

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

The Wisconsin Natural Resources Board adopts an order to **repeal** NR 446.02(1w), 446.029, 446.055 to 446.08 and 446.10 to 446.12; to **renumber** NR 446.025, 446.03 and 446.04; to **renumber and amend** NR 446.027, 446.05, 446.09, 446 subch. III(title), 446.14, 446.15 and 446.16; to **amend** NR 439.075(2)(b)1., 446.01(2)(Note), 446 subch. II(title), 484.04(20m) and (27) and 484.10(47m) and to **create** NR 446.02(1e), 446.03(title), 446.05, 446.06(Note), 446 subch. III, 484.03(7) and 484.04(20s) and (20t) relating to the control of mercury emissions from electrical generating units.

AM-32-05

Summary Prepared by the Department of Natural Resources

1. **Statutes interpreted:** ss. 285.11(6), 285.11(9), and 285.27(2)(b), Stats. The State Implementation Plan developed under s. 285.11(6), Stats., may be revised with portions of the proposed rule and/or implementations of the proposed rule submitted to the U.S. EPA as part of the federally enforceable SIP.
2. **Statutory authority:** ss. 227.11(2)(a), 285.11(1), 285.11(9), and 285.27(2)(b), Stats.
3. **Explanation of agency authority:** If an emission standard for an air pollutant is promulgated under section 111 of the Clean Air Act (CAA), the Department is required under s. 285.27(1)(a), Stats., to promulgate by rule a similar standard. On May 18, 2005 the federal Clean Air Mercury Rule (CAMR) requiring emission reductions from coal-fired EGUs was promulgated by the United States Environmental Protection Agency (EPA) under section 111 of the Clean Air Act. On February 8, 2008, the Washington D.C. Court of Appeals vacated the CAMR as well as EPA's removal of coal-fired EGUs from the list of source categories under section 112, the Hazardous Air Pollutant section, of the Clean Air Act (State of NJ v. EPA, D.C. Ct. App. No. 05-1097). The Court found that the EPA's action was "unlawful" and therefore coal-fired EGUs cannot be regulated under section 111 unless EPA makes the finding that "emissions from no source in the category or subcategory concerned . . . exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from emissions from any source." The Washington D.C. Court of Appeals' mandate issued on March 14, 2008 finalizing the CAMR vacatur. It is not clear, when, and in what manner, EPA will address mercury emissions from coal-fired EGUs.  
  
Thus, to date, federal mercury rules have not been promulgated under section 111 or 112 of the Clean Air Act. If EPA promulgates emission limitations for hazardous air pollutants pursuant to section 112, Wisconsin is required to promulgate similar emission limitations for hazardous air pollutants, as required under s. 285.27(2)(a), Stats. In the absence of a federal standard promulgated under section 112, the Department may promulgate a standard if it finds that a standard is needed to provide adequate protection of public health and welfare. The Department has made this finding pursuant to s. 285.27(2)(b), Stats., and based upon this finding is proposing a revision to the mercury emission requirements affecting coal-fired electric generating units (EGUs) in the current state mercury rule, ch. NR 446, Wis. Adm. Code.
- Section 227.11(2)(a), Stats. provides state agencies general authority to develop rules. Section 285.11(1), Stats., authorizes the Department to promulgate rules consistent with ch. 285, Stats. Authority to develop and revise a state implementation plan to control air pollution in the state is provided under s. 285.11(6), Stats., and authority to prepare and adopt minimum standards for the emission of mercury is provided under s. 285.11(9), Stats.
4. **Related statute or rule:** Chapter NR 446, Wis. Adm. Code, Control of Mercury Emissions.
5. **Plain language analysis:** Under the current state mercury rule, four utilities are affected. The four utilities are Alliant Energy, Dairyland Power Cooperative, WE Energies and Wisconsin Public Service Corporation. Beginning

January 1, 2010, these four utilities must reduce mercury emissions by 40% from the baseline established under provisions in the current state mercury rule. The proposed revisions will cover EGUs operated by these four utilities as well as EGUs operated by four additional utilities: Madison Gas & Electric Company, Manitowoc Public Utilities, Mid-American Energy Company and Xcel Energy. Under these revisions, the state's large coal-fired EGUs (150 megawatts and greater) must comply with one of two compliance paths to achieve a 90% mercury emission reduction. Small coal-fired EGUs (greater than 25 megawatts and less than 150 megawatts) must reduce their mercury emissions to a level defined as Best Available Control Technology (BACT). The proposed revisions require new coal-fired EGUs to meet a minimum 90% mercury emission reduction.

Large coal-fired EGUs must either meet a 90% mercury emission reduction or limit the concentration of mercury emissions to 0.0080 pounds of mercury per gigawatt-hour by January 1, 2015. Compliance is demonstrated annually on a unit-by-unit basis or units under common ownership may average across their units. Large coal-fired EGUs also have the option of choosing a multipollutant alternative. The multipollutant alternative requires the affected EGUs to achieve nitrogen oxides (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) reductions beyond those currently required by federal and state regulations, as well as to attain a delayed 90% mercury emission reduction standard. An additional six years to achieve the 90% mercury emission reduction standard is provided to EGUs included in a multipollutant approach. The units may comply on either a unit-by-unit basis or an average across units under common ownership or control. An interim mercury reduction provision is established requiring that the affected EGUs meet either a 70% mercury emission reduction or a mercury emission concentration of 0.0190 pounds per gigawatt-hour by January 1, 2015. Beginning January 1, 2018, an 80% mercury emission reduction or an emission concentration limit of 0.0130 pounds of mercury per gigawatt-hour must be achieved. By January 1, 2021, a 90% mercury emission reduction or an emission concentration limit of 0.0080 pounds of mercury per gigawatt-hour is required.

Early mercury emission reduction credits can be used for up to 10% of the annual allowable emission total, in pounds, to achieve compliance with the 70%, 80% and 90% mercury emission reduction requirements for EGUs following the multipollutant approach. The Department must certify emission reduction credits. Mercury emission reductions by EGUs following the multipollutant approach that are greater than the 70% and 80% mercury emission reduction or mercury emission reductions achieved by utilities greater than the January 1, 2010, 40% reduction requirement are eligible for certification.

A report will be prepared and submitted to the Natural Resources Board by August 31, 2013 to evaluate scientific and technology developments for reduction of mercury emissions, whether the mercury requirements are achievable and any recommendations for revisions.

A report to the Natural Resources Board will also be provided within 6 months of the promulgation of a federal regulation or enactment of federal law that requires mercury emission reductions from coal-fired electric generating units. This report will compare the federal requirements to state requirements and make recommendations for revisions or other actions.

The proposed rule commits to future rulemaking by December 31, 2013, to specify the requirements for the continuous emission monitoring of mercury emissions.

