Chapter NR 418

SULFUR EMISSION CONTROL IN SPECIFIC GEOGRAPHIC AREAS

NR 418.01 Applicability; purpose. (1) Applicability. This chapter applies to all direct air contaminant sources which are located in the specific geographic areas described in this chapter and which emit sulfur dioxide or other sulfur compounds and to all owners and operators of these sources. (2) Purpose. This chapter is adopted under ss. 285.11, 285.13, and 285.17, Stats., to categorize sources of sulfur dioxide and other sulfur compounds into separate source categories and to establish emission limits for these categories of sources in order to protect air quality.

History: Cr. Register, September, 1986, No. 369, eff. 10−1−86; am. (1) and (2), Register, May, 1992, No. 437, eff. 6−1−92; am. (1), Register, December, 1995, No. 480, eff. 1−1−96; am. (2), Register, October, 1999, No. 526, eff. 11−1−99.

NR 418.02 Definitions. The definitions contained in ch. NR 400 apply to the terms used in this chapter.

History: Cr. Register, September, 1986, No. 369, eff. 10−1−86.

NR 418.025 Brokaw RACT sulfur limitations. (1) No person may cause, allow or permit sulfur dioxide to be emitted to the ambient air within the corporate boundaries of the village of Brokaw, Marathon county from any direct stationary source on which construction or modification commenced prior to January 1, 1980 in amounts greater than: (a) Any liquid fossil fuel fired steam generating boiler: 1. With an emission point of less than 180 feet: 3.28 pounds of sulfur dioxide per million Btu heat input. 2. With an emission point of more than 180 feet: 5.8 pounds of sulfur dioxide per million Btu heat input. (b) Any Copeland recovery system: 113 pounds per hour. (c) Any pulp and papermill cooking acid plant: 22 pounds per hour. (d) Any pulp digester blow stack: 20 pounds per hour. (e) Notwithstanding the emission limitations of pars. (b), (c) and (d), for an pulp and papermill Copeland recovery system, cooking acid plant and pulp digester blow system which vent to a common stack with an emission point of 160 feet or more in height above ground: 228 pounds per hour. (2) All boilers to which sub. (1) applies shall achieve final compliance and so certify to the department on or before December 31, 1982.

History: Renum. from NR 154.12 (4) and am. Register, September, 1986, No. 369, eff. 10−1−86; am. (2) (intro.), Register, May, 1992, No. 437, eff. 6−1−92; am. (1), r. (2) (intro.) and (a) to e), rem. (2) (f) to be (2), Register, December, 1995, No. 480, eff. 1−1−96.

NR 418.03 Madison RACT sulfur limitations. (1) No person may cause, allow or permit sulfur dioxide to be emitted to the ambient air within the geographical boundaries of the city of Madison, Dane county, from any direct source on which construction or modification was commenced prior to November 1, 1979 in amounts greater than:

(a) Any fossil fuel fired steam generating boiler rated at more than 25 million Btu heat input per hour but less than 100 million Btu heat input per hour firing solid fossil fuel or solid fossil fuel in combination with solid, liquid or gaseous fuels: 7.0 pounds of sulfur dioxide per million Btu heat input. (b) Any fossil fuel fired steam generating boiler rated at equal to or greater than 100 million Btu heat input per hour firing solid fossil fuel or solid fossil fuel in combination with solid, liquid or gaseous fuels: 1. Any electrical utility boiler: 4.25 pounds of sulfur dioxide per million Btu heat input. 2. Any other boiler: a. Height above ground of emission point of less than 180 feet: 2.5 pounds of sulfur dioxide per million Btu heat input. b. Height above ground of emission point of 180 to 220 feet: X pounds of sulfur dioxide per million Btu heat input, where X is determined by the following equation:

\[ X = \frac{10^0.0089}{(\text{Emission Point Height})^{1−18}} \]

(c) Any fossil fuel fired steam generating boiler rated at more than 25 million Btu heat input per hour firing liquid fossil fuel or liquid fossil fuel in combination with liquid or gaseous fuels: 1. Distillate fuel oil: that occurring from firing a distillate fuel oil with a sulfur content equal to or less than 0.50% by weight. 2. Residual fuel oil: that occurring from firing a residual fuel oil with a sulfur content equal to or less than 1.1% sulfur by weight. (2) All boilers to which sub. (1) applies shall achieve final compliance and so certify to the department on or before December 31, 1982.

