

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

The Wisconsin Natural Resources Board proposes an order to **amend** 428.04(2)(h)1. and 2., 428.05(3)(e)1. to 4. and 484.04(13), (21m), (26m)(d), and (27) and **create** NR 428.02(7m), 428 subch. IV and 484.04 (15m),(16m) and (26m)(bm) 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 nonattainment 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 ch. 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 limits and compliance requirements for emission units at facilities with a total potential to emit of 100 tons/year of NO_x. The proposed RACT rules conform to the federal Clean Air Act.

The Department determined that \$2,500/ton of NO_x removed, from an uncontrolled baseline, is an appropriate upper limit for application of RACT at an affected facility. The Department's proposed emission limits for electric utility generating units and larger industrial emission units are based on that upper limit. 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 emission limits are designated by source category and fuel type as necessary, but are not applicable

unless the unit is operated over an utilization threshold during the ozone season as specified in the rule for each source category. The operating threshold for exemption is based on 20% of the source category's unit size threshold for defining the smallest unit subject to the emission limit. The proposed rule also exempts emission units from further control if the unit is already meeting an existing NO_x emission limit under ch. NR. 428 and emits less than 75 tons per year of NO_x. And the rule lists specific units such as emergency generators, fire-fighting water pumps, peaking units, etc.. which also are exempt from the emissions limits. However, once an emissions unit no longer qualifies for one of the exemptions, it is subject to the emission limitations on an ongoing basis.

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.

Sources demonstrate compliance with the emission rate limits by 1) Installing and operating continuous emissions monitoring systems (CEMs) consistent with 40 CFR part 60 requirements for units with considerable variability in operation, 2) Performance stack testing every 2 years for units with less variability in operation or emissions, or 3) Continuous parametric monitoring of combustion parameters with stack testing every 5 years for all gaseous and oil fired units. The rule allows an owner to request an alternative to any of the emissions monitoring 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 NO_x 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 cost of meeting the NO_x SIP call requirements to be approximately \$2,000/ton of controlled NO_x emissions and described this as “highly cost-effective.” 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 NO_x 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 NO_x 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 NO_x SIP Call and BART regulations 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 and the level of cost-effectiveness considered for this rule.

7. Comparison with rules in adjacent states: States near Wisconsin with 8-hour ozone nonattainment areas are Illinois, Indiana, Michigan and Ohio. Illinois, Indiana and Ohio also have moderate non-

attainment areas. All of the Michigan nonattainment areas are of a lower non-attainment designation of either "basic" or "marginal".

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 rule affects smaller sources and implements equivalent or more stringent requirements than those in the Wisconsin rule. The Illinois proposed RACT emission limits are based on a cost-effectiveness ranging up to \$2,500 per ton of NO_x removed. The rule proposes combustion tuning for boilers between 50 and 100 mmbtu/hr and emission limits for units approximately equivalent to 50 mmbtu/hr across the source categories. Illinois EPA negotiated very stringent SO₂ and NO_x 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 NO_x RACT in the Milwaukee area.

Indiana: Indiana is not proceeding with NO_x 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 NO_x RACT rules for industrial sources in the Cleveland nonattainment area. The rule affects smaller sources and implements equivalent or more stringent requirements than the Wisconsin rule for industrial sources. The proposed Ohio rule considers controls up to \$5,000 per ton of controlled NO_x. The proposal requires combustion tuning for boilers between 20 and 50 mmBtu/hr. Emission units approximately 50 mmbtu/hr and larger across source categories must meet emission limits.

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. The department considered technical information obtained through the public comment period as applicable to each source category.

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.

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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.

SECTION 1. NR 428.02(7m) is created to read:

NR 428.02(7m) "Process heater" means an enclosed device using controlled flame, that is not a boiler, and that has a primary purpose to transfer heat indirectly to a process material or to a heat transfer material for use in a process unit, instead of generating steam. Process heaters may not include combustion equipment where the material being heated is in direct contact with the products of combustion, such as furnaces or kilns, any unfired waste heat recovery heater or units used for comfort heat or space heat, food preparation for onsite consumption, or autoclaves.

