Chapter NR 433

PROTECTION OF VISIBILITY BY APPLICATION OF BEST AVAILABLE RETROFIT TECHNOLOGY

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NR 433.01 Applicability; purpose. (1) APPLICABILITY. The provisions of this chapter apply to facilities having one or more BART–eligible sources.

(2) PURPOSE. This chapter is adopted under s. 285.11, Stats., to establish the procedures for controlling emissions of air pollutants from BART–eligible sources which may reasonably be anticipated to cause or contribute to any visibility impairment in any mandatory class I federal area.

History: CR 07–017: cr. Register June 2008 No. 630, eff. 7–1–08.

NR 433.02 Definitions. The definitions contained in ch. NR 400 apply to the terms used in this chapter. In addition, the following definitions apply to the terms used in this chapter:

(1) "BART–eligible source" means any of the stationary sources of air pollutants listed in this subsection, including any reconstructed source, which was not in operation prior to August 7, 1962, and was in existence on August 7, 1977, and which has the potential to emit 250 tons per year or more of any visibility impairing air pollutant. In determining potential to emit, fugitive emissions, to the extent quantifiable, shall be counted. The stationary sources are as follows:

(a) Fossil fuel–fired steam electric plants of more than 250 million Btu per hour heat input, except for cogeneration units that supply 1/3 or less of their potential electric output capacity and 219,000 megawatt–hours or less actual electric output on an annual basis to any utility power distribution system for sale.

(b) Coal cleaning plants (thermal dryers).

(c) Kraft pulp mills.

(d) Portland cement plants.

(e) Primary zinc smelters.

(f) Iron and steel mill plants.

(g) Primary aluminum ore reduction plants.

(h) Primary copper smelters.

(i) Municipal incinerators capable of charging more than 250 tons of refuse per day.

(j) Hydrofluoric, sulfuric, and nitric acid plants.

(k) Petroleum refineries.

(L) Lime plants.

(m) Phosphate rock processing plants.

(n) Coke oven batteries.

(o) Sulfur recovery plants.

(p) Carbon black plants (furnace process).

(q) Primary lead smelters.

(r) Fuel conversion plants.

(s) Sintering plants.

(t) Secondary metal production facilities.

(u) Chemical process plants.

(v) Fossil fuel boilers of more than 250 million Btu per hour heat input.

(w) Petroleum storage and transfer facilities with a capacity exceeding 300,000 barrels.

(x) Taconite ore processing facilities.

(y) Glass fiber processing plants.

(z) Charcoal production facilities.

(2) "Best available retrofit technology" or "BART" means an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each visibility impairing pollutant which is emitted by a stationary source. The emission limitation shall be established on a case–by–case basis, taking into consideration the technology available, the costs of compliance, the energy and non–air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source, the remaining useful life of the source and the degree of improvement in visibility which may reasonably be anticipated to result from the use of the technology.

(3) "Deciview" means a metric for visibility impairment. A deciview is a haze index derived from calculated light extinction that is designed so that uniform changes in haziness correspond to uniform incremental changes in perception across the entire range of conditions, from pristine to highly impaired. The haze index in units of deciviews is calculated as follows:

Haze index deciview $=10 \ln_e (b_{eXt}/10\ Mm^{-1})$

where:

b_{eXt} is the atmospheric light extinction coefficient, expressed in inverse megameters (Mm^{-1})

(4) "In existence" means that the owner or operator obtained all necessary preconstruction approvals or permits required by federal or state air pollution emissions and air quality laws or regulations and either began, or caused to begin, a continuous program of physical on–site construction of the facility, or entered into binding agreements or contractual obligations, which could not be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the facility to be completed in a reasonable time.

(5) "In operation" means engaged in activity related to the primary design function of the source.

(6) "Integral vista" means a view perceived from within a mandatory class I federal area of a specific landmark or panorama located outside the boundary of the mandatory class I federal area.

(7) "Least impaired days" means the average visibility impairment, measured in deciviews, for the 20% of monitored days in a calendar year with the lowest amount of visibility impairment.

