

NR 439.04 Recordkeeping. (1) The owner or operator of an air contaminant source to which chs. NR 400 to 499 apply shall maintain the following records:

(a) Records of all sampling, testing and monitoring conducted or required under chs. NR 400 to 499 or under an air pollution control permit. Records of sampling, testing or monitoring shall include the following:

1. The date, monitoring site and time and duration of sampling, testing, monitoring and measurements.

2. The dates the analyses were performed.

3. The company or entity that performed the analyses.

4. The analytical techniques or methods used, including supporting information such as calibration and maintenance records and all original recording charts for continuous monitoring instrumentation including emissions or equipment monitors.

5. The results of the analyses.

6. The relevant operating conditions that existed at the time of sampling, testing, monitoring or measurement;

(b) Records detailing all malfunctions which cause any applicable emission limitation to be exceeded, including logs to document the implementation of the plan required by s. NR 439.11;

(c) Records detailing all activities specified in any compliance schedule approved by the department under chs. NR 400 to 499; and

(d) Any other records relating to the emission of air contaminants which may be requested in writing by the department.

(2) Copies of all records required under this section shall be retained by the owner or operator for a period of 5 years or for such other period as may be specified by the department.

(3) Any owner or operator of an air contaminant source described under chs. NR 419 to 424 shall maintain records which demonstrate compliance with applicable emission limitations and operating requirements. Any owner or operator claiming to be exempt from an emission limitation or other requirement in chs. NR 419 to 424 shall maintain records adequate to support each exemption claim.

(4) Any owner or operator of a coating or printing line or operation that is exempt from the emission limitations of ss. NR 422.05 to 422.14, 422.15 or 422.155, under s. NR 422.03, or is exempt from the emission limitations of s. NR 422.145 under s. NR 422.03 (4m) (b) or (c), shall collect and record the following information as appropriate to support the exemption:

(a) A unique name or identification number for each coating or ink, as applied;

(b) The VOC content of each coating or ink, as applied, in units of pounds of VOC per gallon, excluding water;

(c) The volume of coating or ink used per day, as applied, in units of gallons, excluding water;

(d) The total VOC emissions from all coating or printing lines or operations meeting the same applicability statement at the facility before the application of capture systems and control devices in units of pounds per day; and

(e) The maximum theoretical emissions of VOCs for all coating or printing lines or operations meeting the same applicability statement at the facility in units of tons per year.

(5) (a) Any owner or operator of a coating or printing line or operation subject to an emission limitation in ss. NR 422.05 to 422.08, 422.09 to 422.12 or 422.145 to 422.155 shall collect and record the following information for each coating or printing line or operation:

1. A unique name or identification number for each coating or ink, as applied;

2. The VOC content of each coating or ink, as applied, in units of pounds of VOC per gallon, excluding water.

(b) Any owner or operator of a coating line or operation subject to the emission limitations of s. NR 422.085 shall collect and record the following information:

1. A unique name or identification number for each coating, as applied; and

2. The daily average VOC emission rate as calculated using the equation in s. NR 422.085 (4) (b), and all information identified in s. NR 422.085 (4) (b) and (c) necessary to calculate the daily average VOC emission rate.

(c) Any owner or operator of a coating line or operation subject to the emission limitations of s. NR 422.13 shall collect and record the following information:

1. A unique name or identification number for each coating, as applied;

2. The surface area in units of feet squared of coated finished product; and

3. The amount of VOC per area of surface to which coatings are applied in units of pounds of VOC per 1000 ft², regardless of the number of coats applied.

(d) Any owner or operator of a printing line or operation subject to the emission limitations of s. NR 422.14 shall collect and record the following information:

1. A unique name or identification number for each ink, as applied; and

2. The VOC content of each ink, as applied, expressed in units necessary to determine compliance.

(e) Any owner or operator of a coating or printing line or operation that is subject to an emission limitation in ss. NR 422.05 to 422.155, and that is achieving compliance with the applicable emission limitation by a method allowed under s. NR 422.04 (2) (b), (c) or (d) shall, in addition to the applicable information required under pars. (a) to (d), collect and record the following information for each day of operation:

1. The allowable emission rate pursuant to ss. NR 422.05 to 422.155 in pounds per gallon of coating, excluding water;

2. The amount of each coating or ink in gallons, delivered to the applicator;

3. The volume fraction of solids in each coating or ink, delivered to the applicator;

4. The density of the VOC used in each coating or ink in pounds per gallon, delivered to the applicator;

5. The total allowable emissions as calculated under s. NR 422.04 (4);

6. The actual emissions for those coatings or inks for which allowable emissions were calculated under s. NR 422.04 (4), when considering the control device;

7. Control device monitoring data;

8. A log of operating time for the capture system, control device, monitoring equipment and the associated coating or printing line or operation; and

9. A maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

(f) Any owner or operator of a surface coating or printing facility that is subject to one or more emission limitations in ss. NR 422.05 to 422.15, and that is achieving compliance with the applicable emission limitation or limitations by internal offsets as allowed under s. NR 425.05 shall, in addition to the applicable information required under pars. (a) to (d), collect and record the following information for each day of operation for each coating or ink involved in the internal offset:

1. The amount of coating material or ink in gallons, delivered to the applicator;

2. The volume fraction of solids in the coating or ink, delivered to the applicator;

3. The density of the VOC used in the coating or ink in pounds per gallon, delivered to the applicator.

(g) Any owner or operator of a surface coating or printing line that is subject to an emission limitation in ss. NR 422.05 to 422.155, and that is achieving compliance with the applicable emission limitation by in-line averaging as allowed under s. NR 422.04 (1) shall, in addition to the information required under pars. (a) and (d), collect and record the following information for each day of operation for each coating or printing line:

1. When achieving compliance under s. NR 422.04 (1) (a):

a. The name or identification number of each coating applied on each coating line.

b. The volume of each coating applied in gallons, excluding water.

c. The daily volume-weighted average VOC content of all coatings applied on each coating line as defined in s. NR 422.04 (1) (a).