SECTION 2. 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 3. 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 4. NR 428 subch. IV to follow NR 428.11 is created to read:

SUBCHAPTER IV

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 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 counties 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. The emissions units described in subs. (1), (2) and (3) are exempt from the emission limitation requirements of s. NR 428.22, but shall comply with applicable record keeping requirements under s. NR 428.24. Once an emissions unit no longer qualifies for an exemption, the owner or operator of the emission unit shall comply with the requirements of s. NR 428.22 by December 31 of the following calendar year, unless an alternate date is approved in writing by the department and the administrator.

(1) **GENERAL EXEMPTIONS.** The following emissions units and processes are exempt from the emission limitations in s. NR 428.22:

(a) Any emissions unit operated only to restart electric generation in the event of a complete loss of facility power.

(b) Any emissions unit which is operated no more than 500 hours per year and no more than 200 hours during the ozone season and whose only purpose is to provide electricity to a facility if normal electricity service is interrupted or to replace normal critical operations at a facility.

(c) Any emissions unit whose only function is to pump water in the case of a fire emergency.

(d) Any emissions unit whose utilization is less than 10% of its capacity factor on an annual average basis over a 3-year rolling period and less than 20% of its capacity factor in any year of the 3-year rolling period and which is owned or operated by an electric generation utility or gas transmission utility.

(e) A research or development unit.

(f) An engine testing operation or process line.

(d) Any gaseous fuel fired unit used to control VOC emissions from a commercial or industrial process.

(2) **LOW OPERATING UNIT.** An emissions unit described in s. NR 428.20 is exempt from the emission limitations of s. NR 428.22 if, during each ozone season, the emissions unit's utilization based on actual measured heat input or output is less than the utilization threshold for the source category according to the following equation:

$$UU_i < (\text{Category capacity}) \times (3,672 \text{ hours} / \text{Ozone Season}) \times \text{Capacity Factor} \quad \text{Equation 1}$$

where:

UU_i is the unit's actual fuel consumption or output in measurement units consistent with the calculated utilization threshold for the source category in s. NR 428.22

Category capacity is the lower value in the range of unit capacity or design output used to describe the unit's source category i in s. NR 428.22

Capacity factor is 0.20 for all source categories in s. NR 428.22

(3) 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 condition in an air permit issued prior to January 1, 2006 which limits emissions to no more than 75 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 17,000 Btu per cubic feet per hour, 0.17 pound per mmBtu of heat input.

c. If wall-fired with a heat release rate less than 17,000 Btu per cubic feet per hour, 0.15 pound per mmBtu of heat input.

- d. If cyclone-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 17,000 Btu per cubic feet per hour, 0.17 pound per mmBtu of heat input.

c. If wall-fired with a heat release rate less than 17,000 Btu per cubic feet per hour, 0.15 pound per mmBtu of heat input.

d. If cyclone-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, 0.20 pound per mmBtu of heat input.

4. For a solid fuel-fired boiler with a maximum heat input capacity equal to or greater than 50 mmBtu per hour and 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 17,000 Btu per cubic feet per hour, 0.17 pound per mmBtu of heat input.

c. If wall-fired with a heat release rate less than 17,000 Btu per cubic feet per hour, 0.15 pound per mmBtu of heat input.

d. If cyclone-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 65 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 heating.* For a process heater, dryer, oven or other process heating device, one of the following as applicable:

1. For a gaseous fuel-fired unit with a maximum heat input capacity equal to or greater than 100 mmBtu per hour, 0.10 pound per mmBtu of heat input.
2. For a distillate oil-fired unit with a maximum heat input capacity equal to or greater than 100 mmBtu per hour, 0.12 pound per mmBtu of heat input.

3. For a residual oil-fired unit with a maximum heat input capacity equal to or greater than 65 mmBtu per hour, 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, corrected to 15% O₂ and at ambient temperatures greater than 0°F, as applicable:

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

- a. If natural gas-fired, 25 parts per million dry volume.
- b. If distillate oil fuel-fired, 65 parts per million dry volume.
- c. If biologically derived gaseous fuel-fired, 35 parts per million dry volume.