(8) "Major stationary source" has the meaning given in s. NR 405.02 (22).

(9) "Mandatory class I federal area" means any area identified in 40 CFR part 81, Subpart D.

(10) "Potential to emit" means the maximum capacity of a stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit an air pollutant including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions

do not count in determining the potential to emit of a stationary source.

(11) "Secondary emissions" means emissions which occur as a result of the construction or operation of an existing stationary facility but do not come from the existing stationary facility. Secondary emissions may include, but are not limited to, emissions from ships or trains coming to or from the existing stationary facility.

(12) "Visibility impairing air pollutant" means SO_2, NO_X or particulate matter. Particulate matter smaller than 10 microns in diameter (PM_{10}) may be used as the indicator for particulate matter.

(13) "Visibility impairment" means any humanly perceptible change in visibility, perceived as light extinction, visual range, contrast or coloration, from that which would have existed under natural conditions. Natural conditions include naturally occurring phenomena that reduce visibility as measured in terms of light extinction, visual range, contrast, or coloration.

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NR 433.03 Identification of sources subject to BART. (1) On or before September 29, 2008, the department shall identify all BART–eligible sources that may reasonably be anticipated to cause or contribute to any visibility impairment in any mandatory class I federal area according to the criteria and procedures in this section and the applicable guidelines in 40 CFR part 51, Appendix Y, incorporated by reference in s. NR 484.04 (11m). These sources are identified as sources subject to BART. The department may request in writing information that is required for the identification of sources subject to BART from the owner or operator of a BART–eligible source. The owner or operator of the source shall submit to the department true, accurate and complete information in writing within a reasonable time period specified by the department in its request.

(2) The department shall identify sources subject to BART by using an air quality modeling analysis to estimate the individual contribution of each BART–eligible source to visibility impairment in a mandatory class I federal area. The department shall use an air quality model approved by the EPA and conduct the air quality modeling analysis according to procedures that include all of the following:

(a) The department shall apply the air quality model to each BART–eligible source for calendar years 2002, 2003 and 2004.

(b) The individual contribution to visibility impairment shall be calculated on a daily basis, using emission rates reflecting steady–state operating conditions during periods of high capacity utilization of the source. These emission rates shall reflect either the maximum actual emission rates provided by the owner or operator, if available and approved by the department, or the source's potential to emit. The maximum actual emission rates shall be the 24–hour average actual emission rate from the highest emitting day of the meteorological period modeled, unless this rate reflects periods of start–up, shutdown or malfunction. The source's potential to emit shall be averaged over 24 hours or shorter periods of time.

(3) A BART–eligible source shall be considered subject to BART if the air quality modeling analysis conducted under sub. (2) demonstrates that the source contributes to visibility impairment in any mandatory class I federal area. A source shall be considered to contribute to visibility impairment if for any year modeled the 98th percentile daily average change in visibility impairment from the source is equal to or greater than 0.5 deciviews, as compared to natural visibility conditions. Natural visibility conditions for each mandatory class I federal area shall be the average natural visibility impairment of the 20% best visibility days, or with department approval of a request made by the source owner or operator, the annual average natural visibility impairment for the class I area.

(4) On or before September 29, 2008, the department shall provide written notice to the owner or operator of each facility which the department has determined includes a source that is subject to BART.

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NR 433.04 BART analyses. (1) No later than 180 days after the department sends a notification under s. NR 433.03 (4) that a source is subject to BART, the owner or operator of the source shall conduct and submit to the department a BART analysis for all emissions units which comprise the BART–eligible source. If the owner or operator submits a written request for an extension prior to the BART analysis submittal deadline date, the department may grant an extension of up to 60 days to the submittal deadline. The BART analysis shall contain all information necessary to evaluate all available retrofit control technologies for each unit and to determine the level of control that is BART for the unit, including all of the following:

(a) A list of all emissions units which comprise the BART–eligible source within the facility.

(b) All available retrofit emission control technologies for each visibility impairing pollutant emitted by each unit subject to BART at the facility.