History: Renum. from NR 154.12 (5), Register, September, 1986, No. 369, eff. 10−1−86; am. (1) (intro.), (b) 2. b., (c) 1. and (2) (intro.), Register, May, 1992, No. 437, eff. 6−1−92; r. (2) (intro.) and (a) to (e), remun. (2) (f) to be (2), Register, December, 1995, No. 480, eff. 1−1−96.

NR 418.035 Southeastern Wisconsin intrastate AQR. In the Southeastern Wisconsin intrastate AQR, installations of 250 million Btu per hour or less may not burn coal with a sulfur content exceeding 1.11 pounds per million Btu in the coal.

History: Renum. from NR 417.04 and am., Register, May, 1992, No. 437, eff. 6−1−92; am. Register, February, 1995, No. 470, eff. 3−1−95.

NR 418.04 Milwaukee RACT sulfur limitations. (1) No person may cause, allow or permit sulfur dioxide to be emitted to the ambient air within the corporate boundaries of the city of Milwaukee, Milwaukee county, from any direct source on which construction or modification was commenced prior to December 1, 1983, averaged over any 24−hour period in amounts greater than specified in this subsection. (a) Any electrical utility installation rated at more than 250 million Btu heat input per hour, emissions from any stack may not exceed:

1. 3.28 pounds sulfur dioxide per million Btu heat input for solid fossil fuel, 1.60 pounds sulfur dioxide per million Btu heat input for liquid fossil fuel, and 0.020 pounds sulfur dioxide per million Btu heat input for gaseous fuels.
input for residual fuel oil and 0.50 pounds sulfur dioxide per million Btu heat input for all other fuels, or

2. \(Q\), when different fuels are burned in combination. \(Q\) is determined by the following equation:

\[ Q = \frac{X(3.28) + Y(1.60) + Z(0.5)}{X + Y + Z} \]

where \(Q\) is the sulfur dioxide emission limit for a stack expressed in pounds of sulfur dioxide per million Btu heat input, \(X\) is the percent of total heat input derived from solid fossil fuel, \(Y\) is the percent of total heat input derived from residual fuel oil, and \(Z\) is the percent of total heat input derived from all other fuels.

(2) When a source is subject to the emission limitations of sub. (1), the owner or operator shall achieve final compliance with the applicable emission limitations and so certify to the department by November 9, 1985.

History: Reenum. from NR 154.12 (6) and am. Register, September, 1986, No. 369, eff. 10−1−86; am. (1) (a), Register, May, 1992, No. 437, eff. 6−1−92; am. (1) (a) 2. and (2) (intro.), r. (2) (a) to (e), Register, December, 1995, No. 480, eff. 1−1−96.

NR 418.05 Green Bay and DePere RACT sulfur limitations. (1) No person may cause, allow or permit sulfur dioxide to be emitted to the ambient air within the corporate boundaries of the cities of Green Bay and De Pere, Brown county, from any direct source on which construction or modification was commenced prior to February 1, 1984 in amounts greater than the following:

(a) Each electric utility boiler shall comply with the following emission limitations:

1. Any electric utility boiler with the emission point at a height above ground of not less than 377 feet: 5.58 pounds of sulfur dioxide per million Btu heat input.

2. Any electric utility boiler with the emission point at a height above ground of not less than 377 feet: 0.50 pounds of sulfur dioxide per million Btu heat input.

(b) Any ammonia based sulfite pulp and paper mill shall comply with the following emission limitations:

1. Each steam generating boiler capable of firing coal, spent sulfite liquor or other fuels: 5.95 pounds of sulfur dioxide per million Btu heat input.

