissions unit subject to an emission limitation in s. NR 428.22 shall meet the recordkeeping and reporting requirements of this subsection.

(a) *Recordkeeping*. In addition to the recordkeeping requirements of ss. NR 439.04(1) and (2) and 439.05, the owner or operator shall maintain records of all of the following:

1. The applicable emission limit and calculated heat input weighted emission limit for an emissions unit demonstrating compliance for multiple fuels.

2. The 30-day rolling average emission rate on a daily basis determined according to s. NR 428.24.

3. The total monthly heat input for each fuel or the output, as applicable, in units consistent with the units of the applicable emission limitation.

4. The emissions unit's annual and ozone season capacity utilization in units consistent with the units of the applicable emission limitation.

5. For the emissions monitoring system required in s. NR 428.24(1)(b) on an annual and ozone season basis, records of performed maintenance, hours of malfunction and necessary repairs, and the percent of hours the monitoring system operated during the emissions unit's operating hours.

(b) *Reporting*. In the reports to the department required under s. NR 439.03(1)(b), the owner or operator shall submit the following information:

1. A certification of compliance with the applicable emission limitation in s. NR 428.22 or identification of the periods of non-compliance, with a quantification of the excess emission rate and the excess mass emissions.

2. For each calendar month, the highest 30-day rolling average emission rate. The emissions data shall be reported in the units of the applicable emission limitation.

3. The emissions unit's annual and ozone season total operating hours, capacity utilization, and the percent operation of any required continuous emissions or combustion monitoring systems during the hours the emissions unit was operating.

(2) COMBUSTION REQUIREMENTS. The owner or operator of an emissions unit subject to the combustion requirements in s. NR 428.23 shall meet the following recordkeeping requirements:

(a) Compile and maintain a record of emissions unit tuning activities, combustion parameters and maintenance activities and a record of the combustions monitoring equipment operation and maintenance as identified in s. NR 428.23(4)

(b) The records described in par. (a) shall be maintained onsite for a period of 3 years after which the data is generated.

(3) LOW OPERATING UNIT. The owner or operator of an emissions unit claiming a low operating unit exception under s. NR 428.21(1), shall maintain a record of the unit's applicable fuel heat input or

output, the unit's total capacity utilization on an ozone season and annual basis for each calendar year and calculations demonstrating qualification for the exception.

(4) OTHER REGULATED UNIT. The owner or operator of an emissions unit claiming a regulated emissions unit exception under s. NR 428.21(2), shall maintain a record of all performance tests, calculations, assumptions and methods used to determine the emissions unit's potential emissions.

**NR 428.26 Alternative compliance methods and approaches.** (1) EMISSIONS AVERAGING. The owner or operator of an emissions unit may demonstrate compliance with an $NO_x$ emission limitation in s. NR 428.22 by participating in an emissions rate averaging program according to the general provisions of par. (a) and either the specifications for facility wide averaging in par. (b) or the multi-facility averaging in par. (c).

(a) *General provisions.* 1. 'Participating units.' a. The participation of an emissions unit in an emissions averaging program shall be designated for a full calendar year. Inividual emissions units may not be withdrawn from an averaging program, during a year, unless each emissions unit in the averaging program meets its applicable emission limit in s. NR 428.22.

b. If an emissions unit at a facility participates in an averaging program, all similar units at the facility shall be included in the averaging program. Similar units at a facility are those which serve a similar process or purpose and which are described by the same general source category under s. NR 428.22 without regard to fuel type or unit size threshold.

c. An emissions unit for which the department has approved an alternative emission limit or compliance schedule under sub. (3) may not participate in an emissions averaging program under this subsection.

2. 'Monitoring requirement.' The owner or operator of an emissions unit participating in an emissions averaging program shall monitor all necessary $NO_x$ emissions according to requirements of s. NR 428.24(1)(b)1. or 2. The total heat input and $NO_x$ mass emissions shall be monitored and measured according

to s. NR 428.24(1)(b)5. and tablulated according to s. NR 428.24(2)(d).

3. 'New units'. An emissions unit which begins operation on or after the effective date of this rule… [revisor insert date] may not participate in an emissions averaging program under this subsection.

4. 'Emission reductions.' For purposes of this subsection only emission reductions which go beyond all state and federal requirements are considered excess emission reductions.