(c) An evaluation of each control technology identified in par. (b), considering all of the following factors:

1. The costs of compliance.

2. The energy and non–air quality environmental impacts of compliance.

3. Any existing pollution control technology in use at the source.

4. The remaining useful life of the source.

5. The degree of improvement in visibility which may reasonably be anticipated to result from the use of the technology.

(d) Procedures for an initial performance test and for demonstrating compliance with the emission limits representing BART on a continuous basis including continuous emission monitoring, recordkeeping, and reporting according to the applicable requirements of ch. NR 439 or 440.

(2) The BART analysis shall be conducted pursuant to the applicable guidelines in 40 CFR part 51, Appendix Y, incorporated by reference in s. NR 484.04 (11m).

(3) If the owner or operator of a BART–eligible source proposes to use the emissions trading program under s. NR 433.06 for compliance with this section, the owner or operator shall submit to the department the emissions trading plan required under s. NR 433.06 (1).

(4) If the BART analysis for a source subject to BART demonstrates that all control technologies are technologically or economically infeasible, the owner or operator of the source shall propose in the BART analysis a design, equipment, work practice, or other operational standard, or combination thereof, to meet the BART requirements. If a design, equipment, work practice or operational standard is proposed, the analysis shall include a calculation of the emission reductions to be achieved by implementation of the design, equipment, work practice or operation, and shall provide the method for demonstrating compliance.

(5) The owner or operator of a BART–eligible source shall certify in writing that any information submitted to the department under this section is true, accurate, and complete, based on information and belief formed after reasonable inquiry.

(6) The department may request in writing additional information necessary to evaluate the BART analysis. The owner or operator of the BART–eligible source shall provide the information in writing within the reasonable period of time specified by the department in the request.

(7) If a fossil fuel–fired steam electric plant subject to BART is subject to the trading programs of the clean air interstate rule under 40 CFR part 97, the owner or operator of the fossil fuel–

fired electric plant is not required to conduct a BART analysis for SO_2 and NO_x emissions under this section.

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NR 433.05 Determination of BART requirements.

(1) PRELIMINARY DETERMINATION. (a) The department shall make a preliminary determination of the BART requirements for each emissions unit which comprises the sources subject to BART based on the information in the BART analysis required under s. NR 433.04 and other available information. The preliminary BART determination for each facility shall include all of the following elements:

1. A list of all emissions units which comprise the source subject to BART.

2. A determination of the BART requirements for each emissions unit.

3. Requirements for initial performance tests and for demonstrating compliance with the emission limits representing BART on a continuous basis, including emission monitoring, recordkeeping and reporting.

4. The requirement that the owner or operator of each source subject to BART shall install and operate BART as expeditiously as practicable, but in no event later than December 31, 2015.

5. The requirement that the owner or operator of each source subject to BART shall maintain the control equipment required by the BART determination and establish procedures to ensure the equipment is properly operated and maintained.

(b) The determination of BART shall be based on the department's review of the analysis of the best system of continuous emission control technology available and associated emission reductions achievable for each unit subject to BART at the facility. The department shall take into consideration the technology available, the costs of compliance, the energy and non–air quality environmental impacts of compliance, any pollution control equipment in use at the source, the remaining useful life of the source, and the degree of improvement in visibility which may reasonably be anticipated to result from use of the technology.

(c) The determination of BART for all emissions units which comprise the source subject to BART shall be made pursuant to the applicable guidelines in 40 CFR part 51, Appendix Y, incorporated by reference in s. NR 484.04 (11m).

(d) If the department determines that it is technologically or economically infeasible for a source to install and operate the available control technologies, it may instead prescribe a design, equipment, work practice, or other operational standard, or combination thereof to meet the BART requirements. The department shall estimate the emission reduction to be achieved by implementation of the design, equipment, work practice or operation, and shall prescribe the method for demonstrating compliance.

(e) If a fossil–fuel fired steam electric plant is subject to the clean air interstate rule trading programs under 40 CFR part 97 the determination of BART shall be made for particulate matter emissions only.