2. Any pulp digester blow stack: 6.03 pounds of sulfur dioxide per hour.

3. All brown stock washers: a total of 23.18 pounds of sulfur dioxide per hour, from all washers.

4. All paper dryers: a total of 94.13 pounds of sulfur dioxide per hour, from all dryers.

5. All other sources not described in subds. 1. to 4.: a total of 15.71 pounds of sulfur dioxide per hour.

(c) Any paper mill in Green Bay located between milepoints 3.3 and 4.0 on the Fox river shall comply with the following emission limitations:

1. Fossil fuel fired steam generating boilers: maximum emission from any stack of 2.10 pounds of sulfur dioxide per million Btu heat input when the boilers are fired at below 150 million Btu per hour; and maximum emission from any stack of 2.31 pounds of sulfur dioxide per million Btu heat input when the boilers are fired at or above 150 million Btu per hour.

2. Any Jensen acid towers: a total of 9.21 pounds of sulfur dioxide per hour from all towers.

3. All brown stock washers: a total of 37.86 pounds of sulfur dioxide per hour from all washers.

4. All spent sulfite liquor spray dryers: a total of 25.71 pounds of sulfur dioxide per hour from all dryers.

(g) Any paper mill in Green Bay located between milepoints 0.4 and 0.7 on the East river shall comply with the following emission limitations:

1. Each fossil fuel fired steam generating boiler: 1.50 pounds of sulfur dioxide per million Btu heat input.

2. All paper dryers: a total of 27.25 pounds of sulfur dioxide per hour from all dryers.

(2) When a source is subject to the emission limitations of sub. (1), the owner or operator shall achieve final compliance with the applicable emission limitations and so certify to the department on or before November 9, 1985.

(4) For purposes of determining compliance with the emission limitations of this section, the owner or operator of a source described in sub. (1) shall use methods which include, but are not limited to, the following:

(a) Any facility which has solid fossil fuel fired or spent sulfite liquor fired steam generating boilers with a combined rated heat input capacity of greater than 500 million Btu per hour shall install, calibrate, maintain and operate a continuous emission monitor, utilizing equipment and procedures reviewed and approved by the department.

(b) Any facility which has solid fossil fuel fired steam generating boilers with a combined rated heat input capacity of less than 500 million Btu per hour shall collect and analyze a daily, as−fired sample of fuel used, utilizing equipment and procedures reviewed and approved by the department.

(c) Any facility which has liquid fossil fuel fired steam generating boilers shall collect and analyze a daily, as−fired sample of...
fuel used, utilizing equipment and procedures reviewed and approved by the department.

(d) Emissions from all other sources shall be determined by annual stack emissions testing or by such other appropriate methods reviewed and approved by the department.

(e) Quarterly reports in duplicate shall be submitted to the department’s Northeast Region Headquarters, PO Box 10448, Green Bay, Wisconsin 54307–0448. The quarterly reports shall include, but not be limited to, excess emission reports for facilities with continuous emission monitors, amounts of fuel used, and fuel sampling and analysis reports for compliance under pars. (b) and (c).

(f) Each facility shall maintain complete records of emissions data and calculations used to verify emissions data at their premises and shall maintain such records available for inspection upon request by authorized representatives of the department during regular business hours.

(5) For purposes of determining the applicability of the boiler sizes and source capacities outlined in sub. (1) and (4), the capacity of a source and the size of a boiler of a described source shall be determined as of May 31, 1983.

History: Renum. from NR 154.12 (7) and am. Register, September, 1986, No. 369, eff. 10−1−86; am. (1) (a), (b) 1., (c) 1. and 2., (d) 1. to 3., (e) 1. and 2., (f) 1. and (g) 1.−r. (1) (b) 2., Register, May, 1992, No. 437, eff. 6−1−92; r. (2) and (3) (a) to (c), am. (3) (intro.) (4) (intro.), Register, December, 1995, No. 480, eff. 1−1−96; am. (1) (intro.), Register, December, 1996, No. 492, eff. 1−1−97.

NR 418.06 Peshtigo RACT sulfur limitations. (1) No person may cause, allow or permit sulfur dioxide to be emitted to the ambient air within the corporate boundary of the city of Peshtigo, Marinette county, from any pulp, paper, or pulp and paper mill on which construction or modification was last commenced prior to October 1, 1984 in amounts greater than:

(a) From any liquid fossil fuel and natural gas fired steam generating boiler, with the emission point at a height above ground of less than 55 feet, 0.520 pounds per million Btu heat input.