2. When achieving compliance under s. NR 422.04 (1) (b) 1:
 - a. The name or identification number of each ink applied on each printing line.
 - b. The volume of each ink applied in gallons.
 - c. The daily volume-weighted average VOC content of all inks applied on each printing line as defined in s. NR 422.04 (1) (b) 1.
3. When achieving compliance under s. NR 422.04 (1) (b) 2:
 - a. The name or identification number of each ink applied on each printing line.
 - b. The volume of each ink applied in gallons, excluding water.
 - c. The daily volume-weighted average VOC content of all inks applied on each printing line as defined in s. NR 422.04 (1) (b) 2.

History: Renum. from NR 154.06 (3), and am. Register, September, 1986, No. 369, eff. 10-1-86; renum. from NR 439.03 and am. Register, September, 1987, No. 381, eff. 10-1-87; am. (2), cr. (3), Register, February, 1990, No. 410, eff. 3-1-90; am. (1) (a), Register, May, 1992, No. 437, eff. 6-1-92; am. (1) (a) and (2), r. and recr. (3), cr. (4) and (5), Register, December, 1993, No. 456, eff. 1-1-94; am. (4) (intro.) and (5) (a), Register, June, 1994, No. 462, eff. 7-1-94.

NR 439.05 Access to records; inspections. (1) No person may deny information or access to records relating to emissions or any other records required to be kept to an authorized representative of the department.

(2) No person may deny entry or access at any reasonable time to an authorized representative of the department for the purposes of inspection of facilities, equipment, including monitoring and air pollution control equipment, practices or operations regulated or required by the department, or at any time when an air pollution episode condition exists or is believed imminent. No person may obstruct, hamper or interfere with any inspection. The department, if requested, shall furnish to the owner or operator of the premises a report setting forth all facts found which relate to compliance status.

(3) The department may, for the purpose of determining a source's compliance with applicable requirements, sample or monitor at reasonable times production materials or other substances or operational parameters.

History: Renum. from NR 154.06 (4) and am. Register, September, 1986, No. 369, eff. 10-1-86; renum. from NR 439.04 and am. Register, September, 1987, No. 381, eff. 10-1-87; renum. to be (1), (2) renum. from NR 439.09 and am., Register, May, 1992, No. 437, eff. 6-1-92; am. (1) and (2), cr. (3), Register, December, 1993, No. 456, eff. 1-1-94.

NR 439.055 Methods and procedures for determining compliance using instrumentation of air pollution control equipment and source processes. (1) The department may require the owner or operator of a source to install and operate instrumentation to monitor the operation of the source or of air pollution control equipment. Unless otherwise specified by the department, for the following types of air pollution control equipment, the indicated operational variables shall, at a minimum, be monitored:

- (a) Baghouses - pressure drop across the baghouse in inches of water.
- (b) Mechanical collectors - pressure drop across the collector in inches of water.

- (b) Sample calculations employing all formulas used to calculate the results.
- (c) The field and laboratory data for each repetition of the test.
- (d) Calibration data for the components of the sampling train used.
- (e) The results of quality assurance audit sample analyses required in the reference method.
- (f) The report of any visible emission evaluations performed by the department.
- (g) The report of any fuel analysis performed on the fuel burned during the test.

History: Cr. Register, September, 1987, No. 381, eff. 10-1-87; am. (1) (c) 1., (i) 12. and 13., (2) (a) 5. and 6., Register, February, 1990, No. 419, eff. 3-1-90; am. (intro.), renum. (1) (a) to (g), (2) and (3) to be (1) to (10), NR 439.08 and 439.09 and am. (1), (8) (a), (b), (g), (m), (9) (a) and (10) (b), Register, May, 1992, No. 487, eff. 6-1-92; am. (1), (8) (g), (i) and (n), Register, December, 1993, No. 456, eff. 1-1-94.

NR 439.075 Periodic compliance emission testing requirements. (1) APPLICABILITY AND GENERAL REQUIREMENTS. (a) The owner or operator of a direct stationary source specified in sub. (2) which has been issued an air pollution control permit under s. 144.391, Stats., shall comply with the compliance emission testing requirements of this section.

(b) Nothing in this section may be construed as preventing the department from requiring the performance of additional compliance emission tests on the affected sources or requiring tests for pollutants and sources other than those specified in this section.

(c) All compliance emission tests under this section shall be performed according to s. NR 439.07 and chs. NR 445 to 449.

(2) AFFECTED EMISSION POINTS AND AIR CONTAMINANTS REQUIRING TESTING. (a) Except as provided in sub. (4), the owner or operator of a source identified in this paragraph, with an emission point that has allowable emissions of particulate matter, sulfur dioxide or organic compounds of 100 tons or more per year or allowable emissions of total reduced sulfur of 25 tons or more per year, shall perform compliance emission testing according to the testing schedules in sub. (3).

1. Compliance emission testing for particulate matter is required for an emission point subject to a particulate emission limitation under ch. NR 405 or in s. NR 415.04 (2) (b) 2 or (c) 1, 415.05, 415.06, 415.07 or 415.08 (3) or (6).

2. Compliance emission testing for sulfur dioxide is required for an emission point subject to a sulfur dioxide emission limitation under ch. NR 405 or in s. NR 417.07 (2), (3), (4) or (5), 418.025, 418.03 or 418.04 or to a more restrictive emission limit as described in s. NR 417.07 (1) (b).

3. Compliance emission testing for total reduced sulfur is required for an emission point subject to an emission limitation in s. NR 417.06.

4. Compliance emission testing for organic compounds is required for an emission point subject to an emission limitation in s. NR 421.03, 421.04, 422.05 to 422.08, 422.09 to 422.155, 423.05 or 424.03 to 424.05 which uses a control device to achieve compliance with the applicable

requirements. This test shall include a determination of the overall control efficiency of the control device on the affected emission point.