**6. Summary of, and comparison with, existing or proposed federal regulation:** In 2005, EPA promulgated the CAMR which included a federal trading program for mercury emissions from coal-fired EGUs. In 2008, this rule was vacated by the U.S. Court of Appeals for the District of Columbia (*State of NJ v. EPA*, D.C. Ct. App. No. 05-1097). It is not clear, when, and in what manner, EPA will address mercury emissions from coal-fired EGUs.

**7. Comparison with rules in adjacent states:** Illinois, Michigan and Minnesota are proposing or have adopted requirements more stringent than the CAMR would have achieved including more mercury emission reductions sooner. These states' requirements are similar to the proposed revisions. Ohio and Indiana developed regulations to adopt EPA's now vacated national trading program to meet CAMR requirements.

**8. Summary of factual data and analytical methodologies:** The Department proposes to adopt administrative rules for a revised emission standard for mercury. In the absence of a federal standard promulgated under section 112 of the Clean Air Act, the Department may promulgate a standard if it finds that a standard is needed to provide

adequate protection of public health and welfare. This finding contains the written documentation to support a revised standard for mercury for coal-fired EGUs, as required under s. 285.27(2)(b), Stats. This document includes the following four sections that correspond to the elements for which written documentation supporting the finding are required:

- Section 1 - Identify sources of mercury and populations potentially at risk.
- Section 2 - Assess whether exposures to mercury are above a level of concern.
- Section 3 - Evaluate options to control risks from mercury exposures.
- Section 4 - Compare mercury emission standards proposed with those from neighboring states.

The preliminary finding and addendum can be located on the Department's mercury rule page at <http://dnr.wi.gov/air/toxics/mercury/rule.htm>.

**9. Analysis and supporting documents used to determine effect on small business or in preparation of economic impact report:** The proposed rule revisions are not expected to have a significant effect on small businesses. The EGUs subject to the emission reduction requirements of the proposed revisions are not small businesses. Any costs which the electric utility industry incurs to meet the emission reduction requirements will likely be passed on to their customers, which will include small businesses. The fiscal estimate prepared by the Department estimated that electricity rates would increase by 0.06 to 0.14 cents per kilowatt-hour. As part of the federal rule promulgation process, the EPA is required under the Regulatory Flexibility Act to consider potential impacts of proposed regulations on small entities. After considering the economic impacts of the CAMR on small entities, EPA concluded that the CAMR will not have a significant economic impact on a substantial number of small entities and has determined that it is not necessary to prepare a regulatory flexibility analysis. The small entity definition used by EPA includes: (1) electric utilities that produces 4 billion kilowatt-hours or less; (2) a small governmental jurisdiction that is a government of a city, county, town, district, or special district of less than 50,000; and (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field. Although the CAMR was vacated, the analysis of the rule and the estimated impacts has relevance to the proposed rule revisions.

**10. Effect on small business:** The proposed rule revisions are not expected to have a significant effect on small businesses. It is expected that the costs of complying will be passed on to customers of electric utilities through increased electricity rates resulting in small businesses having to pay more for electricity.

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

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SECTION 1. NR 439.075(2)(b)1. is amended to read:

NR 439.075(2)(b)1. Compliance emission testing for mercury is required for an emission point subject to s. NR 446.06(1)(b), 446.09(1) 446.08(1) or 446.15(1), (2) ~~or (3)~~ 446.21(1), (2) or (3).

SECTION 2. NR 446.01(2) Note is amended to read:

NR 446.01(2) **Note:** Subchapter ~~III~~ IV of this chapter is based on the federal regulations contained in 40 CFR part 61, Subpart E, created October 14, 1975, as last revised ~~September 23, 1988~~ October 17, 2000.

SECTION 2A. NR 446.02(1e) is created to read:

NR 446.02(1e) “Best available control technology” or “BACT” means an emission limit for mercury based on the maximum degree of reduction practically achievable as specified by the department on an individual case-by-case basis taking into account energy, economic and environmental impacts and other costs related to the source.

SECTION 3. NR 446.02(1w) is repealed.

SECTION 4. NR 446 subch. II(title) to precede s. NR 446.05 as created in SECTION 13 is amended to read:

NR 446 subch. II(title) ~~SUBCHAPTER II – CONTROL OF THE ATMOSPHERIC DEPOSITION OF~~  
MERCURY EMISSIONS FROM MAJOR UTILITIES

SECTION 5. NR 446.029, 446.055 to 446.08 and 446.10 to 446.12 are repealed.

SECTION 6. NR 446.03 is renumbered NR 446.06.

SECTION 7. NR 446.04 is renumbered NR 446.07.

SECTION 8. NR 446.09 is renumbered NR 446.08 and as renumbered, s. NR 446.08(title), (1)(intro.), (c)1. and (d) and (4) are amended to read:

NR 446.08(title) **Annual mercury emissions determination and reporting for major utilities.**

(1)(intro.) The owner or operator of an emissions unit subject to the requirements of s. NR ~~446.06~~ 446.05 shall determine and report to the department, by March 1, annual mercury emissions for each emissions unit, beginning with calendar year ~~2008~~ 2010 emissions and ending with calendar year 2014 emissions, using the following formula:

Annual Mercury Emissions = Fuel use × Mercury Content of Fuel × Reduction of Mercury Prior to Release to the Atmosphere

where:

(c)1. The source performance test shall be conducted according to ~~EPA~~ Method 101A in Appendix B of 40 CFR part 61, incorporated by reference in s. NR 484.04(23), ~~or EPA~~; Method 29 in Appendix A of 40 CFR part 60, incorporated by reference in s. NR 484.04(20m); Method 30A or 30B in Appendix A of 40 CFR part 60, incorporated by reference in s. NR 484.04(20s) and (20t) respectively; or ASTM D6784-02, incorporated by reference in s. NR 484.10(55x).

(d) The department may require that more than one source performance test be conducted if a single test is determined not to be ~~non-representative~~ representative of conditions at the combustion unit.

(4) ~~In addition to the performance test required under s. NR 446.06 (1) (b), the owner or operator of a major utility shall conduct source performance tests of the utility's combustion units according to the following schedules:~~

~~(a) All units subject to s. NR 446.06~~ 446.05, with an electrical generating capacity equal to or greater than 200 MW, and all units that undergo process changes or change control equipment after January 1, 2006, shall have source performance tests conducted during calendar years 2010; and 2013, 2015 and biennially thereafter.

~~(b) All units subject to s. NR 446.06, with an electrical generating capacity of less than 200 MW, and which do not undergo process changes or changes to control equipment after January 1, 2006, shall have source performance tests conducted during calendar year 2015 and every 4 years thereafter.~~

SECTION 9. NR 446.03(title) is created to read:

NR 446.03(title) **Mercury emission limits.**

SECTION 10. NR 446.025 is renumbered NR 446.03(1).