2. For a unit with a maximum design power output equal to or greater than 25 megawatts and less than 50 megawatts, one of the following as applicable:

- a. If natural gas-fired, 42 parts per million dry volume.
- b. If distillate oil fuel-fired, 96 parts per million dry volume.
- c. If biologically derived gaseous fuel-fired, 35 parts per million dry volume.

(h) *Combined cycle combustion turbines.* For a combined cycle combustion turbine, one of the following exhaust outlet concentrations, corrected to 15% O₂ and at ambient temperatures greater than 0°F, as applicable:

1. For a natural gas-fired unit with a maximum design power output equal to or greater than 25 megawatts, 9 parts per million dry volume.

2. For a natural gas-fired unit with a maximum design power output equal to or greater than 10 megawatts and less than 25 megawatts, 42 parts per million dry volume.

3. For a distillate oil fuel-fired unit with a maximum design power output equal to or greater than 10 megawatts, 42 parts per million dry volume.

4. For a biologically derived gaseous fuel-fired unit with a maximum design power output equal to or greater than 10 megawatts, 35 parts per million dry volume.

(i) *Reciprocating engines.* For a reciprocating engine with a maximum design power output equal to or greater than 500 horsepower, one of the following as applicable:

1. For a rich-burn spark ignition unit, 3.0 grams per brake horsepower-hour.
2. For a lean-burn spark ignition unit, 3.0 grams per brake horsepower-hour.
3. For a diesel fuel-fired compression unit, 3.0 grams per brake horsepower-hour.
4. For a dual fuel-fired compression unit, 3.0 grams per brake horsepower-hour.

(2) **ELECTRIC UTILITY BOILER COMPLIANCE SCHEDULE.** The owner or operator of an electric utility boiler subject to the provisions of 40 CFR part 97 shall demonstrate compliance with the following interim NO_x 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, 0.20 pound per mmBtu of heat input.
3. If cyclone-fired, 0.20 pound per mmBtu of heat input.
4. If arch-fired, 0.18 pound per mmBtu of heat input.
5. If fluidized bed-fired, 0.15 pound per mmBtu of heat input.

NR 428.23 Demonstrating compliance with emission limitations. The owner or operator of an emissions unit shall determine the emissions unit's NO_x emissions and shall determine compliance with the emission limitations in s. NR 428.22 according to the applicable methods in this section.

(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 a certification of the 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 measurement 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 monitor NO_x emissions for 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) as required of an affected unit or an emissions unit subject to 40 CFR part 97.

2. 'Continuous emissions monitoring.' Except as provided in subd. 1., the owner or operator of an emissions unit subject to an emissions limitation in s. NR 428.22(1)(a) to (d) shall monitor NO_x emissions for requirements of this subsection according to the following specifications, as applicable:

a. The owner or operator shall install and operate a continuous emissions monitoring system that measures the hourly average NO_x emission rate.

b. The emissions monitoring system shall consist of an NO_x diluent continuous emissions analyzer and, as applicable, an O₂ or CO₂ diluent continuous emissions analyzer to correct all emissions data and heat rate values for the emissions unit to the same moisture and diluent gas basis, as required in subd. 6.b.

c. The owner or operator shall calibrate, maintain and 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, the emissions shall be determined using the F-factor method according to methods in Method 19 of 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04(16m).

e. Except for an emissions unit subject to subd. 1. or an emissions unit subject to an emission limitation in s. NR 428.22(1)(a)1. to 4., an owner or operator of an emissions unit may measure NO_x emissions for compliance determination purposes using continuous parametric monitoring methods meeting emissions monitoring specifications in 40 CFR part 75, Appendix E, incorporated by reference in s. NR 484.04(26m)(cm).

3. 'Periodic emissions performance test.' Except as provided in subd. 1., the owner or operator of an emissions unit subject to s. NR 428.22(1)(e) to (i) shall conduct an initial performance test and a subsequent performance test every 2 years thereafter, according to the following requirements, as applicable, to determine the emissions unit's NO_x emission rate for each fuel fired in the emissions unit. A performance test is not required for a fuel used only for startup or for a fuel constituting less than 1% of the unit's annual fuel consumption.