(b) The owner or operator of a source, subject to the requirements of ch. NR 427 or chs. NR 445 to 449, shall perform compliance emission testing for lead, mercury, beryllium or vinyl chloride according to the testing schedules in sub. (3).

1. Compliance emission testing for mercury is required for an emission point identified in s. NR 446.04 (1), (2) or (3).

2. Compliance emission testing for beryllium is required for an emission point identified in s. NR 448.03 (1).

3. Compliance emission testing for vinyl chloride is required for an emission point identified in s. NR 449.04, 449.05 or 449.06 (1), (2), (3) or (4) and for any control system to which reactor emissions are required to be ducted in s. NR 449.06 (1) (b) or (5) (a) or (b) or to which fugitive emissions are required to be ducted in s. NR 449.07 (2) (a), (b), (c), (e), (f) or (i).

4. Compliance emission testing for lead is required for an emission point with allowable emissions of one ton per year or more that is subject to an emission limitation in s. NR 427.03.

(c) Except as provided in sub. (4), the owner or operator of a source identified in this paragraph which is subject to the requirements of ch. NR 440 shall perform compliance emission testing for the following air contaminants according to the testing schedules in sub. (3).

1. Compliance emission testing for particulate matter is required for the following:

a. Fossil fuel fired steam generators subject to s. NR 440.19 or 440.20.

b. Incinerators subject to s. NR 440.21.

c. Kilns at Portland cement plants subject to s. NR 440.22.

d. Dryers at asphalt concrete plants subject to s. NR 440.25 with a rated capacity of 250 tons per hour or more at 5% moisture removal.

e. Fluid catalytic cracking unit catalyst regenerators and fuel gas combustion devices at petroleum refineries subject to s. NR 440.26.

f. Pot, cupola and reverberatory furnaces at secondary lead smelters subject to s. NR 440.29.

g. Cupola, electric arc and reverberatory furnaces at secondary brass and bronze ingot production plants subject to s. NR 440.30.

h. Basic oxygen process furnaces at iron and steel plants subject to s. NR 440.31.

i. Incinerators at sewage treatment plants subject to s. NR 440.32.

j. Dryers at primary copper smelters subject to s. NR 440.33.

k. Sintering machines at primary zinc smelters subject to s. NR 440.34.

l. Blast furnaces, dross reverberatory furnaces and sintering machines at primary lead smelters subject to s. NR 440.35.

m. Thermal dryers and pneumatic coal cleaning equipment at coal preparation plants subject to s. NR 440.42.

n. Electric arc furnaces and dust handling equipment at ferroalloy production facilities subject to s. NR 440.43.

o. Electric arc furnaces at steel plants subject to s. NR 440.44.

p. Electric arc furnaces and argon-oxygen decarburization vessels at steel plants subject to s. NR 440.445.

q. Recovery furnaces, smelt dissolving tanks and lime kilns at kraft pulp mills subject to s. NR 440.45.

r. Melting furnaces at glass manufacturing plants subject to s. NR 440.46.

s. Kilns at lime manufacturing plants subject to s. NR 440.51.

t. Control devices at metallic mineral processing plants with sources subject to the requirements of s. NR 440.525.

u. Dryers, calciners and grinders at phosphate rock plants subject to s. NR 440.54.

v. Ammonium sulfate dryers at ammonium sulfate manufacturing plants subject to s. NR 440.55.

w. Saturators and blowing stills at asphalt processing and asphalt roofing manufacturing plants subject to s. NR 440.59.

x. Rotary spun wool fiberglass insulation manufacturing lines at wool fiberglass insulation plants subject to s. NR 440.69.

2. Compliance emission testing for sulfur dioxide is required for fossil fuel fired steam generators subject to s. NR 440.19 or 440.20.

3. Compliance emission testing for volatile organic compounds, including a determination of the overall control efficiency of any control device, is required for the following:

a. Control devices at facilities subject to the surface coating of metal furniture requirements in s. NR 440.48.

b. Control devices at facilities subject to the automobile and light-duty truck surface coating requirements in s. NR 440.53.

c. Control devices at facilities subject to the graphic arts industry requirements in s. NR 440.56.

d. Control devices at facilities subject to the pressure sensitive tape and label surface coating requirements of s. NR 440.565.

e. Control devices at facilities subject to the large appliance surface coating requirements in s. NR 440.57.

f. Control devices at facilities subject to the metal coil surface coating requirements in s. NR 440.58.

g. Control devices at facilities subject to the beverage can surface coating requirements of s. NR 440.63.

h. Control devices at bulk gasoline terminals subject to the requirements in s. NR 440.64.

i. Control devices at facilities subject to the flexible vinyl and urethane coating and printing requirements of s. NR 440.65.

j. Control devices at synthetic organic chemical manufacturing facilities subject to the requirements of s. NR 440.675 or 440.686.

k. Control devices at facilities subject to the magnetic tape coating requirements of s. NR 440.71.

l. Control devices at facilities subject to the polymeric coating of supporting substrate requirements of s. NR 440.74.

4. Compliance emission testing for lead is required for grid casting, paste mixing, 3-process operation, lead oxide, lead reclamation and other lead emitting sources at lead acid battery manufacturing plants subject to s. NR 440.52.

5. Compliance emission testing for nitrogen oxides is required for fossil fuel fired steam generators subject to s. NR 440.19 or 440.20.

6. Compliance emission testing for fluorides is required for the following:

a. Reactors, filters, evaporators and hot wells at wet process phosphoric acid plants subject to s. NR 440.37.

b. Evaporators, hot wells, acid sumps and cooling tanks at super phosphoric acid plants subject to s. NR 440.38.

c. Reactors, granulators, dryers, coolers, screens and mills at diammonium phosphate plants subject to s. NR 440.39.

d. Mixers, curing belts or dens, reactors, granulators, dryers, cookers, screens, mills and facilities which store run-of-pile material at triple superphosphate plants subject to s. NR 440.40.

e. Storage or curing piles, conveyors, elevators, screens and mills at granular triple superphosphate storage facilities subject to s. NR 440.41.