SECTION 11. NR 446.05 is renumbered NR 446.03(2) and as renumbered NR 446.03(2)(b) is amended to read:

NR 446.03(2)(b) New or modified stationary sources that are subject to an emission limit for mercury required under section 111 or 112 of the Act (42 USC 7411 and 7412 respectively) are exempt from the requirements of this section.

SECTION 12. NR 446.027 is renumbered NR 446.04 and as renumbered NR 446.04(1)(c) and (2)(intro.) are amended to read:

NR 446.04(1)(c)~~The~~ 1. Except as provided in subd. 2., the owner or operator shall calculate the removal efficiency of mercury by air pollution control equipment for each fuel used in one of the following ways, except natural gas and fuel oil, based on source performance tests on the equipment conducted according to the following methods and procedures:

~~1. Based on a. The~~ source performance tests on the equipment following the testing procedures in s. NR 446.09(3) shall be conducted according to Method 101A in Appendix B of 40 CFR part 61, incorporated by reference in s. NR 484.04(23); Method 29 in Appendix A of 40 CFR part 60, incorporated by reference in s. NR 484.04(20m); Method 30A or 30B in Appendix A of 40 CFR part 60, incorporated by reference in s. NR 484.04(20s) and (20t) respectively; or ASTM D6784-02, incorporated by reference in s. NR 484.10(55x).

b. A sample of the fuel burned during the test shall be analyzed for mercury content, using ASTM D3684-01, incorporated by reference in s. NR 484.10 (47m), or an equivalent method approved by the department. During each of the 3 runs of the performance test, a separate sample of the fuel being burned during the run shall be collected and analyzed.

c. During the source performance testing, the consumption of fuel shall be monitored and recorded.

~~2. Based on~~ Instead of conducting a source performance test under subd. 1., information derived from performance testing of other combustion units which are similar in terms of the type of combustion unit, particulate control equipment, fuel characteristics, and operating parameters may be used if the performance test was conducted according to the procedures in subd. 1.

(2)(intro.) The owner or operator of a process unit at the source which is not subject to subch. II, III or IV shall calculate and report annual mercury emissions from the process unit using the procedures and methods of this subsection and shall provide all associated data to the department. The calculations shall apply a mass balance approach, emission test data, or both, as follows:

SECTION 13. NR 446.05 is created to read:

NR 446.05 **Mercury emission limits for major utilities.** Beginning January 1, 2010, no owner or operator of a major utility may cause, allow or permit mercury emissions that exceed 60% of the mercury emissions baseline determined by the department under s. NR 446.06.

SECTION 13A. NR 446.06(Note) is created to read:

NR 446.06(Note) **Note:** Combustion units for which the owner or operator is required to establish baseline mercury emissions are Alma Units 4 & 5, Genoa Unit 1, J.P. Madgett Unit 1, Pleasant Prairie Units 1 & 2, Port Washington Units 1, 2, 3 & 4, South Oak Creek Units 5, 6, 7 & 8, Valley Units 1, 2, 3 & 4, Columbia Units 1 & 2, Edgewater Units 3, 4 & 5, Nelson Dewey Units 1 & 2, Rock River Units 1 & 2, Pulliam Units 3, 4, 5, 6, 7 & 8 and Weston Units 1, 2 & 3.

SECTION 14. NR 446 subch. III(title) to precede NR 446.20, as renumbered in SECTION 15, is renumbered NR 446 subch. IV and as renumbered is amended to read:

NR 446 subch. IV(title)

SUBCHAPTER IV– MERCURY EMISSION STANDARDS FOR ~~MERCURY~~ OTHER SOURCES

SECTION 15. NR 446.14 is renumbered NR 446.20 and as renumbered NR 446.20(1) and (2) are amended to read:

NR 446.20(1) In quantities greater than ~~2,300 grams~~ 2.3 kg (5.1 lbs) per 24-hour period from mercury cell chlor-alkali plants, or mercury ore processing facilities.

(2) In quantities greater than ~~3,200 grams of mercury~~ 3.2 kg (7.1 lbs) per 24-hour period from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges.

SECTION 16. NR 446.15 is renumbered NR 446.21 and as renumbered NR 446.21(3)(a) is amended to read:

NR 446.21(3)(a) Stationary sources using mercury chlor-alkali cells may test cell room emissions in accordance with par. (b), or demonstrate compliance with par. (d) and assume ventilation emissions of ~~4,300 grams~~ 1.3 kg (2.9 lbs) per day of mercury.

SECTION 17. NR 446.16 is renumbered NR 446.22 and as renumbered NR 446.22(1) is amended to read:

NR 446.22(1) All wastewater treatment plant sludge incineration and drying plants for which mercury emissions exceed ~~1600 grams/day~~ 1.6 kg (3.5 lbs) per 24-hour period, demonstrated either by stack sampling or sludge sampling according to s. NR ~~446.04(4)~~ 446.21(4), shall monitor mercury emissions at intervals of at least once per year in accordance with Method 105 ~~or~~ and the procedures specified in s. NR ~~446.15(4)(f)~~ 446.21(4)(f). The results of monitoring shall be reported to the department by registered letter dispatched before the close of the next business day following the monitoring. The results shall be retained at the source and shall be made available for inspection by a department representative for a minimum of 2 years.

SECTION 18. NR 446 subch. III to follow NR 446.08, as renumbered in SECTION 8, is created to read:

NR 446 subch. III

SUBCHAPTER III – CONTROL OF MERCURY EMISSIONS FROM COAL-FIRED ELECTRIC GENERATING  
UNITS

**NR 446.09 Applicability.** (1) Except for those units that are excluded under sub. (2), this subchapter applies to the owner or operator of a coal-fired EGU, serving at any time, since the startup of the unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale.

(2) A cogeneration unit which otherwise satisfies the applicability statement of sub. (1) is exempt from this subchapter if the cogeneration unit, during the 12-month period starting on the date the unit first produces electricity and continues to qualify as a cogeneration unit, and which does not serve at any time, since the later of November 15, 1990 or the start-up of the cogeneration unit's combustion chamber, a generator with a nameplate capacity of more than 25 MWe supplying in any calendar year more than one-third of the cogeneration unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale.

(3) If a coal-fired EGU qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and meets the exemption requirements of sub. (2) for at least one calendar year, but subsequently no longer meets the exemption requirements, the coal-fired EGU shall become subject to this subchapter starting January 1 of the following calendar year.

**NR 446.10 Definitions.** The definitions contained in ch. NR 400 and in s. NR 446.02 apply to the terms used in this subchapter. In addition, the following definitions apply to the terms used in this subchapter:



(1) "Boiler" means an enclosed combustion device used to produce heat and to transfer heat to recirculating water, steam or other medium.

(2) "Coal-fired" means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel.