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. Except for units specified in this subd. 3.c., the initial emissions performance test shall include a determination of the capacity load point of the unit's maximum NO_x emissions rate based on one 30 minute test run at each capacity load point for which the unit is operated, other than for startup and shutdown, in the load ranges of 20 to 30%, 45 to 55%, 70 to 80% and 90 to 100%.

c. The emissions performance tests for emissions units subject to s. NR 428.22(1)(g) or (h) shall be conducted within 10% of full load operation.

d. The emissions performance test shall determine compliance based on the average of 3 60-minute test runs performed at the capacity load specified in this subd. 3.b. or c.

e. An additional performance test shall be conducted according to this subd. 3.b. or c. within 90 days of completing an equipment modification or change in fuel which has the potential to increase the NO_x emissions concentration or rate.

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 s. 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 plus or minus 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 428.25(1)(b) or (c) shall perform the applicable measurements according to following:

a. Except as allowed in subd. 5.d., 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 F-factor and the 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. Unless specified in Method 19 of 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04(16m), the heat content value for each fuel shall be based on a heat content analysis.

c. 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, incorporated by reference in s. NR 484.04(26m)(d).

d. For a liquid or gaseous fuel fired system, the total heat input and mass of NO_x emissions may be determined using a fuel flow monitoring system capable of determining the hourly flow with plus or minus 5% accuracy and using continuous parametric monitoring as specified under subd. 8. The total heat input shall be calculated as the total fuel flow multiplied by the fuel heat content.

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)(d).

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)(d).

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.' An owner or operator of an emissions unit may request and monitor NO_x emissions for compliance determination purposes using an equivalent alternative method to any requirement of this subsection with written approval of the department and the administrator.

(2) COMPILATION OF EMISSIONS. An owner or operator shall compile the measured emissions data in measurement 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:

$$E_A = \left(\frac{1}{n}\right) \sum_{j=1}^n E_{H,j} \quad \text{Equation 2}$$

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.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 3. 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.

$$E_{HIWeghted} = \frac{\sum_{f=1}^n E_f HI_f}{\sum_{f=1}^n HI_f} \quad \text{Equation 3}$$

where:

$E_{HIW_{\text{eighted}}}$ 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 4.

$$HI_{\text{total}} = \sum_{h=1}^n HI_h \quad \text{Equation 4}$$

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 5.

$$NO_x \text{ Mass}_{\text{total}} = \sum_{h=1}^n \text{Mass}_h \quad \text{Equation 5}$$

where:

$\text{NO}_x \text{ Mass}_{\text{total}}$ 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 428.24 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 428.23.

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

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

5. For the emissions monitoring system required in s. NR 428.23(1)(b) on an annual and on an 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 measurement 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) **GENERAL EXEMPTION UNIT.** The owner or operator of an emissions unit claiming exemption under s. NR 428.21, shall record operational parameters necessary to demonstrate the unit's qualification for the exemption status.

(3) **LOW OPERATING UNIT.** The owner or operator claiming a low operating unit exemption for an emissions unit under s. NR 428.21(2), shall maintain a record of the unit's applicable fuel heat input or production output, as applicable, the unit's total capacity utilization on an ozone season and on an annual basis for each calendar year and calculations demonstrating the unit's qualification for the exemption.

(4) **OTHER REGULATED UNIT.** The owner or operator claiming a regulated emissions unit exemption for an emissions unit 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 428.25 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 for 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. Individual 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 unless the unit is complying with an emission limit in s. NR 428.22 or is participating in another emissions averaging program under this subsection. 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, as applicable, according to requirements of s. NR 428.23(1)(b)1. or 2. The total heat input and NO_x mass emissions shall be monitored and measured according to s. NR 428.23(1)(b)5. and compiled according to s. NR 428.23(2)(d).