(3) TESTING SCHEDULES. (a) The owner or operator of a direct stationary source which has received a construction permit shall perform the compliance emission tests required under sub. (2) (a) during the initial operating period authorized by the permit.

(b) Unless otherwise required by statute, rule or permit condition, the owner or operator of a direct stationary source which has received an operation permit shall perform the compliance emission tests required under sub. (2) every 24 months as long as the permit remains valid. Each biennial test shall be performed within 90 days of the anniversary date of the issuance of the permit or within 90 days of an alternate date specified by the department.

(c) The owner or operator of a direct stationary source which has received an elective operation permit under s. 144.391 (2) (b), Stats., shall perform the compliance emission tests required under sub. (2) every 24

months as long as the permit remains valid. Each biennial test shall be performed within 90 days of the anniversary date of the issuance of the permit or within 90 days of an alternate date specified by the department.

(4) **EXCEPTIONS TO COMPLIANCE EMISSION TESTING REQUIREMENTS.** (a) The following exceptions apply to the testing required under sub. (2) (a) or (c):

1. The department may grant a written waiver of a scheduled test if:

a. The direct stationary source associated with the emission point subject to the testing requirement will be ceasing operation within one year of a scheduled test; or

b. The most recently completed test results from a test conducted according to the methods and procedures specified in s. NR 439.07 for the direct stationary source demonstrate that the emissions of the air contaminant for which compliance emission testing is required under this section are 50% or less of the applicable emission limitation; or

c. The direct stationary source associated with the emission point subject to the testing requirement has not operated more than 360 hours in the previous 12 month period prior to the scheduled test date; or

d. The most recently completed test, conducted according to the methods and procedures specified in s. NR 439.07, was conducted less than 12 months prior to the date that testing would be required under par. (b).

2. No periodic compliance emission test is required under this section for any affected emission point equipped with a continuous emission monitor for the air contaminants requiring testing if the monitor meets the performance specification requirements of s. NR 439.09.

3. No periodic compliance emission test is required under this section for any affected emission point of a fuel burning installation that only fires natural gas, propane or distillate fuel oil or any combination of these fuels.

(b) All requests for waivers under par. (a) shall be submitted in writing for department review and approval at least 60 days prior to the required test date.

History: Cr. Register, September, 1987, No. 381, eff. 10-1-87; am. (1) (b) 1. d., Register, April, 1988, No. 388, eff. 5-1-88; am. (1) (d) 1. d., Register, August, 1989, No. 404, eff. 9-1-89; renum. from NR 439.12 and am. (1) (b) 3. f. and (d) 1. b., Register, February, 1990, No. 410, eff. 3-1-90; renum. (1) (b) 3. a. 16) and 17) to be 17) and 16), am. (1) (b) 3. a. 23) and c. 6), Register, July, 1990, No. 415, eff. 8-1-90; renum. (1) (a) to (d), (2) and (3) to be (1) to (4), NR 439.085 and NR 439.095 and am., Register, May, 1992, No. 437, eff. 6-1-92; renum. (2) (c) 1. t. to w. and 3. d. to f. to be (2) (c) 1. u., v., w. and t., and 3. e., f. and d., cr. (2) (c) 3. j., k. and l., Register, May, 1993, No. 449, eff. 6-1-93; am. (3) (a) to (c), (4) (a) 1. c., cr. (4) (a) 1. d., Register, December, 1993, No. 456, eff. 1-1-94; am. (2) (a) 4., Register, June, 1994, No. 462, eff. 7-1-94.

NR 439.08 Methods and procedures for periodic fuel sampling and analysis. The owner or operator of a source required to conduct fuel sampling and analysis under s. NR 439.085 shall use the methods and procedures listed in this section to obtain fuel samples and perform analyses for certain properties and constituents. Alternative methods may be used if approved, in writing, by the department.

(1) **SAMPLING AND ANALYSIS OF COAL.** (a) *Coal sampling.* Coal sampling shall be performed according to ASTM D2234-89, Collection of a Gross Sample of Coal, incorporated by reference in ch. NR 484.

(b) *Preparing coal for analysis.* Preparation of a coal sample for analysis shall be performed according to ASTM D2013-86, Preparing Coal Samples for Analysis, incorporated by reference in ch. NR 484.

(c) *Sulfur content in coal.* The sulfur content of a coal sample shall be determined according to ASTM D3177-89, Total Sulfur in the Analysis Sample of Coal and Coke, or ASTM D4239-85, Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, incorporated by reference in ch. NR 484.

(d) *Heat content in coal.* The heat content of a coal sample shall be determined according to ASTM D2015-85, Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, incorporated by reference in ch. NR 484.

(e) *Ash content in coal.* The ash content of a coal sample shall be determined according to ASTM D3174-89, Standard Test Method for Ash in the Analysis Sample of Coal and Coke, incorporated by reference in ch. NR 484.

(f) *Moisture content in coal.* The moisture content of a coal sample shall be determined according to ASTM D3173-87, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, incorporated by reference in ch. NR 484.

(g) *Ultimate analysis of coal.* The ultimate analysis of a coal sample shall be determined according to ASTM D3176-89, Ultimate Analysis of Coal and Coke, incorporated by reference in ch. NR 484.

(h) *Coal audit samples.* The owner or operator of a source shall be required to participate at least once every 6 months in an interlaboratory coal audit program acceptable to the department. The results of the audit shall be reported to the department in the quarterly report on coal quality required under s. NR 439.085 (2) following receipt of the results from the audit program. The results shall comply with quality control and quality assurance procedures submitted by the owner or operator of the source and approved by the department.