(3) "Cogeneration" means an EGU that simultaneously produces both electrical or mechanical, and useful thermal energy from the same primary energy source.

(4) "Combustion turbine" means an enclosed device comprising a compressor, a combustor and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine. If the enclosed device is combined cycle, the combustion turbine includes any associated duct burner, heat recovery steam generator and steam turbine.

(5) "Electric generating unit" or "EGU" means a boiler or a combustion turbine serving a generator that produces electricity.

(6) "Gross electrical output" means electricity made available for use, including any electricity used in the power production process. A power production process includes any on-site processing or treatment of fuel combusted at the EGU and any on-site emission controls.

(7) "Large coal-fired EGU" means an electric generating unit serving a generator with nameplate capacity 150 megawatts and greater.

(8) "Process energy efficiency" means, with regard to cogeneration, the percentage of thermal energy used in the process excluding any energy contained in condensate return, makeup water, and system losses divided by the process internal energy input.

(9) "Process thermal energy input" means, with regard to cogeneration, the total amount of thermal energy made available to a process for use other than for generating electricity.

(10) "Small coal-fired EGU" means an electric generating unit serving a generator with a nameplate capacity greater than 25 megawatts but less than 150 megawatts.

(11) "Useful thermal energy" means, with regard to cogeneration, thermal energy that is any of the following:

(a) Made available to an industrial or commercial process, not a power production process, excluding any heat contained in condensate return or makeup water.

(b) Used in a heating application, such as space heating or hot water heating.

(c) Used in space cooling application, such as thermal energy used by an absorption chiller.

**NR 446.11 Mercury emission limits for new or modified coal-fired electric generating units.**

Notwithstanding the provisions of s. NR 446.03, after the effective date of this section . . . [LRB insert date], no person may commence construction, or commence a modification with respect to mercury, of a coal-fired EGU unless the department finds that a 90% mercury emission reduction as measured from the mercury content of fuel combusted will be achieved.

**NR 446.12 Mercury emission limits for small coal-fired electric generating units.** (1) Beginning January 1, 2015, an owner or operator of a small coal-fired EGU shall limit mercury emissions to a level that is determined by the department to be the best available control technology.

(2) Notwithstanding sub. (1), an owner or operator may elect to have a small coal-fired EGU comply with the mercury emission limits in s. NR 446.13 or 446.14 in accordance with the provisions in s. NR 446.17(2)(b).

**NR 446.13 Mercury emission limits for large coal-fired electric generating units.** (1) Beginning January 1, 2015, an owner or operator of a large or a small coal-fired EGU designated by the department to meet the emission limitation in this subsection under s. NR 446.17(2)(b) shall achieve a minimum of 90% mercury emission reduction as measured from the mercury content of fuel combusted or limit mercury emissions annually to 0.0080 pounds per gigawatt-hour (lbs/GWh) of electricity produced.

(2) An owner or operator may achieve compliance with sub. (1) by either of the following methods:

(a) *Unit-by-unit compliance.* Demonstrating that the mercury emissions from each coal-fired EGU meet either of the mercury emission limits in sub. (1) using the measurement methods and calculation procedures in s. NR 446.18.

(b) *Unit averaging.* Demonstrating that the sum of the mercury emissions from all coal-fired EGUs subject to the mercury emission limits in sub. (1) does not exceed the sum of the annual allowable mercury emissions for the coal-fired EGUs using the measurement methods and calculation procedures in s. NR 446.18.

**NR 446.14 Multipollutant reduction alternative for coal-fired electrical generating units.** (1) An owner or operator of a large or small coal-fired EGU may elect to meet the emission limitations in this section instead of the emission limitations of s. NR 446.12 or 446.13 in accordance with the provisions of s. NR 446.17(2). The following annual emission limitations for NO<sub>x</sub>, SO<sub>2</sub> and mercury apply to each unit for which the owner or operator makes an election under this section:

(a) For NO<sub>x</sub>, beginning January 1, 2015, 0.07 pounds per mmBtu of heat input.

(b) For SO<sub>2</sub>, beginning January 1, 2015, 0.10 pounds per mmBtu of heat input.

(c) For mercury emissions, all of the following:

1. Beginning January 1, 2015 and to December 31, 2017, a 70% mercury emission reduction as measured from the mercury content of fuel combusted or 0.0190 pounds per gigawatt-hour (lbs/GWh).

2. Beginning January 1, 2018 and to December 31, 2020, an 80% mercury emission reduction as measured from the mercury content of fuel combusted or 0.0130 pounds per gigawatt-hour (lbs/GWh).

3. Beginning January 1, 2021, a 90% mercury emission reduction as measured from the mercury content of fuel combusted or 0.0080 pounds per gigawatt-hour (lbs/GWh).

(2) An owner or operator may achieve compliance with sub. (1) by either of the following methods:

(a) *Unit-by-unit compliance.* Demonstrating that the mercury, NO<sub>x</sub> and SO<sub>2</sub> emissions from each coal-fired EGU meet the applicable emission limitation in sub. (1) using the measurement methods and calculation procedures in s. NR 446.18.

(b) *Unit averaging.* Demonstrating that for each pollutant, the sum of the emissions from all coal-fired EGUs subject to the emission limits in sub. (1) do not exceed the sum of the annual allowable mercury, NO<sub>x</sub> or SO<sub>2</sub> emissions for the coal-fired EGUs using the measurement methods and calculation procedures in s. NR 446.18

**NR 446.15 Early mercury emission reduction credits.** (1) An owner or operator of a coal-fired EGU that is subject to this subchapter may request that the department certify excess mercury emission reductions as early emission reduction credits.

(2) The department may only certify emission reductions that meet either of the following criteria as early emission reduction credits:

(a) Emission reductions achieved by major utilities in calendar years 2010 to 2014 in excess of the emission

limitation in s. NR 446.05.

(b) Emission reductions achieved in calendar years 2015 to 2020 from coal-fired EGUs subject to s. NR 446.14 in excess of the emission limitation in s. NR 446.14(1)(c)1. or 2.

(3) Beginning March 1, 2011, and on or before March 1, 2021, owners and operators may request in the annual compliance report required in s. NR 446.17(1), that the department certify excess mercury reductions from the previous calendar year as early emission reduction credits. The department shall provide written notice within 60 days of the receipt of a request approving or denying the early emission reduction credit request.

(4) The department shall certify the emission reductions, in terms of pounds of mercury emissions reduced, as early emission reduction credits if the owner or operator demonstrates to the department that the reductions are actual mercury emission reductions that are not required under any state or federal law, court order or air permit condition.

(5) Certified mercury emission reduction credits may be used by the owner or operator of a coal-fired EGU to meet the annual mercury emission limitations in s. NR 446.14(1)(c) subject to the provisions in sub. (6).