(b) *Facility averaging*. An owner or operator may average emissions from emissions units at one facility by complying with the following procedures for demonstrating compliance on an annual and ozone season basis with an aggregate $NO_x$ emission limit and mass cap:

1. 'Notification.' The owner or operator shall submit to the department a notification of an $NO_x$ emissions averaging program by October 1 of the year prior to the emissions averaging year. The notification shall include the following information:

a. The participating emissions units.

b. The owner or operator of each emissions unit.

c. For a unit subject to s. NR 428.22, the applicable emission limitation.

d. For a participating emissions unit not subject to s. NR 428.22, the average emission rate by fuel type over the unit's normal operating range determined according to methods of s. NR 428.24(1)(b)3.a. and b. The tested average emission rate may be adjusted based on a heat input weighted average of the emissions unit's annual percent operation at different load points in the previous calendar year.

e. For averaging programs effective on or after January 1, 2013, for each emissions unit, the annual and ozone season heat input for 2000 to 2005, and the annual and ozone season average of the 3 years of highest annual heat input for 2000 to 2005.

f. For averaging programs effective on or after January 1, 2013, an annual and ozone season $NO_x$ mass emission cap in aggregate for the emissions units in the averaging program. The mass caps shall be the summation of the products for each emissions unit of the emission limitation in subd. 1.c. or the average

emission rate in subd. 1.d. and the 3-year average annual or ozone season heat input. In the case of an emission limitation expressed on an output basis, the applicable quantified output shall replace heat input for purposes of this calculation. The mass emission cap shall be calculated as follows:

$$MC = \sum_{i=1}^{n} \left[ \sum_{j=1}^{k} E_j HI_j \right]_i \qquad \text{Equation 5}$$

where:

MC is either the annual mass cap or the ozone season mass cap in tons of $NO_x$ for all units participating in the averaging program

$E_j$ is the applicable emission limitation for fuel j submitted in subd. 1.c. or the average emission rate in subd. 1.d.

$HI_j$ is either the average annual or ozone season heat input for fuel j, submitted in 1.e., for the 3 years of highest heat input from 2000 to 2005

k is the number of fuels fired by a unit either during the year or during the ozone season

n is the number of units participating in the averaging program

2. 'Implementation.' The department shall review the proposed averaging program provided in the notification and unless the department, within 30 days of recieving the proposed averaging program, requests additional information or revisions to the program, the owner or operator shall comply with the submitted emissions averaging program.

3. 'Compliance demonstration.' The owner or operator of emissions units participating in the averaging program shall submit a compliance report containing the following information by March 1 of the calendar year following the averaging program year:

a. The annual and ozone season actual heat input by fuel type for each emissions unit in the averaging program.

b. The annual and ozone season actual $NO_x$ mass emissions for each emissions unit.

c. The annual and ozone season actual average $NO_x$ emission rate for each emissions unit calculated as follows:

$$ER_{avg} = \frac{NO_x \text{ Mass}}{\sum_{j=1}^{n} HI_j} \qquad \text{Equation 6}$$

where:

$ER_{avg}$ is the annual or ozone season average emission rate for each emissions unit

$NO_x$ Mass is the total $NO_x$ mass emissions for the averaging period

$HI_j$ is the heat input for fuel type j for the averaging period

n is the number of fuels fired during the averaging period

d. The annual and ozone season actual $NO_x$ mass emissions and heat input in aggregate for all emissions units.

e. The annual and ozone season actual aggregate $NO_x$ emission rate for all emissions units. This emission rate is the summation of the total mass of $NO_x$ emissions for all emissions units divided by the total heat input for all emissions units and is calculated as follows:

$$ER_{aggr} = \frac{\sum_{u=1}^{n} NO_x \text{ Mass}_u}{\sum_{u=1}^{n} HI_u} \qquad \text{Equation 7}$$

where:

$ER_{aggr}$ is the emission rate in aggregate for all emissions units on an annual or ozone season basis

$NO_x$ $Mass_u$ is the total $NO_x$ mass emissions for emissions unit u, for the averaging period