(2) **SAMPLING AND ANALYSIS OF LIQUID FOSSIL FUEL.** (a) *Liquid fossil fuel sampling.* Liquid fossil fuel sampling shall be performed according to ASTM D4057-88, Standard Practice for Manual Sampling of Petroleum and Petroleum Products or ASTM D4177-82, Standard Method for Automatic Sampling of Petroleum and Petroleum Products, incorporated by reference in ch. NR 484.

(b) *Sulfur content in liquid fossil fuel.* The sulfur content of a liquid fossil fuel sample shall be determined according to ASTM D129-64 (1978), Sulfur in Petroleum Products (General Bomb Method), ASTM D1552-83, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method) or ASTM D4294-83, Sulfur in Petroleum Products by Nondispersive X-ray Fluorescence Spectrometer, incorporated by reference in ch. NR 484.

(c) *Heat content in liquid fossil fuel.* The heat content of a liquid fossil fuel sample shall be determined according to ASTM D240-87, Heat of

Combustion of Liquid Hydrocarbon Fuels by a Bomb Calorimeter, incorporated by reference in ch. NR 484.

(3) **SAMPLING AND ANALYSIS OF FUELS OTHER THAN COAL AND LIQUID FOSSIL FUEL.** The owner or operator of a source required by the department to sample and analyze fuel other than coal and liquid fossil fuel shall use methods and procedures approved, in writing, by the department.

History: Renum. from NR 439.07 (2) and am., Register, May, 1992, No. 437, eff. 6-1-92; am. (2) (b), Register, May, 1993, No. 449, eff. 6-1-93.

NR 439.085 Periodic fuel sampling and analysis requirements. (1) **GENERAL APPLICABILITY.** Effective April 1, 1989, the requirements of this section apply to all owners or operators of sources described in this section, with the following exceptions:

(a) Sources affected by the RACT sulfur limitations in s. NR 418.04, 418.05, 418.06, 418.07 or 418.08.

(b) Sources with approved RACT variances under s. NR 436.05 affected by the sulfur limitations in s. NR 418.025 or 418.03.

(c) Sources which have installed a sulfur dioxide continuous emission monitor that meets the performance specification requirements of s. NR 439.09.

(2) **REQUIREMENTS FOR COAL BURNING INSTALLATIONS.** (a) The owner or operator of a coal burning installation which has a coal burning rate equal to or greater than 250,000 tons per year shall sample coal and submit reports on coal quality in the following manner:

1. Perform coal sampling, using the procedures in ASTM D2234-89, incorporated by reference in ch. NR 484, which result in data at least as reliable as classification I-B-1, defined in ASTM D2234-89 as automatic sampling — full stream cut — systematic spacing, and analyze these samples for ash content, sulfur content and heat content according to the applicable methods and procedures in s. NR 439.08 (1).

2. Submit quarterly reports within 30 days following the end of each calendar quarter which include the following information for each day during the calendar quarter:

a. The total quantity of coal burned expressed in tons.

b. Average percent of the ash content of the coal burned.

c. Average percent of the sulfur content of the coal burned.

d. Average heat content expressed in Btu per pound of the coal burned.

e. Average sulfur dioxide emission rate in terms of pounds of sulfur dioxide per million Btu heat input from the coal burned.

(b) The owner or operator of a coal burning installation which has a coal burning rate equal to or greater than 100,000 tons per year but less than 250,000 tons per year shall sample coal and submit reports on coal quality in the following manner:

1. Perform coal sampling using the procedures in ASTM D2234-89, which result in data at least as reliable as classification I-C-2, defined in ASTM D2234-89 as automatic sampling — part stream cut — random

spacing, and analyze these samples for ash content, sulfur content and heat content according to the applicable methods and procedures in s. NR 439.08 (1).

2. Submit quarterly reports within 30 days following the end of each calendar quarter which include the following information for each week during the calendar quarter:

- a. The total quantity of coal burned expressed in tons.
- b. Weighted average percent of the ash content of the coal burned.
- c. Weighted average percent of the sulfur content of the coal burned.
- d. Weighted average heat content expressed in Btu per pound of the coal burned.
- e. Weighted average sulfur dioxide emission rate in terms of pounds of sulfur dioxide per million Btu heat input from the coal burned.

(c) The owner or operator of a coal burning installation which has a coal burning rate equal to or greater than 10,000 tons per year but less than 100,000 tons per year shall sample coal and submit reports on coal quality in the following manner:

1. Perform coal sampling using the procedures in ASTM D2234-89, which result in data at least as reliable as classification II-D-2, defined in ASTM D2234-89 as manual sampling — stationary coal sampling — random spacing, and analyze these samples for ash content, sulfur content and heat content according to the applicable methods and procedures in s. NR 439.08 (1).

2. Submit quarterly reports within 30 days following the end of each calendar quarter which include the following information for each month during the calendar quarter:

- a. The total quantity of coal burned expressed in tons.
- b. Weighted average percent of the ash content of the coal burned.
- c. Weighted average percent of the sulfur content of the coal burned.
- d. Weighted average heat content expressed in Btu per pound of the coal burned.
- e. Weighted average sulfur dioxide emission rate in terms of pounds of sulfur dioxide per million Btu heat input from the coal burned.

(d) The owner or operator of a coal burning installation which has a coal burning rate equal to or greater than 1,000 tons per year but less than 10,000 tons per year shall submit, on a quarterly basis, information on coal quality which is calculated from the supplier's analyses for each shipment of coal received at the installation. Each quarterly report is due within 30 days following the end of the calendar quarter. The owner or operator shall obtain certification from the supplier that the applicable methods and procedures in s. NR 439.08 (1) were followed by the supplier. The report shall include the following information for each calendar quarter:

1. The total quantity of coal burned expressed in tons.
2. Weighted average percent of the ash content of the coal burned.

3. Weighted average percent of the sulfur content of the coal burned.
4. Weighted average heat content expressed in Btu per pound of the coal burned.
5. Weighted average sulfur dioxide emission rate in terms of pounds of sulfur dioxide per million Btu heat input from the coal burned.