(b) From any liquid fossil fuel, natural gas and wood refuse fired steam generating boiler, with the emission point at a height above ground of more than 149 feet, 0.520 pounds per million Btu heat input.

(c) From any spent sulfite liquor incinerator and evaporation plant emitting from a point 197 feet or more above ground, 1,682.00 pounds per hour and 35,184.00 pounds in any 24 hours.

(d) From all pulp digesters emitting from a point 100 feet or more above ground, 300.00 pounds in any 3 hours and 1,365.00 pounds in any 24 hours.

(e) From any air contact evaporator emitting from a point 35 feet or more above ground, 33.02 pounds per hour and 686.88 pounds in any 24 hours.

(f) From any evaporator building emitting from a point 87 feet or more above ground, 6.10 pounds per hour.

(g) From all other sources, a total of 0.72 pounds per hour.

(2) When a source is subject to sub. (1) the owner or operator shall:

(a) Achieve compliance with sub. (1) (a), (b), (c), (e), (f) and (g) by October 1, 1984 and so certify to the department before November 1, 1984.

(b) Achieve compliance with the emission limitations of sub. (1) (d) and so certify to the department before November 20, 1986.

(3) The owner or operator of a source subject to sub. (1) shall prepare and maintain a compliance demonstration plan to assure continuous compliance with the emission limitations of sub. (1).

(a) The plan shall be in writing, updated as needed, and shall include but need not be limited to:

1. The name of the individual responsible for compliance demonstration activities at the source.

2. A description of the stacks, vents, raw materials, fuels and other items or parameters which will be tested, monitored, sampled, analyzed or measured to determine that the source is in compliance with sub. (1).

3. A description of the testing methods, monitoring techniques, sampling and analysis methods and measurements which will be used, including the types of equipment to be used and the frequency of testing, monitoring, sampling, analysis or measurement.

4. A description of the records which will be created and maintained, their retention time, and the periodic reports which will be submitted to the department to demonstrate that the emission limitations of sub. (1) are being met.

5. A procedure for detecting and reporting upsets, malfunctions and other events which may result in the violation of an emission limitation or which may affect the quantity or quality of compliance demonstration data.

6. Other relevant information reasonably needed to demonstrate continuous compliance with the emission limitations of sub. (1).

(b) The plan shall be filed with the department before November 1, 1984. Subsequent revisions to the plan shall be filed within 10 days of their completion.

(c) The department may order any owner or operator of a source subject to sub. (1) to submit the plan required by this subsection for review and approval. The department may amend the plan if deemed necessary to assure that continuous compliance is adequately demonstrated and to recognize changes in the economic or technological feasibility of different compliance demonstration methods.

(d) No owner or operator may fail to carry out the plan required under this subsection or as amended by the department under par. (c).

(e) Nothing in this subsection precludes the department from exercising its authority to require reporting or recordkeeping in addition to that required by this subsection or exempts the owner or operator of a source subject to sub. (1) from any other requirements relating to proof of compliance.

(4) No owner or operator of a source subject to sub. (1) may cause, allow or permit sulfur dioxide to be emitted from emission points lower than those which existed at the source on December 1, 1983, unless written permission has been granted by the department.

History: Renum. from NR 154.12 (8) and am. Register, September, 1986, No. 369, eff. 10−1−86; am. (1) (a) (intro.) and 1. and (b) (intro.) and 1. to be (1) (a) and (b) and am. (2) (a) 2. and 3. (b) 2. and 3., am. (1) (f) and (g), Register, October, 1987, No. 382, eff. 11−1−87; am. (2) (intro.), r. (2) (b) to (e), r. (3) (a) (1) (a) 4. (b) 2. and 3., Register, December, 1995, No. 473, eff. 1−1−96.

NR 418.07 Rhinelander RACT sulfur limitations. (1) No person may cause, allow or permit sulfur dioxide to be emitted to the ambient air within the corporate boundary of the city of Rhinelander, Oneida county, from any direct stationary source on which construction or modification was last commenced prior to April 1, 1985 in amounts greater than those specified in this subsection.