(6) For demonstrating compliance with the mercury emission limitations in s. NR 446.14(1)(c), an owner or operator shall only be allowed to surrender certified mercury emission reduction credits in an amount that does not exceed 10% of the annual allowable emission total, in pounds.

(7) The department will maintain an ongoing record of the early mercury emission reduction credits certified and surrendered to achieve compliance with s. NR 446.14.

**NR 446.16 Electric reliability compliance extension.** (1) The owner or operator of a coal-fired EGU subject to s. NR 446.13, or electing to comply with s. NR 446.13 or 446.14, may request an extension to achieve compliance with the applicable mercury, NO<sub>x</sub> or SO<sub>2</sub> emission limitations.

(2) The department may grant an extension under this section if, in consultation with the public service commission, the department determines that the information submitted by the owner or operator supports a conclusion that without the extension a major electrical supply disruption is likely to occur. An extension may not be granted beyond January 1, 2017.

(3) The owner or operator shall submit a written request for extension to the department at the time the emission limitation election in s. NR 446.17(2) is provided.

(4) The request shall provide sufficient information concerning the conditions on which the request is based to demonstrate to the department's satisfaction that an extension is warranted. In addition, the request shall include all of the following:

(a) The proposed control equipment installation schedule for all coal-fired EGUs the owner or operator has included in the request to meet the requirements of this subchapter.

(b) The additional period of time being requested.

(c) The alternative annual emission limitations for mercury, NO<sub>x</sub> or SO<sub>2</sub> that will be achieved during the period of the requested extension.

(d) The reasons why the owner or operator is unable to meet the January 1, 2015 compliance schedule and emission limitations in s. NR 446.13 or 446.14.

(5) Within 180 days after the receipt of a completed request, the department shall notify the applicant in writing of the reasons for denying, approving or conditionally approving any request for an extension.

**NR 446.165 Large coal-fired electric generating unit variance.** (1) The owner or operator of a large coal-fired EGU may request a variance from the emission reduction requirements of s. NR 446.13 or 446.14 by submitting a written request to the department and the commission. The request shall provide sufficient information concerning the conditions or special circumstances on which the variance request is based to demonstrate to the department's satisfaction that a variance from the applicable requirements is necessary. In addition, the request shall include the following:

(a) Where an alternative compliance schedule is sought, the owner or operator shall submit a proposed schedule which demonstrates reasonable further progress and contains a date for final compliance as soon as practicable.

(b) Where an alternative reduction requirement is sought, the owner or operator shall submit a proposed reduction requirement.

(c) Requests for variances shall contain relevant information on the costs and technological feasibility of meeting the reduction requirements as required by the department.

(2) Requests for a variance shall be received 12 months in advance of an emission reduction requirement in s. NR 446.13 or 446.14 or established under s. NR 446.16.

(3) The department may grant a variance that sets an alternative reduction requirement or schedule, or both.

(4) The department may grant a variance if the owner or operator demonstrates to the department's satisfaction that the reduction requirements are technologically or economically infeasible.

(5) The department may grant a variance that sets an alternative schedule if the owner or operator demonstrates to the department's satisfaction that the delay is needed to complete installation and place into operation control technology to achieve compliance with a reduction requirement.

(6) Within 90 days of the receipt of a completed request, the department shall publish a public notice on each variance request and the department's preliminary determination to grant or deny the request, to provide the opportunity for public comments including, where requested, a public hearing on the variance request. Following the public comment period, the department shall notify the variance applicant in writing of the reasons for denying, granting or for granting in a modified form any request for a variance.

(7) The department may, after notice and opportunity for hearing, revoke or modify any variance when any term or condition of the variance has been violated.

**NR 446.17 Annual compliance report, emission limitation election and BACT determination. (1)**

ANNUAL COMPLIANCE REPORT. Beginning March 1, 2015, and on or before March 1 of every year thereafter, the owner or operator of a coal-fired EGU subject to this subchapter shall prepare and submit a compliance report for the previous year. The report shall include all of the following:

(a) The actual mercury emissions and, if subject to NO<sub>x</sub> and SO<sub>2</sub> emission limitations under this subchapter, the actual NO<sub>x</sub> and SO<sub>2</sub> emissions from each coal-fired EGU for the previous year following the methodology in s. NR 446.18.

(b) The designated emission limitations under sub. (2) for each coal-fired EGU.

(c) The amount of early reduction emission credits certified under s. NR 446.15 and currently held by the owner or operator, in pounds, and the amount of certified early reduction emission credits being surrendered.

(d) A comparison of annual actual emissions minus any surrendered early emission reduction credits to the annual allowable emissions, in pounds, for each coal-fired EGU by the applicable emission limitation requirement established in sub. (2) using the methods and procedures in s. NR 446.18.

(2) EMISSION LIMITATION ELECTION. (a) No later than December 31, 2010, owners or operators of

coal-fired EGUs affected by the requirements of this subchapter shall identify for each unit under their ownership or control the mercury emission limitations in this subchapter for those units including any elections made under s. NR 446.12(2) and 446.14(1). This identification shall be made to the department in writing.

(b) Within 90 days after the receipt of the report in sub. (1), the department shall notify the owner or operator in writing of the emission limitation designations for each coal-fired EGUs subject to this subchapter.

(c) Designations by the department under par. (b) shall establish emission limitation requirements under this subchapter.

(3) BACT DETERMINATION FOR SMALL COAL-FIRED EGUs. (a) No later than June 30, 2011, owners or operators of small coal-fired EGUs subject to s. NR 446.12 shall provide the department with a preliminary BACT determination.

(b) Notwithstanding par. (a), a small coal-fired EGU designated by the department under sub. (2) to meet the emission limitations in s. NR 446.13 or 446.14 are not required to provide a preliminary BACT determination.

(c) The owner or operator shall submit the information required in par. (a) on the application form required for an operation permit, an amendment to an application, or renewal of the operation permit, as applicable.

(d) Within 180 days after the receipt of the information in par. (c), the department shall approve, conditionally approve or disapprove the owner's or operator's preliminary BACT determination.

**NR 446.18 Emission determination and compliance demonstration. (1) MONITORING REQUIREMENTS.** Owners and operators of a coal-fired EGU affected by this subchapter shall monitor emissions, heat input, electricity generation and process thermal energy, as required to demonstrate compliance, according to the following methods and specifications:

(a) For NO<sub>x</sub> and SO<sub>2</sub>, hourly mass emissions according to 40 CFR part 75 and 40 CFR part 75, Appendices A to I, incorporated by reference in ss. NR 484.03(7) and 484.04 (27) respectively.

(b) For mercury, hourly mass emissions using continuous emission monitoring. By December 31, 2013, the department shall promulgate rules that specify the requirements for continuous emission monitoring for purposes of this paragraph.