(e) The owner or operator of a coal burning installation which has a coal burning rate less than 1,000 tons per year shall retain copies of the supplier's analyses at the installation for each shipment of coal received. The owner or operator shall obtain certification from the supplier that the applicable methods and procedures in s. NR 439.08 (1) were followed. The supplier's analyses shall include, at a minimum, each shipment's coal quantity, sulfur content, ash content and heat content.

(3) REQUIREMENTS FOR RESIDUAL FUEL OIL BURNING INSTALLATIONS.

(a) The owner or operator of a residual fuel oil burning installation which has a residual fuel oil burning rate equal to or greater than 1.5 million gallons per year shall sample residual fuel oil and submit reports on residual fuel oil quality in the following manner:

1. Perform liquid fossil fuel sampling for each storage tank of residual fuel oil and analyze these samples for sulfur content and heat content according to the applicable methods and procedures for sampling and analysis in s. NR 439.08 (2).

2. Submit quarterly reports within 30 days following the end of each calendar quarter which include the following information for each month during the calendar quarter:

- a. Total quantity of residual fuel oil burned expressed in thousands of gallons.

- b. Weighted average percent of the sulfur content of the residual fuel oil burned.

- c. Weighted average heat content expressed in Btu per gallon of residual fuel oil burned.

- d. Weighted average sulfur dioxide emission rate in terms of pounds of sulfur dioxide per million Btu heat input from the residual fuel oil burned.

(b) The owner or operator of a residual fuel oil burning installation which has a residual fuel oil burning rate equal to or greater than 150,000 gallons per year but less than 1.5 million gallons per year shall submit, on a quarterly basis, information on residual fuel oil quality which is calculated from the supplier's analyses for each shipment of residual fuel oil received at the installation. Each quarterly report is due within 30 days following the end of the calendar quarter. The owner or operator of the installation shall obtain certification from the supplier that the applicable methods and procedures in s. NR 439.08 (2) were followed by the supplier. The report shall include the following information for each calendar quarter:

1. Total quantity of residual fuel oil burned expressed in thousands of gallons.

2. Weighted average percent of the sulfur content of the residual fuel oil burned.

3. Weighted average heat content expressed in Btu per gallon of residual fuel oil burned.

4. Weighted average sulfur dioxide emission rate in terms of pounds of sulfur dioxide per million Btu heat input from the residual fuel oil burned.

(c) The owner or operator of a residual fuel oil burning installation which has a residual fuel oil burning rate less than 150,000 gallons per year shall retain copies of the supplier's analyses at the installation for each shipment of residual fuel oil received. The owner or operator shall obtain certification from the supplier that the applicable methods and procedures in s. NR 439.08 (2) were followed. The supplier's analyses shall include, at a minimum, each shipment's residual fuel oil quantity, sulfur content and heat content.

(4) **REQUIREMENTS FOR INSTALLATIONS BURNING FUELS OTHER THAN COAL OR RESIDUAL FUEL OIL.** The owner or operator of an installation subject to reporting requirements under s. NR 439.03 which burns fuel other than coal or residual fuel oil may be required to sample and analyze the fuel used in a manner specified by the department.

History: Renum. from NR 439.075 (2) and am., cr. (4), Register, May, 1992, No. 437, eff. 6-1-92.

NR 439.09 Methods and procedures for continuous emission monitoring. The owner or operator of a source required to conduct continuous emission monitoring under s. NR 439.095 shall use the methods and procedures listed in this section to install, calibrate, maintain and operate a continuous emissions monitoring system, or other methods and procedures approved, in writing, by the department:

(1) Continuous emissions monitoring systems for measuring opacity shall comply with all the provisions and requirements in Performance Specification 1 in 40 CFR part 60, Appendix B, incorporated by reference in ch. NR 484.

(2) Continuous emissions monitoring systems for measuring sulfur dioxide or nitrogen oxides shall comply with all the provisions and requirements in Performance Specification 2 in 40 CFR part 60, Appendix B, incorporated by reference in ch. NR 484.

(3) Continuous emissions monitoring systems for measuring oxygen or carbon dioxide shall comply with all the provisions and requirements in Performance Specification 3 in 40 CFR part 60, Appendix B, incorporated by reference in ch. NR 484.

(4) Continuous emissions monitoring systems for measuring carbon monoxide shall comply with all the provisions and requirements in Performance Specification 4 in 40 CFR part 60, Appendix B, incorporated by reference in ch. NR 484.

(5) Continuous emissions monitoring systems for measuring total reduced sulfur shall comply with all the provisions and requirements in Performance Specification 5 in 40 CFR part 60, Appendix B, incorporated by reference in ch. NR 484.

(6) Continuous emission rate monitoring systems shall comply with all the provisions and requirements in Performance Specification 6 in 40 CFR part 60, Appendix B, incorporated by reference in ch. NR 484.

(7) Continuous emissions monitoring systems for measuring hydrogen sulfide shall comply with all the provisions and requirements in Performance Specification 7 in 40 CFR part 60, Appendix B, incorporated by reference in ch. NR 484.

(7m) Continuous emissions monitoring systems for measuring VOCs shall comply with all the provisions and requirements in the department's approval issued under s. NR 439.095 (1).

(8) The owner or operator of a continuous emissions monitoring system shall comply with the quality control and quality assurance plan submitted by the owner or operator of the source and approved by the department.

(9) Continuous emissions monitoring systems shall meet the following minimum frequency of operation requirements:

(a) Opacity monitors shall complete one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(b) Sulfur dioxide, nitrogen oxides, oxygen, carbon dioxide, carbon monoxide, hydrogen sulfide, total reduced sulfur and VOC monitors shall complete one cycle of sampling, analyzing and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes.