$HI_u$ is the total heat input for each emissions unit u, for the averaging period

n is the number of emissions units participating in averaging

f. The annual and ozone season aggregate emission limitation for all emissions units. These emission limitations are the summation of the product of each unit's actual heat input and emission limitation by fuel type divided by the summation of the actual heat input for all emissions units. The aggregate emission limitations shall be calculated as follows:

$$EL_{aggr} = \frac{\sum_{u=1}^{n}\left(\sum_{f=1}^{j} HI_f EL_f\right)}{\sum_{u=1}^{n} HI_u} \qquad \text{Equation 8}$$

where:

$EL_{aggr}$ is the aggregate emission limit for all emissions units on an annual or ozone season basis

$HI_f$ is the heat input for fuel f, for unit u

$EL_f$ is the emission limit for fuel f, for unit u

$HI_u$ is the total heat input for emissions unit u, for the averaging period

n is the number of emissions units participating in averaging

f is the number of fuels for unit u

g. Compliance on an annual and ozone season basis is demonstrated if the aggregate emission rate required in subd. 3.e. is less than the aggregate emission limit required in subd. 3.f., and the $NO_x$ mass emissions required in subd. 3.b. is less than the mass cap required in subd. 1.f.

4. For an emissions unit subject to emission limitations expressed in units other than heat input, the emission limitation shall be converted to a heat input basis. All required calculations shall be on a common basis with necessary conversions performed according with methods in 40 CFR part 60, appendices A or B, incorporated by reference in s. NR 484.04(13) and (21).

5. 'Mass cap exceedence.' If the total NOx emissions from the emissions units in the averaging program exceed either the annual or ozone season emission caps determined in subd. 1.f., the owner or

operator shall achieve additional $NO_x$ reductions to compensate for the excess emissions within 3 calendar years after the averaging year with the exceedence.

(c) *Multi-facility average.* An owner or operator may average emissions from emissions units at multiple facilities by complying with the following procedures for demonstrating compliance on an annual and ozone season basis with an aggregate $NO_x$ emission limitation:

1. 'Notification.' The owner or operator shall submit to the department a notification of an $NO_x$ emissions averaging program by October 1 of the year prior to the emissions averaging year. The notification shall include the following information:

a. The participating emissions units.

b. The owner or operator of each emissions unit.

c. The applicable emission limitation in s. NR 428.22 for each emissions unit.

d. The projected heat input, capacity utilization, $NO_x$ emission rate and total $NO_x$ mass emissions for each emissions unit on an annual and ozone season basis.

e. The projected heat input, capacity utilization, $NO_x$ emission rate and total $NO_x$ mass emissions in aggregate for all emissions units participating in the averaging program.

2. 'Implementation.' The department shall review the proposed averaging program provided in the notification and unless the department, within 30 days of receiving the proposed averaging program, requests additional information or revisions to the program, the owner or operator shall comply with the submitted emissions averaging program.

3. 'Public notice.' a. The owner or operator proposing to average emissions units at multiple facilities shall provide public notice 60 days prior to the calendar year of the averaging program in newspapers of general circulation for the areas of the emissions units.

b. The public notice shall describe the proposed averaging program, the participating emissions units and how to obtain a copy of the averaging program information required in subd. 1.

c. In addition to the information required in subd. 1., the averaging program information provided

to the public upon request shall indicate whether any of the emissions units identified in the proposed averaging program participated in prior averaging programs under this subsection and whether that participation resulted in a violation of the emission limits.

4. 'Compliance demonstration.' The owner or operator participating in an averaging program shall submit a compliance report containing the following information by March 1 of the calendar year following the averaging program year:

a. The annual and ozone season actual heat input for each emissions unit.

b. The annual and ozone season actual $NO_x$ mass emissions for each emissions unit.

c. The annual and ozone season actual average $NO_x$ emission rate for each emissions unit calculated using Equation 6 in par. (b)3.c.

d. The annual and ozone season actual $NO_x$ mass emissions and heat input in aggregate for all emissions units.

e. The annual and ozone season aggregate $NO_x$ emission rate for all emissions units calculated using Equation 7 in par. (b)3.e.

f. The annual and ozone season aggregate emission limitation for all emissions units. These emission limitations are the summation of the product of the each unit's actual heat input and emission limitation divided by the summed actual heat input for all emissions units less an averaging program environmental benefit factor. The aggregate emission limitations are calculated as follows:

$$EL_{aggr} = \frac{\sum_{u=1}^{n} HI_u EL_u}{\sum_{u=1}^{n} HI_u} x(1 - EBF) \qquad \text{Equation 9}$$

where:

$EL_{aggr}$ is the aggregate emission limit in aggregrate for all emissions units on an annual or ozone

season basis

$HI_u$ is the heat input for each emissions unit, u, for the specified period of time

$EL_u$ is the emission limit for each emissions unit, u. For emission limitations in units other than heat input, the emission limitations shall be converted to a heat input basis according to sub. (b)4.