(a) At any paper mill or yeast plant or any combination of these sources:

1. From any fossil fuel fired steam generating stoker boiler, a maximum of 1.60 pounds per million Btu heat input.

2. From any fossil fuel fired steam generating cyclone boiler, a maximum of 3.50 pounds per million Btu heat input.

3. From any surface condenser, 0.40 pounds per hour and 7.92 pounds in any 24 hours.

4. From any yeast dryer, 4.20 pounds per hour and 88.1 pounds in any 24 hours.

5. From any liquor dryer, 2.10 pounds per hour and 44.9 pounds in any 24 hours.

(c) At any yeast plant or yeast plant and paper mill:
1. From any vacuum compression evaporator, 28.8 pounds per hour and 600 pounds in any 24 hours.
2. From any other source not covered by par. (a) or subd. 1., 0.00 pounds per hour.

(2) When a source is subject to sub. (1), the owner or operator shall achieve compliance with sub. (1) by April 1, 1985 and so certify to the department before June 1, 1985.

(3) The owner or operator of a source subject to sub. (1) shall prepare and maintain a compliance demonstration plan to assure continuous compliance with the emission limitations of sub. (1).

(a) The plan shall be in writing, updated as needed, and shall include but need not be limited to:
1. The name of the individual responsible for compliance demonstration activities.
2. A description of the stacks, vents, raw materials, fuels and other items or parameters which will be tested, monitored, sampled, analyzed or measured to determine that the source is in compliance with sub. (1).
3. A description of the testing methods, monitoring techniques, sampling and analysis methods and measurements which will be used, including the types of equipment to be used and the frequency of testing, monitoring, sampling, analysis or measurement.
4. A description of the records which will be created and maintained, their retention time, and the periodic reports which will be submitted to the department to demonstrate that the emission limitations of sub. (1) are being met.
5. A procedure for detecting and reporting upsets, malfunctions and other events which may result in the violation of an emission limitation or which may affect the quantity or quality of compliance demonstration data.
6. Other relevant information reasonably needed to demonstrate continuous compliance with the emission limitations of sub. (1).

(b) The plan shall be filed with the department before May 1, 1985. Subsequent revisions to the plan shall be filed within 10 days of their completion.

(c) The department may order any owner or operator of a source subject to sub. (1) to submit the plan required by this subsection for review and approval. The department may amend the plan if deemed necessary to assure that continuous compliance is adequately demonstrated and to recognize changes in the economic or technological feasibility of different compliance demonstration methods.

(d) No owner or operator may fail to carry out the plan required under this subsection or as amended by the department under par. (c).

(e) Nothing in this subsection precludes the department from exercising its authority to require reporting or recordkeeping in addition to that required by this subsection or exempts the owner or operator of a source subject to sub. (1) from any other requirements relating to proof of compliance.

(4) No owner or operator of a source subject to sub. (1) may cause, allow or permit sulfur dioxide to be emitted from emission points lower than those which existed at the source on December 1, 1983, unless written permission has been granted by the department.

(5) The owner or operator of a mill subject to sub. (1) shall notify the department in writing 30 days prior to resumption of pulp manufacturing.

History: Renum. from NR 154.12 (9) and am. Register, September, 1986, No. 369, eff. 10−1−86; am. (1) (a) (intro.), 1. and 2. and (5), r. (1) (b), c. 1., 3. and 4., renum. (1) (c) 2. and 5. to be 1. and 2. and am. 2., Register, April, 1989, No. 400, eff. 5−1−89; am. (1) (g) 2., Register, May, 1992, No. 437, eff. 6−1−92.

NR 418.08 Rothschild RACT sulfur limitations.

(1) No person may cause, allow or permit sulfur dioxide to be emitted to the ambient air within the corporate boundary of the village of Rothschild, Marathon county, from any direct source on which construction or modification was last commenced prior to April 1, 1985 in amounts greater than those specified in this subsection.