**Note:** On February 8, 2008, the U.S. District Court of Appeals for the D.C. Circuit vacated rules the department had intended to rely on related to continuous emission monitoring for mercury emissions. (See New Jersey, et. al. v. Environmental

Protection Agency, D.C. Ct. App. No 05-1097, February 8, 2008.)

(c) For heat input flow rate and hourly heat input, according to 40 CFR part 75 and 40 CFR part 75, Appendices A to I, incorporated by reference in ss. NR 484.03(7) and 484.04(27) respectively.

(d) For gross electric output, hourly megawatt-hours using continuous monitoring.

(e) For process thermal energy input, hourly mmBtus delivered to the process using continuous monitoring.

(2) DETERMINING ANNUAL ACTUAL EMISSIONS. Owners and operators of a coal-fired EGU affected by this subchapter shall determine annual mass of actual emissions for each pollutant as the sum of monitored emissions according to Equation 1.

$$P_{\text{actual}} = \sum_{i=1}^n P_{\text{monitored}} \quad \text{Equation 1}$$

where:

$P_{\text{actual}}$  is the mass of mercury,  $\text{NO}_x$  or  $\text{SO}_2$  emitted during the compliance year

$P_{\text{monitored}}$  is the mass of mercury,  $\text{NO}_x$  or  $\text{SO}_2$  emissions monitored and determined for each hour  $i$  the EGU is operated during the compliance year

$n$  is the number of hours the EGU is operating during the compliance year

(3) DETERMINING ANNUAL FUEL MERCURY CONTENT. Owners and operators of a coal-fired EGU affected by this subchapter shall determine the annual mass of mercury contained in all combusted fuels, as required to demonstrate compliance, according to the following procedures:

(a) Calculate the mass of mercury contained in each fuel for each month, according to Equation 2, as the mercury concentration in fuel combusted each month as determined following the procedures in s. NR 446.07 (1), (2) and (3) according to solid and non-solid types of fuel, multiplied by the amount of fuel, in mmBtu, combusted each month as determined following the procedures in s. NR 446.07(4).

$$\text{Fuel Hg}_{\text{fm}} = \text{HI}_{\text{fm}} \times \text{Hg C}_{\text{fm}} \quad \text{Equation 2}$$

where:

$\text{Fuel Hg}_{\text{fm}}$  is the mass of mercury contained in fuel  $f$ , in month  $m$

$\text{HI}_{\text{fm}}$  is the heat input of the combusted fuel  $f$ , in month  $m$

$\text{Hg C}_{\text{fm}}$  is the mercury concentration for fuel  $f$ , in month  $m$



(b) Calculate the annual mass of mercury, according to Equation 3, as the sum of mercury contained in all fuels combusted for all months during the compliance year.

$$\text{Fuel Hg}_{\text{annual}} = \sum_{m=1}^{12} \left( \sum_{i=1}^f \text{Fuel Hg}_i \right)_m \quad \text{Equation 3}$$

where:

Fuel Hg<sub>annual</sub> is the mass amount of mercury contained in all fuels combusted during the compliance year

Fuel Hg<sub>i</sub> is the mercury mass content for fuel i, combusted in month m, during the compliance year determined in par. (a)

f is number of fuels combusted during the compliance month

(4) DETERMINING ANNUAL GROSS OUTPUT. Owners and operators of a coal-fired EGU affected by this subchapter shall determine the annual gross energy output in gigawatt-hours, as required to demonstrate compliance, according to the following procedures:

(a) Calculate the annual gross electric output in gigawatt-hours, according to Equation 4, as the sum of gross electric output measured in megawatt-hours for each hour the EGU is operating.

$$E_{\text{GWh}} = \frac{\sum_{i=1}^n \text{MWh}_i}{1,000} \quad \text{Equation 4}$$

where:

E<sub>GWh</sub> is the total annual gross electric output in GWh

MWh<sub>i</sub> is the gross electric output in MWh for each hour i the EGU operated during the compliance year

1,000 is the factor to convert MWh to GWh

n is the number of hours the EGU operated during the compliance year

(b) Calculate the annual amount of useful thermal energy in mmBtu, according to Equation 5, as the sum of the process thermal energy input for each hour the EGU is operated multiplied by the process energy efficiency.

$$\text{UTE}_{\text{annual}} = \sum_{i=1}^n \left( \text{PTEI}_i \times \frac{\text{PEE}}{100} \right) \quad \text{Equation 5}$$

where:

$UTE_{\text{annual}}$  is the annual amount of thermal energy, in mmBtu, utilized in the cogeneration process

$PTEI_i$  is the amount of thermal energy input, in mmBtu, made available to the cogeneration process for each hour  $i$  the EGU operated during the compliance year

PEE is the process energy efficiency, expressed as a percent, measured for the EGU. A value of 50% may be assumed.

$n$  is the number of hours the unit operated during the year of compliance

(c) Calculate the annual gross energy output in mmBtu, according to Equation 6, as the sum of the annual gross electric output and the annual applied thermal energy converted to electric output.

$$GEO_{\text{GWh}} = E_{\text{GWh}} + \frac{UTE_{\text{annual}}}{3,413} \quad \text{Equation 6}$$

where:

$GEO_{\text{GWh}}$  is the total annual gross energy output in GWh

$E_{\text{GWh}}$  is the total annual gross electric output in GWh determined in par. (a)

$UTE_{\text{annual}}$  is the total annual useful thermal energy in mmBtu determined in par. (b)

3,413 is the factor to convert thermal energy in mmBtu to GWh

(5) DETERMINING ANNUAL ALLOWABLE EMISSIONS. Except as provided in s. NR 446.185, owners and operators of a coal-fired EGU affected by this subchapter shall determine annual allowable emissions, as required to demonstrate compliance, according to the following procedures:

(a) When achieving compliance on a unit-by-unit basis, use one of the following equations as applicable:

1. For a percent reduction mercury emission limitation, Equation 7.

$$Hg_{\text{allowable}} = \text{Fuel } Hg_{\text{annual}} \times (1 - Hg \text{ CE}) \quad \text{Equation 7}$$

where:

$Hg_{\text{allowable}}$  is the mass of mercury emissions allowed for the compliance year

$\text{Fuel } Hg_{\text{annual}}$  is the mass of mercury in fuel combusted during the compliance year as determined in sub.

(3)(b).

Hg CE is the applicable requirement for percent mercury emission reduction divided by 100.