EBF is the environmental benefit factor. For averaging programs effective on or after January 1, 2013, the EBF is 10% for the annual emission limit and 10% for the ozone season emission limit. Prior to this date the EBF is 0%.

g. A demonstration of compliance on an annual and ozone season basis consisting of the aggregrate emission rates under subd. 4.e. compared to the aggregate emission limitations calculated in subd. 4.f.

(d) *Violations and penalties*. 1. All emissions units participating in an emissions averaging program are considered out of compliance if emissions exceed any of the averaging program emission limitations on either an annual or ozone season basis.

2. Each emissions unit participating in the averaging program shall be considered in violation for each day of non-compliance until corrective action is taken to achieve compliance.

3. Unless the department grants an electric or steam utility reliability waiver under s. NR 428.28 to the emissions units exceeding the applicable aggregate average emission limitation, the department shall require the owners or operators of the emissions units in the program to achieve reductions equivalent to the amount of the exceedence. The additional emission reductions shall be achieved within the subsequent 3 years on an annual or ozone season basis, consistent with the period of the exceedence.

4. All owners or operators of emissions units considered out of compliance with an averaging program emission limitation are liable for each violation and subject to enforcement and penalty provisions under ss. 285.83 and 285.87, Stats.

5. The parameters required in the notice under par. (c) 1.d. shall consitute annual and ozone season alternative compliance limits for each unit participating in a multi-facility averaging program under par. (c). If compliance is demonstrated under par. (c)4.g., all emissions units in the averaging program shall be deemed to be in compliance with the alternative compliance limits.

(2) CAIR EMISSIONS UNITS. The owner or operator of an emissions unit which is subject to the emission reduction requirements of the clean air interstate rule (CAIR) under 40 CFR part 97 may demonstrate that the $NO_x$ emission reductions achieved by the emissions unit in complying with the CAIR requirements constitute compliance with the $NO_x$ RACT emission limitation requirements of this subchapter.

(3) ALTERNATIVE RACT REQUIREMENT. (a) The owner or operator of an emissions unit may request that the department establish an alternative emission limitation or alternative compliance deadline to the requirements in s. NR 428.22 if the owner or operator demonstrates that it is economically or technically infeasible to meet the requirement.

(b) The owner or operator of the emissions unit shall submit the request with the demonstration for an alternative RACT requirement by the later of May 1, 2008 or by May 1 following the calendar year in which an emissions unit first becomes subject to an emission limitation in s. NR 428.22.

(c) Any request for an alternative RACT requirement made under this subsection shall be subject to the requirements and procedures of s. NR 436.05.

**NR 428.27 Green tier.** (1) An owner or operator of an emissions unit subject to s. NR 428.22 may enter into a contract under s. 299.83, Stats., to fulfill the requirements of this subchapter by developing and executing an emissions reduction plan achieving superior environmental performance. The emissions reduction plan may include either of the following:

(a) An alternate compliance schedule that achieves greater $NO_x$ emissions reductions than would otherwise be achieved under this subchapter, or achieves emissions reductions of other pollutants in

addition to $NO_x$ reductions.

(b) An alternate compliance approach that achieves overall greater $NO_x$ emission reductions and environmental benefits through $NO_x$ emission reductions at an alternate emissions unit.

(2) Any emissions reduction plan shall be consistent with reasonable further progress for ozone attainment under 42 USC 7502(c)(2) and may not impede attainment of the ozone air quality standard.

(3) Any contract negotiated under s. 299.83, Stats., may include reductions in recordkeeping, reporting or other administrative requirements related to environmental regulations as appropriate as an incentive for the activities described in sub. (1). The amount of flexibility provided shall be proportional to the environmental benefits provided by the participant.

(4) This subsection clarifies how s. 299.83, Stats., may apply in meeting requirements of s. NR 428.22, but nothing in this subchapter limits or supersedes the department's authority under s. 299.83, Stats.