(a) At any pulp, paper, or pulp mill:
1. From any fossil fuel fired boiler, 0.52 pounds per million Btu heat input.
2. From any fossil fuel fired boiler which can also burn wood, 0.025 pounds per million Btu heat input.
3. From all pulp digesters, a total of 4,050 pounds in any 3 hours and 16,200 pounds in any 24 hours.
4. From all acid towers not being loaded with stone, acidic plant vent, and Kimberly Clark direct contact cooler with a common emission point, 16.0 pounds per hour.
5. From any acid tower being loaded with stone, 52.0 pounds in any day during which stone is loaded.
6. From all other sources, a total of 0.20 pounds per hour.

(b) At any calcium−based spent sulfate liquor processing facility:
1. From any evaporator with an emission point 87 feet or more above ground, 16.2 pounds per hour.
2. From any evaporator with an emission point less than 87 feet above ground, 10.6 pounds per hour.
3. From all other sources, a total of 4.0 pounds per hour.

(2) The owner or operator of a source subject to sub. (1) shall achieve final compliance with the emission limitations of sub. (1) and so certify to the department before February 1, 1985 for sources covered by sub. (1) (a) 5. and (b) 3.; before July 1, 1985 for sources covered by sub. (1) (a) 3., before January 1, 1986 for sources covered by sub. (1) (a) 1., 2., 4. and 6.; and before September 1, 1986 for sources covered by sub. (1) (b) 1. and 2.

(3) The owner or operator of a source subject to sub. (1) shall prepare and maintain a compliance demonstration plan to assure continuous compliance with the emission limitations of sub. (1).

(a) The plan shall be in writing, updated as needed, and shall include but need not be limited to:
1. The name of the individual responsible for compliance demonstration activities at the source.
2. A description of the stacks, vents, raw materials, fuels and other items or parameters which will be tested, monitored, sampled, analyzed or measured to determine that the source is in compliance with sub. (1).
3. A description of the testing methods, monitoring techniques, sampling and analysis methods and measurements which will be used, including the types of equipment to be used and the frequency of testing, monitoring, sampling, analysis or measurement.
4. A description of the records which will be created and maintained, their retention time, and the periodic reports which will be submitted to the department to demonstrate that the emission limitations of sub. (1) are being met.
5. A procedure for detecting and reporting upsets, malfunctions and other events which may result in the violation of an emission limitation or which may affect the quantity or quality of compliance demonstration data.
6. Other relevant information reasonably needed to demonstrate continuous compliance with the emission limitations of sub. (1).

(b) The plan shall be filed with the department before May 1, 1985. Subsequent revisions to the plan shall be filed within 10 days of their completion.

(c) The department may order any owner or operator of a source subject to sub. (1) to submit the plan required by this subsection for review and approval. The department may amend the plan if deemed necessary to assure that continuous compliance is adequately demonstrated and to recognize changes in the economic or technological feasibility of different compliance demonstration methods.

(d) No owner or operator may fail to carry out the plan required under this subsection or as amended by the department under par. (c).

(e) Nothing in this subsection precludes the department from exercising its authority to require reporting or recordkeeping in addition to that required by this subsection or exempts the owner or operator of a source subject to sub. (1) from any other requirements relating to proof of compliance.

(4) No owner or operator of a source subject to sub. (1) may cause, allow or permit sulfur dioxide to be emitted from emission points lower than those which existed at the source on December 1, 1983, unless written permission has been granted by the department.

(5) The owner or operator of a mill subject to sub. (1) shall notify the department in writing 30 days prior to resumption of pulp manufacturing.
nominal or technological feasibility of different compliance demonstration methods.

(d) No owner or operator may fail to carry out the plan required under this subsection or as amended by the department under par. (c).

(e) Nothing in this subsection precludes the department from exercising its authority to require reporting or recordkeeping in addition to that required by this subsection or exempts the owner or operator of a source subject to sub. (1) from any other requirements relating to proof of compliance.

(4) No owner or operator of a source subject to sub. (1) may cause, allow or permit sulfur dioxide to be emitted from emission points lower than those which existed at the source on December 1, 1983, unless written permission has been granted by the department.

History: Renum. from NR 154.12 (10) and am. Register, September, 1986, No. 369, eff. 10−1−86; am. (1) (c) 2., Register, May, 1992, No. 437, eff. 6−1−92; r. (2) (intro.) and (a) to (e), renum. (2) (f) to be (2) and am., Register, December, 1995, No. 480, eff. 1−1−96.