2. For a mercury output emission limitation, Equation 8.

$$Hg_{\text{allowable}} = GEO_{\text{GWh}} \times EL_{\text{output}} \quad \text{Equation 8}$$

where:

$Hg_{\text{allowable}}$  is the mass of mercury emissions in pounds allowed for the compliance year

$GEO_{\text{GWh}}$  is the annual gross energy output during the compliance year as determined in sub. (4)(c)

$EL_{\text{output}}$  is the applicable mercury output based emission limitation in pounds per GWh

3. For an  $\text{NO}_x$  or  $\text{SO}_2$  emission limitation, Equation 9.

$$P_{\text{allowable}} = \sum_{i=1}^h HI_i \times EL_p \quad \text{Equation 9}$$

where:

$P_{\text{allowable}}$  is the mass of  $\text{NO}_x$  or  $\text{SO}_2$  emissions allowed for the compliance year

$HI$  is the amount of fuel, in mmBtu combusted each hour  $i$ , during the compliance year

$h$  is the number of hours fuel is combusted during the compliance year

$EL_p$  is the applicable emission limitation of s. NR 446.14(1) for  $\text{NO}_x$  or  $\text{SO}_2$

(b) When achieving compliance using unit averaging as allowed under s. NR 446.13(2)(b) or 446.14(2)(b), according to Equation 10:

$$\text{Unit Averaging } P_{\text{allowable}} = \sum_{u=1}^n P_u \quad \text{Equation 10}$$

where:

Unit Averaging  $P_{\text{allowable}}$  is the mass of mercury,  $\text{NO}_x$ , or  $\text{SO}_2$  emissions allowed for each pollutant determined in par. (a) for each EGU participating in emissions averaging during the compliance year

$P_u$  is the lowest annual allowable mass of mercury,  $\text{NO}_x$  or  $\text{SO}_2$  emissions allowed for the compliance year for each EGU as determined under par. (a) or applicable under any other enforceable state or federal requirement for each EGU participating in emissions averaging during the compliance year

n is the number of EGUs participating in emissions averaging

**NR 446.185 Compliance alternatives.** (1) ALTERNATIVE ANNUAL ALLOWABLE MERCURY EMISSIONS. (a) Owners and operators of a coal-fired EGU affected by this subchapter may use baseline mercury emissions approved by the department as an alternative to procedures in s. NR 446.18(5)(a) in determining annual allowable mercury emissions.

(b) Baseline mercury emissions shall be determined and used for calculating annual allowable mercury emissions for 5-year periods beginning with the period of 2015 to 2019. Baseline mercury emissions shall be determined every 5 years and used to calculate annual allowable mercury emissions for the subsequent 5-year period.

(c) Baseline mercury emissions for each 5-year period shall be determined using fuel mercury content data measured for the calendar year which is 2 years prior to the first year of the applicable 5-year period. The year designated for measuring fuel mercury content is the baseline determination year.

**Note:** Baseline emissions are measured for 2013 for determining the annual allowable emissions for compliance years 2015 to 2019, measured for 2018 for determining allowable emissions for compliance years 2020 through 2024, etc.

(d) No later than May 1 of the calendar year after the baseline determination year, the owner or operator of a coal-fired EGU shall submit a report to the department that includes information necessary to determine the baseline mercury emissions for that 5-year period.

(e) In the report required under par. (d), the owners or operators of a coal-fired EGU may request alternative data be used for determining baseline emissions if the data for the specified year is not representative of the EGU's normal operations or maintenance schedule.

(f) Baseline mercury emissions for each EGU shall be determined according to the following procedures:

1. Measure and determine the fuel mercury content according to requirements of s. NR 446.18(3) for all fuels combusted in the EGU for the baseline determination year.

2. Calculate the baseline mercury concentration, on a mmBtu-basis, for the baseline determination year according to Equation 11.

$$\text{BMC} = \frac{\text{Fuel Hg}_{\text{annual}}}{\sum_{i=1}^h \text{HI}_i} \quad \text{Equation 11}$$

where:

BMC is the average baseline mercury concentration of fuel, in pounds per mmBtu, contained in the fuels combusted in the EGU during the baseline determination year

Fuel Hg<sub>annual</sub> is the total mass of mercury contained in the fuel determined in subd. 1.

HI is the total amount of fuel, in mmBtu, consumed each hour i, during the baseline determination year

h is the total number of hours fuel is consumed during the baseline determination year

3. Calculate the baseline mercury emissions according to Equation 12 as the baseline mercury concentration times the 3-year average of annual fuel consumption, in mmBtu, for the baseline determination year and 2 years prior to the baseline determination year.

$$\text{BME} = \text{BMC} \times \frac{\sum_{y=1}^3 \left( \sum_{i=1}^h \text{HI}_i \right)_y}{3} \quad \text{Equation 12}$$

where:

BME is the baseline mercury emissions for the EGU in pounds

BMC is the baseline mercury concentration for the EGU determined in subd. 2., in pounds per mmBtu.

HI is the amount of fuel, in mmBtu combusted in the EGU for each hour i during each year y

h is the total number of hours fuel is combusted in the EGU during each year

(g) When determining annual allowable mercury emissions for achieving compliance on a unit-by-unit basis, use one of the following equations as applicable:

1. For a percent reduction mercury emission limitation, Equation 13.

$$\text{Hg}_{\text{allowable}} = \text{BME} \times (1 - \text{Hg CE}) \quad \text{Equation 13}$$

where:

Hg<sub>allowable</sub> is the mass of mercury emissions allowed for the EGU for the compliance year

BME is the baseline emissions for the EGU as determined in par. (f)3.

Hg CE is the applicable requirement for percent mercury emission reduction divided by 100.

2. For a mercury output emission limitation, Equation 14.

$$\text{Hg}_{\text{allowable}} = \text{GEO}_{\text{GWh}} \times \text{BMC} \times (1 - \text{Hg CE}) \times \left( \frac{\sum_{i=1}^h \text{HI}_i}{\text{E}_{\text{GWh}}} \right) \quad \text{Equation 14}$$

where:

$\text{Hg}_{\text{allowable}}$  is the mass of mercury emissions allowed for the compliance year

$\text{GEO}_{\text{GWh}}$  is the annual gross energy output of the EGU, in GWh, as determined in s. NR 446.18(4) for the compliance year

BMC is the baseline mercury concentration determined in par. (f)2. for the EGU in pounds per mmBtu

Hg CE is the applicable requirement for percent mercury control removal divided by 100

HI is the amount of fuel, in mmBtu combusted each hour  $i$ , in the baseline determination year

$h$  is the total number of hours fuel is combusted during the calendar year designated for measuring baseline emissions data under par. (c)

$\text{E}_{\text{GWh}}$  is the annual gross electric output, in GWh, for the baseline determination year calculated according to s. NR 446.18(4)(a)

(2) ALTERNATIVE SO<sub>2</sub> COMPLIANCE DETERMINATION. (a) The owner or operator of a coal-fired EGU may demonstrate compliance with the SO<sub>2</sub> emission limitation in s. NR 446.14(1) by demonstrating a minimum SO<sub>2</sub> control efficiency equal to or greater than 90% removal of sulfur from fuels combusted in the EGU each year, excluding startup and shutdown, using a method approved by the department.