3. 'New units'. An emissions unit which begins operation on or after the effective date of this section... [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 on an

ozone season basis with an aggregate NO_x emission limit and mass emissions 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 428.23(1)(b)3. 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 emissions cap in aggregate for the emissions units in the averaging program. The mass emissions 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. The mass emission cap shall be calculated as follows:

$$MC = \sum_{i=1}^n \left[\sum_{j=1}^k E_j HI_j \right]_i \quad \text{Equation 6}$$

where:

MC is either the annual mass emissions cap or the ozone season mass emissions 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 subd. 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 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. '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:

$$ER_{avg} = \frac{NO_x \text{ Mass}}{\sum_{j=1}^n HI_j} \quad \text{Equation 7}$$

where:

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

$NO_x \text{ Mass}$ 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:

$$ER_{aggr} = \frac{\sum_{u=1}^n NO_x \text{ Mass}_u}{\sum_{u=1}^n HI_u} \quad \text{Equation 8}$$

where:

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

$NO_x \text{ Mass}_u$ 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:

$$EL_{aggr} = \frac{\sum_{u=1}^n \left(\sum_{f=1}^j HI_f EL_f \right)}{\sum_{u=1}^n HI_u} \quad \text{Equation 9}$$

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 emissions cap required in subd. 1.f.

4. 'Heat input conversion.' 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 to the methods in 40 CFR part 60, Appendices A and B, incorporated by reference in s. NR 484.04(13) and (21).

5. 'Mass emissions cap exceedance.' If the total NO_x emissions from the emissions units in the averaging program exceed either the annual or ozone season emissions 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 exceedance.

(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 7 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 8 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:

$$EL_{\text{aggr}} = \frac{\sum_{u=1}^n HI_u EL_u}{\sum_{u=1}^n HI_u} x(1 - EBF) \quad \text{Equation 10}$$

where:

EL_{aggr} is the aggregate emission limit in aggregate 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 aggregate 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. Except for those periods of time for which 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 exceedance. 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 exceedance.

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. The owners or operators of the emissions units in the averaging plan

shall evaluate the emissions and operating data for any period of non-compliance to determine which units are responsible for the non-compliance event. The information used in this evaluation shall be made available to the department within 30 days of the discovery of a non-compliance event.

5. The parameters required in the notice under par. (c) 1.d. shall constitute 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 and written approval of the administrator.

NR 428.26 Utility reliability waiver. The owner or operator of an emissions unit used for purposes of electric or steam utility generation or natural gas utility transmission 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, steam, or natural gas 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 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 and written approval by the administrator, 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, partially approve, or deny 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 5. NR 484.04(13) is amended to read:

CFR Appendix Referenced	Title	Incorporated by Reference For
NR 484.04 (13) 40 CFR part 60 Appendix A	Test Methods	NR 400.02(131) <u>NR 428.25(1)(b)4.</u> NR 439 NR 460 to 469

SECTION 6. NR 484.04(15m) and (16m) are created to read:

CFR Appendix Referenced	Title	Incorporated by Reference For
NR 484.04 (15m) 40 CFR part 60 Appendix A, Method 7, 7A, 7B, 7C, 7D and 7E	Determination of nitrogen oxide emissions from stationary sources	NR 428.23(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 428.23(1)(b)2.d., 5.a. and b. and 6.b.

SECTION 7. NR 484.04(21m) is amended to read:

CFR Appendix Referenced	Title	Incorporated by Reference For
NR 484.04 (21m) 40 CFR part 60 Appendix F	Quality Assurance Procedures	<u>NR 428.23(1)(b)2.c.</u> NR 466.10(2)

SECTION 8. NR 484.04(26m)(bm) is created to read:

CFR Appendix Referenced	Title	Incorporated by Reference For
NR 484.04 (26m)(bm) 40 CFR part 75 Appendix E	Optional NO _x Emissions Estimation Protocol	NR 428.23(1)(b)2.e.

for Gas-Fired Peaking Units and Oil-Fired Peaking Units

SECTION 9. NR 484.04(26m)(d) and (27) are amended to read:

CFR Appendix Referenced	Title	Incorporated by Reference For
NR 484.04 (26m)(d) 40 CFR part 75 Appendix F	Conversion Procedures	<u>NR 428.23(1)(b)5.c. and 6.b. and c.</u> NR 446.04(3) NR 446.09(1)(a)
(27) 40 CFR part 75 Appendices A to I		NR 428 NR 439 <u>NR 428.23(1)(b)1.</u>

SECTION 10. 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 11. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on April 25, 2006.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
Scott Hassett, Secretary

(SEAL)