(f) The department shall incorporate the results of its preliminary BART determination in a draft revision to the source's air quality permit.

(2) EXCEPTION. The department may not make a determination of BART for SO_2 or for NO_X if the potential to emit of a BART–eligible source is less than 40 tons per year of the respective pollutant; or for particulate matter, if the potential to emit PM_{10} of a BART–eligible source is less than 15 tons per year.

(3) PUBLIC NOTICE AND COMMENT. The department shall notify the owner or operator of the source subject to BART and the EPA of its preliminary BART determination and shall publish a notice of its preliminary BART determination and the draft permit conditions for public comment. The department shall provide at least 30 days for submittal of written comments.

(4) FINAL DETERMINATION. Following the close of the public comment period and after consideration of all public comments, the department shall make a final BART determination and issue a revision to the facility's air quality permit which includes the BART requirements.

(5) REVISION. The department may revise the BART requirements in the air quality permit, if the EPA requires a revision of the BART requirements or the department determines that the revision of the existing BART requirements is justified based on safety, health, environmental or excessive cost impacts which the original BART analysis and BART determination failed to take into account. The department shall provide notice and offer an opportunity for public comment on any proposed revision under this section.

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NR 433.06 Emissions trading program for boilers.

(1) The owner or operator of a facility, having at least one boiler subject to BART, may propose an emissions trading program if the program achieves an improvement in visibility in the mandatory class I federal areas greater than would be achieved through the installation and operation of BART on each boiler subject to BART. The owner or operator of a boiler subject to BART who is proposing to use an emissions trading program shall submit an emissions trading plan to the department. The plan shall be subject to department approval and meet the following criteria:

(a) The plan shall contain the proposed control strategy and the method of demonstrating compliance.

(b) The plan shall achieve either of the following:

1. For each visibility impairing pollutant for which compliance is demonstrated through use of a trading plan, an emission reduction of that pollutant at least 10% greater than would be achieved through the installation and operation of BART on each boiler subject to BART.

2. An improvement in visibility in the mandatory class I federal areas greater than or equal to the visibility improvement achieved under subd. 1. The improvement in visibility shall be demonstrated by comparing the 20% best days of visibility and the 20% worst days of visibility in at least the 4 mandatory class I federal areas nearest to the source and for each calendar year 2002, 2003 and 2004. The daily visibility shall be determined using an air quality model approved by the EPA for predicting visibility impacts from single emission sources and conducting the air quality modeling analyses according to the guidelines in 40 CFR part 51, Appendix Y, incorporated by reference in s. NR 484.04 (11m).

(c) Trading shall be between all boilers serving a similar function and located on the same property.

(d) Boilers participating in the trading shall achieve the required emission reductions on a continuous basis and shall be subject to continuous emission monitoring, which meets the applicable requirements under ch. NR 439 or 440.

(e) The plan shall specify the monitoring devices and procedures which will be used to provide information sufficient to assess the performance of the proposed emission control measures and to quantify on an hourly average basis the mass flow of each pollutant in pounds per hour and the emission rate of each pollutant in pounds per mmBtu heat input for each boiler participating in the trading. The procedures and methods required for compliance demonstration and for performance testing shall be according to the applicable requirements of ch. NR 439 or 440.

(f) Excess emission reductions, for the purposes of meeting the BART requirements, shall be emission reductions beyond those required to meet all state and federal requirements and may not include emission reductions used in any other banking or trading program.

(2) If the department approves the emissions trading plan, the department shall propose to revise the source's air quality permit

to include the requirements of the emissions trading plan in lieu of the BART requirements for the boilers identified in the emissions trading plan.

(3) After the department incorporates the emissions trading plan in the revised air operation permit, the owner or operator of the BART–eligible source shall comply with the requirements of the emissions trading plan for the boilers identified in the plan.

History: CR 07–017: cr. Register June 2008 No. 630, eff. 7–1–08; **CR 10–033: am. (1) (intro.), (b) 1., (c) Register November 2010 No. 659, eff. 12–1–10.**