(b) If electing to demonstrate compliance according to par. (a), the owners or operators of a coal-fired EGU shall submit an SO<sub>2</sub> compliance demonstration procedure for department approval no later than October 1, 2013. The compliance procedure shall include test methods to determine sulfur removal from fuel and operating and

parametric monitoring procedures to ensure continuous operation of control equipment consistent with maintaining the required control efficiency.

(3) **ALTERNATIVE METHODS AND PROCEDURES.** The owner or operator of a coal-fired EGU may use methods and procedures in determining annual allowable emissions as approved by the department to account for any of the following:

a. The contribution to mercury emissions by non-fuel materials inherent to pollution control processes. The contribution to the annual allowable emissions cannot exceed the amount calculated when substituting annual mercury content of non-fuel materials for annual fuel mercury content in Equation 7 in s. NR 446.18(5)(a)1.

b. When monitoring or implementing control equipment for a stack serving multiple EGUs.

**NR 446.19 Evaluation reports.** (1) The department shall report to the natural resources board by August 31, 2013. This report shall include:

(a) An evaluation of the scientific and technology developments in relation to the control or reduction of mercury emissions.

(b) An evaluation of whether the mercury requirements in this subchapter are achievable, given the scientific and technological developments.

(c) Recommendations for revisions to this subchapter or other actions including additional compliance flexibility to achieve the mercury emission reduction requirement in s. NR 446.14 (1) (c) 3., given the scientific and technological developments.

(2) In addition to the report required under sub. (1), the department shall report to the natural resources board within 6 months of the date of promulgation of a federal regulation under section 111 or 112 of the Act (42 USC 7411 or 7412) or the enactment of a federal law that has mercury reduction requirements for the mercury emission sources affected by this subchapter. The report shall include a comparison of the federal requirements and the requirements of this subchapter along with recommendations for revisions to this subchapter or other actions.

(3) The natural resources board shall review these reports and, if they include recommendations for rule revisions or other actions, determine whether the department should proceed with actions based on the recommendations.

SECTION 19. NR 484.03(7) in Table 1 is created to read:

<b>CFR Reference</b>	<b>Title</b>	<b>Incorporated by Reference For</b>
NR 484.03 (7) 40 CFR part 75	Continuous Emission Monitoring	NR 446.18(1)(a) and (c)

SECTION 20. NR 484.04(20m) and (27) in Table 2 are amended to read:

<b>CFR Appendix Referenced</b>	<b>Title</b>	<b>Incorporated by Reference For</b>
NR 484.04 (20m) 40 CFR part 60 Appendix A, Method 29	Determination of Metals Emissions from Stationary Sources	<u>NR 446.04(1)(c)1.a.</u> <del>NR 446.09(1)(c)1.</del> <u>446.08(1)(c)1.</u> NR 462 Table 5
(27) 40 CFR part 75 Appendices A to I		NR 428 NR 428.23(1)(b)1. NR 439 <u>NR 446.18(1)(a) and (c)</u>

SECTION 21. NR 484.04(20s) and (20t) in Table 2 are created to read:

<b>CFR Appendix Referenced</b>	<b>Title</b>	<b>Incorporated by Reference For</b>
NR 484.04 (20s) 40 CFR part 60 Appendix A, Method 30A	Determination of Total Vapor Phase Mercury Emissions From Stationary Sources	NR 446.04(1)(c)1.a. NR 446.08(1)(c)1.
(27t) 40 CFR part 60 Appendix A, Method 30B	Determination of Total Vapor Phase Mercury Emissions From Coal-Fired Combustion Sources Using Carbon Sorbent Traps	NR 446.04(1)(c)1.a. NR 446.08(1)(c)1.

SECTION 22 NR 484.10(47m) in Table 5 is amended to read:

<b>Standard Number</b>	<b>Standard Title</b>	<b>Incorporated by Reference For</b>
NR 484.10 (47m) ASTM D3684-01	Standard Test Method for Total Mercury in Coal by Oxygen Bomb Combustion/Atomic Absorption Method	<del>NR 446.027(1)(b)</del> <u>446.04(1)(b)</u> <u>NR 446.04(1)(c)1.b.</u> <del>NR 446.04(1)</del> <u>446.07(1)</u> <del>NR 446.04(2)</del> <u>446.07(2)</u> <del>NR 446.09(1)(b)</del> <u>446.08(1)(b)</u> <del>NR 446.09(1)(c)2.</del> <u>446.08(1)(c)2.</u> NR 462, Table 6

SECTION 23 CROSS-REFERENCE CHANGES. For the sections listed in Column A, the cross reference shown in



Column B should be changed to the cross reference shown in column C.

Column A	Column B	Column C
NR 405.01(2)(Note)	subch. III of ch. NR 446	subch. IV of ch. NR 446
NR 405.02(22)(c)	subch. III of ch. NR 446	subch. IV of ch. NR 446
NR 406.04(intro.)	s. NR 446.05	s. NR 446.03(2)(a)
NR 408.02(2)(a) and (4)	subch. III of ch. NR 446	subch. IV of ch. NR 446
NR 408.04(1)	subch. III of ch. NR 446	subch. IV of ch. NR 446
NR 446.02(1c)	s. NR 446.04	s. NR 446.07
NR 446.03(2)(c) as renumbered	sub. (2)	par. (b)
NR 446.03(2)(c) as renumbered	sub. (1)	par. (a)
NR 446.04(intro.) as renumbered	s. NR 446.09	subchs. II, III and IV
NR 446.04(1)(a) as renumbered	s. NR 446.09	subch. II, III or IV
NR 446.06(1) as renumbered	s. NR 446.04	s. NR 446.07
NR 446.07(intro.) as renumbered	s. NR 446.03(1)	s. NR 446.06(1)
NR 446.08(1)(b) as renumbered	s. NR 446.04(1), (2), and (3)	s. NR 446.07(1), (2) and (3)
NR 446.22(2)(a) as renumbered	s. NR 446.03(2)	s. NR 446.20(1)
NR 446.22(2)(g) as renumbered	s. NR 446.04(2)	s. NR 446.21(2)
NR 446.22(3)(intro.) and (b) as renumbered	s. NR 446.03(2)	s. NR 446.20(1)
NR 484.04(26m)(a), (b), (c) and (d) in Table 2	NR 446.09(1)(c)1.	NR 446.08(1)(c)1.
NR 484.04(26m)(a), (b), (c) and (d) in Table 2	NR 446.04(3)	NR 446.07(3)
NR 484.05(9) in Table 3	NR 446.15(3)(d) Note	NR 446.21(3)(d) Note

SECTION 24. 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 25. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on June 25, 2008.

Dated at Madison, Wisconsin October 7, 2008.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES

By \_\_\_\_\_  
Matthew J. Frank, Secretary

(SEAL)