**NR 428.28 Electric and steam utility reliability waiver.** The owner or operator of an emissions unit used for purposes of electric or steam utility generation and subject to an emission limitation in s. NR 428.22 may request that the department grant a waiver from meeting the emission limitation for a specific period of time based on the following criteria and procedures:

(1) The waiver request is due to the utility's need to maintain a supply of electricity or steam for space heating or cooling to non-interruptible customers.

(2) A waiver request may only be based on an unavoidable or unforeseeable event including:

(a) A major electric supply event affecting the utility.

(b) A major fuel supply disruption affecting the utility.

(c) A disruption in the operation of a generating unit or pollution control equipment.

(3) The owner or operator of a major utility shall submit a written request for a waiver that provides information sufficient to demonstrate to the department's satisfaction that granting the waiver is warranted. The request shall include the following:

(a) The duration of the conditions warranting the waiver.

(b) The specific measures taken to mitigate emissions during the duration for which the waiver is requested.

(c) The reasons why the utility was unable to achieve compliance with the emission requirement.

(4) The department may grant a waiver under this section if, in consultation with the public service commission, the department determines that the owner or operator's failure to meet a requirement under s. NR 428.22 is consistent with criteria of sub. (2).

(5) Within 60 days after the receipt of a complete request, the department shall publish a public notice of the receipt of the waiver request and the department's preliminary determination to approve, conditionally approve, or deny the the request. The department shall provide an opportunity for public comments on the request and the department's preliminary determination. The department shall hold a public hearing on the request if a hearing is requested by a person affected by the waiver request.

(6) Following the public comment period, the department shall notify the applicant in writing of the final determination to approve, conditionally approve or deny the waiver request.

SECTION 4. NR 484.04(13) is amended to read:

| | CFR Appendix Referenced | Title | Incorporated by Reference For |
|---|---|---|---|
| (13) | 40 CFR part 60 Appendix A | Test Methods | NR 400.02(131)<br>NR 428.26(1)(b)4.<br>NR 439<br>NR 460 to 469 |

SECTION 5. NR 484.04(15m) and (16m) are created to read:

| | CFR Appendix Referenced | Title | Incorporated by Reference For |
|---|---|---|---|

| | | | |
|---|---|---|---|
| (15m) | 40 CFR part 60 Appendix A, Method 7, 7A, 7B, 7C, 7D and 7E | Determination of nitrogen oxide emissions from stationary sources | NR 428.24(1)(b)3.a. |
| (16m) | 40 CFR part 60 Appendix A, Method 19 | Determination of sulfur dioxide removal efficiency and particulate, sulfur dioxide and nitrogen oxides emission rates | NR 428.24(1)(b)2.d., 5.a. and c. and 6.b. |

SECTION 6. NR 484.04(21m) is amended to read:

| | **CFR Appendix Referenced** | **Title** | **Incorporated by Reference For** |
|---|---|---|---|
| (21m) | 40 CFR part 60 Appendix F | Quality Assurance Procedures | NR 428.24(1)(b)2.c.<br>NR 466.10(2) |

SECTION 7. NR 484.04(26m)(cm) is created to read:

| | **CFR Appendix Referenced** | **Title** | **Incorporated by Reference For** |
|---|---|---|---|
| (26m)(cm) | 40 CFR part 75 Appendix E | Optional NO Emissions Estimation Protocol for Gas-Fired Peaking Units and Oil-Fired Peaking Units | NR 428.24(1)(b)8. |

SECTION 8. NR 484.04(26m)(d) and (27) are amended to read:

| | **CFR Appendix Referenced** | **Title** | **Incorporated by Reference For** |
|---|---|---|---|
| (26m)(d) | 40 CFR part 75 Appendix F | Conversion Procedures | NR 428.24(1)(b)5.d. and 6.b. and c.<br>NR 446.04(3)<br>NR 446.09(1)(a) |
| (27) | 40 CFR part 75 Appendices A to I | | NR 428<br>NR 439<br>NR 428.24(1)(b)1. |

SECTION 9. EFFECTIVE DATE. This rule shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22 (2) (intro.), Stats.

SECTION 10. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on _____.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By_____
Scott Hassett, Secretary

(SEAL)