(10) The owner or operator of a continuous emissions monitoring system shall submit quarterly excess emission reports to the department within 30 days following the end of each calendar quarter in accordance with pars. (a) to (d). The owner or operator shall submit either a full excess emission report under par. (a) or a summary excess emission report under par. (d), as specified in writing by the department.

(a) The full excess emission reports required under this subsection shall contain the following information:

1. The date and starting and ending times or duration of each period of excess emissions and the magnitude of the emissions.

2. The periods of excess emissions that occur during startups, shutdowns, sootblowing, control equipment malfunction, process malfunction, fuel problems, other known causes or for unknown causes. The report shall identify the cause of any malfunction and the measures taken to reduce excess emissions.

3. The date and starting and ending time of any period during which the monitoring system was inoperative for any reason or causes, including monitor malfunction or calibration, except for zero and span checks. The report shall identify the repairs or adjustments made to the system.

4. The date and starting and ending time of any period during which the process being monitored was inoperative.

5. When no period of excess emissions occurred during the quarter and the monitoring system had no period of downtime, an excess emissions report shall be filed stating such information.

(b) Unless otherwise specified by the department, in the reports required under this subsection, periods of excess emissions shall be reported as follows:

1. For opacity, any 6-minute period during which the average opacity exceeds the applicable emission limit.

2. For sulfur dioxide, any 24-hour rolling average during which the average sulfur dioxide emissions exceed the applicable emission limitation.

3. For nitrogen oxides, any 24-hour rolling average during which the average nitrogen oxides emissions exceed the applicable emission limitation.

4. For carbon monoxide, any one-hour period during which the average carbon monoxide emissions exceed the applicable emission limitation.

5. For total reduced sulfur, any 24-hour rolling average during which the average total reduced sulfur emissions exceed the applicable emission limitation.

(c) For purposes of reporting exceedances on the basis of a 24-hour rolling average under this subsection, any hourly average may be included in only one 24-hour period. An exceedance shall be based on at least 18 and not more than 24 valid recordings of hourly average emission rates in any 24 hour period.

(d) The summary excess emission report shall be submitted on a form provided by the department or in a format approved by the department.

History: Renum. from NR 439.07 (3) and am., cr. (8) (intro.), Register, May, 1992, No. 437, eff. 6-1-92; r. and recr. (6) to (8), cr. (9) and (10), Register, December, 1993, No. 456, eff. 1-1-94; cr. (7m), am. (9) (b), Register, June, 1994, No. 462, eff. 7-1-94.

NR 439.095 Continuous emission monitoring requirements. (1) APPLICABILITY AND GENERAL REQUIREMENTS. Except as provided in sub. (2), the owner or operator of a direct stationary source listed in this subsection shall install, calibrate, operate and maintain all monitoring equipment necessary for continuously monitoring the pollutants specified in this subsection for the applicable source. The type of monitoring equipment used and the manner and location of its installation are subject to prior department approval. The sources and their respective monitoring requirements are:

(a) Fossil fuel fired steam generators identified in sub. (5) shall be monitored for opacity, nitrogen oxide emissions, sulfur dioxide emissions, and oxygen or carbon dioxide.

(b) Fluid bed catalytic cracking unit catalyst regenerators identified in sub. (5) shall be monitored for opacity.

(c) Sulfuric acid plants identified in sub. (5) shall be monitored for sulfur dioxide emissions.

(d) Nitric acid plants identified in sub. (5) shall be monitored for nitrogen oxide emissions.

(e) Yeast manufacturing fermenters identified in sub. (5) shall be monitored for VOCs.

(2) EXEMPTIONS. The department may grant an exemption from any monitoring requirement of this section for any source which is:

(a) Subject to a continuous emission monitoring requirement under a new source performance standard in ch. NR 440; or

(b) Scheduled for retirement prior to October 1, 1992 if the source demonstrates, to the satisfaction of the department, that the source will cease operations prior to the scheduled retirement date.

(3) INSTALLATION DEADLINES. The owner or operator of a source which is required under sub. (1) to install continuous monitoring equipment shall complete the installation and performance tests of the equipment and begin monitoring and recording not later than April 1, 1989, except as provided in pars. (a) and (b). The department may grant requests for extensions of the time provided for installation of monitors for facilities unable to meet the prescribed time frame if the owner or operator of the facility demonstrates that good faith efforts have been made to obtain and install the devices within the prescribed time frame.

(a) For new sources, monitoring and recording shall begin upon startup.

(b) For boilers connected to a single stack which have individual coal burning rates of less than 25,000 tons per year but which have a combined coal burning rate of 25,000 tons or more per year, monitoring and recording shall begin not later than January 1, 1993.

(4) MONITORING SYSTEM MALFUNCTION. The department may grant a temporary exemption from the monitoring and reporting requirements of this section during any period of monitoring system malfunction if the source owner or operator shows, to the satisfaction of the department, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

(5) MINIMUM MONITORING REQUIREMENT. The owner or operator of a source listed in this subsection shall, as a minimum, meet the monitoring requirements of this subsection and sub. (1).

(a) *Fossil fuel fired steam generating facilities.* The owner or operator of fossil fuel fired steam generating facilities subject to sub. (1) shall comply with the monitoring requirements in this paragraph.

1. Opacity. The owner or operator of any steam generating facility which has a total heat input capacity equal to or greater than 250 million Btu per hour shall install, calibrate, maintain and operate a continuous monitoring system which meets the performance specifications of sub. (6) for the measurement of opacity from each stack serving a coal fired boiler or boilers with a combined coal burning rate of 25,000 tons or more per year, unless the source utilizes an alternative method of compliance determination approved, in writing, by the department.

2. Sulfur dioxide. The owner or operator of any steam generating facility shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of sulfur dioxide which meets the performance specifications of sub. (6) if:

a. The facility total heat input capacity is equal to or greater than 250 million Btu per hour and the facility has a control system which reduces sulfur dioxide emissions by more than 5% of the uncontrolled sulfur dioxide rate; or

b. The coal burning rate of all boilers at the facility which emit to a stack without a sulfur dioxide control system is equal to or greater than 100,000 tons of coal per year, unless the source utilizes an alternative method of compliance determination approved, in writing, by the department which meets the requirements of s. NR 439.085.

3. Nitrogen oxides. The owner or operator of a fossil fuel fired steam generator with a capacity greater than 1000 million Btu per hour heat input which is located in a nonattainment area for nitrogen oxides shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of the source's nitrogen oxides emissions which meets the performance specifications of sub. (6), unless the source owner or operator demonstrates by a compliance emission test that the source emits nitrogen oxides at levels 30% or more below the applicable emission limit.

4. Oxygen or carbon dioxide. The owner or operator of a fossil fuel fired steam generator where measurement of oxygen or carbon dioxide in the flue gas is required to convert either sulfur dioxide or nitrogen oxides continuous emission monitoring data, or both, to units of the applicable emission limitation shall install, calibrate, operate and maintain a continuous monitoring system for the measurement of percent oxygen or carbon dioxide which meets the performance specifications of sub. (6).

(b) *Nitric acid plants.* The owner or operator of a nitric acid plant of greater than 300 tons per day production capacity, expressed as 100% acid, which is located in a nonattainment area for nitrogen oxides shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of nitrogen oxides which meets the performance specifications of sub. (6) for each nitric acid producing unit within the plant.

(c) *Sulfuric acid plants.* The owner or operator of a sulfuric acid plant of greater than 300 tons per day production capacity, expressed as 100% acid, shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of sulfur dioxide which meets the performance specifications of sub. (6) for each sulfuric acid producing unit within the plant.

(d) *Fluid bed catalytic cracking unit catalyst regenerators at petroleum refineries.* The owner or operator of a catalyst regenerator for fluid bed catalytic cracking units of greater than 20,000 barrels per day fresh feed capacity shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of opacity which meets the performance specifications of sub. (6).

(e) *Yeast manufacturing plants.* The owner or operator of any yeast manufacturing facility subject to s. NR 424.05 shall install, calibrate, maintain and operate a continuous monitoring system for the measure-

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ment of VOCs which meets the performance specifications of the department's approval issued under sub. (1) for each fermenter which does not use add-on control equipment to meet the emission limitations of s. NR 424.05 (2) (a).

(6) **PERFORMANCE SPECIFICATION.** The owner or operator of monitoring equipment installed to comply with this section shall install, calibrate, maintain and operate the continuous emission monitor in accordance with the performance specifications in 40 CFR part 60, Appendix B, incorporated by reference in ch. NR 484, and the requirements in s. NR 439.09.

History: Renum. from NR 439.075 (3) and am., Register, May, 1992, No. 437, eff. 6-1-92; cr. (1) (e) and (5) (e), Register, June, 1994, No. 462, eff. 7-1-94.

NR 439.10 Circumvention. No persons may cause, allow or permit the installation or use of any article, machine, equipment, process or method, which conceals an emission which would otherwise constitute a violation of an applicable rule unless written approval has been obtained from the department. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance and the unnecessary separation of an operation into parts to avoid coverage by a rule that applies only to operations larger than a specified size.

History: Renum. from NR 154.06 (8), Register, September, 1986, No. 369, eff. 10-1-86; renum. from NR 439.08 and am. Register, September, 1987, No. 381, eff. 10-1-87.

NR 439.11 Malfunction prevention and abatement plans. (1) The owner or operator of any direct or portable source which may emit hazardous substances or emits more than 15 pounds in any day or 3 pounds in any hour of any air contaminant for which emission limits have been adopted shall prepare a malfunction prevention and abatement plan to prevent, detect and correct malfunctions or equipment failures which may cause any applicable emission limitation to be violated or which may cause air pollution. The plan shall be in writing and updated at least every 5 years, and shall include:

(a) Identification of the individual responsible for inspecting, maintaining and repairing the air pollution control equipment.

(b) The maximum intervals for inspection and routine maintenance of the air pollution control equipment. The maximum interval for routine inspection and maintenance may not exceed that recommended by the manufacturer unless otherwise specified in a plan prepared under this section.

(c) A description of the items or conditions that will be checked.

(d) A listing of materials and spare parts that will be maintained in inventory.

(e) A description of the corrective procedures that will be taken in the event of a malfunction or failure, which results in the exceedance of the applicable emission limitation. These corrective procedures shall achieve and maintain compliance with the applicable emission limitations as expeditiously as possible but not longer than the time necessary to discontinue operation of the source consistent with safe operating procedures.

(f) A description of the activities and maximum intervals for routine maintenance and inspection of instrumentation installed and operated to

monitor the operation of air pollution control equipment as required under s. NR 439.055 (1). The maximum interval for inspection and routine maintenance may not exceed that recommended by the manufacturer of the instrumentation unless otherwise specified in a plan prepared under this section.

(g) The calibration schedule for any device which monitors either a source or air pollution control equipment operational variable. The time between calibrations may not exceed one year or as specified in a plan prepared under this section, whichever is shorter.

(h) Such other information as the department may deem pertinent.

(2) The department may order any owner or operator to submit the plan required by sub. (1) for review and approval. The department may amend the plan if deemed necessary for malfunction prevention or the reduction of excess emissions during malfunctions.

(3) No owner or operator may fail to carry out a plan required under sub. (1) or as amended under sub. (2).

(4) All air pollution control equipment shall be operated and maintained in conformance with good engineering practices to minimize the possibility for the exceedance of any emission limitations.

History: Renum. from NR 154.06 (9) and am. Register, September, 1986, No. 369, eff. 10-1-86; renum. from NR 439.09 and am. Register, September, 1987, No. 381, eff. 10-1-87; am. (1) (g), Register, May, 1992, No. 437, eff. 6-1-92; am. (1) (intro.) and (b), r. and recr. (1) (e) to (g), Register, December, 1993, No. 456, eff. 1-1-94.