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Chapter NR 439

REPORTING, RECORDKEEPING, TESTING, INSPECTION AND DETERMINATION OF COMPLIANCE REQUIREMENTS

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Note: Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, December, 1996, No. 492. Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, January, 2001, No. 541.

NR 439.01 Applicability; purpose. (1) APPLICABILITY. This chapter applies to all air contaminant sources and to their owners and operators. For sources subject to an emission standard under chs. NR 460 to 469 or under 40 CFR part 63, the requirements of ch. NR 460 apply in addition to the requirements of this chapter. In the case of any conflict between applicable provisions under chs. NR 460 to 469 and provisions of this chapter, the provisions under chs. NR 460 to 469 shall apply, this chapter not withstanding.

(2) PURPOSE. This chapter is adopted under ss. 285.11, 285.13, 285.17, 285.19, and 285.65, Stats., to establish general reporting, recordkeeping, testing, inspection and determination of compliance requirements for all air contaminant sources. Individual chapters of chs. NR 400 to 499, permits or orders may contain additional requirements.

History: Cr. Register, September, 1986, No. 369, eff. 10–1–86; correction in (2) made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1989, No. 404; am. Register, May, 1992, No. 437, eff. 6–1–92; am. (1), Register, March, 1997, No. 495, eff. 4–1–97; correction in (1) made under s. 13.93 (2m) (b) 7., Stats., Register August 2001 No. 548.

NR 439.02 Definitions. The definitions contained in chs. NR 400 and 407 apply to the terms used in this chapter. In addition, the following definitions apply to the terms used in this chapter:

(1) "Audit samples" means glass vials, gas cylinders or other materials which contain a known concentration of a pollutant that may be used for the purpose of quality assurance of certain laboratory analyses required for the determination of compliance.

(2) "Baghouse" means a control device in which dust–laden gases are forced through a fabric bag and particulates are retained by direct interception, inertial impaction, diffusion, electrostatic attraction or gravitational settling.

(3) "Compliance emission test" means a performance test required by the department or conducted in cooperation with the department involving the quantitative measurement of air contaminants as they are emitted from a source to determine compliance with an emission limitation.

(4) "Condensible particulate matter" means any material, except uncombined water, that may not be collected in the front half of the particulate emission sampling train but which exists as a solid or liquid at standard conditions.

(5) "Continuous monitoring system" means the total equipment used to sample, to analyze and to provide a permanent record of emissions or process parameters.

(6) "Emission sampling train" means the apparatus used to collect a representative sample in the performance of an emission test.

(8) "Mechanical collector" means a broad class of particulate control devices that separate solid particles from a gas stream by a combination of mechanical forces which include centrifugal, gravitational and inertial. Such devices may include settling chambers, cyclones and multicyclone collectors.

(9) "Monitoring device" means any instrument used to measure the operating parameters of a control device or process.

(11) "Sampling port" means an opening through the wall of a stack or duct that is used to provide access for extraction of a sample.

(12) "Sootblowing" means the cleaning of heat exchanger surfaces by the use of steam or air to dislodge accumulated material.

History: Cr. Register, September, 1986, No. 369, eff. 10–1–86; am. (intro.), cr. (1) to (12), Register, September, 1987, No. 381, eff. 10–1–87; am. (intro.), (3) and (8), r. (10), Register, May, 1992, No. 437, eff. 6–1–92; am. (intro.), Register, December, 1993, No. 456, eff. 1–1–94; r. (7), Register, November, 1999, No. 527, eff. 12–1–99.

NR 439.03 Reporting. (1) (a) When requested by the department, a person shall furnish to the department information to locate and classify air contaminant sources according to the type, level, duration, frequency and other characteristics of emissions and such other information as may be necessary. The information shall be sufficient to evaluate the source's effect on air quality and compliance with chs. NR 400 to 499.

(b) The responsible official for a source which has been issued an operation permit under s. 285.62, Stats., or an order under s. 285.13 (2), Stats., shall submit the results of monitoring required by the permit or order no less often than every 6 months, or more frequently if required by the department. In lieu of submission of all monitoring results, a summary of the monitoring results may be submitted to the department. The summary shall include sufficient data for the department to determine whether the source is in compliance with the applicable requirements to which the monitoring relates. The semiannual monitoring report may be consolidated with the quarterly excess emission report required under s. NR 439.09 when submission of both these reports is required. The department may reduce the frequency of submission of this semiannual monitoring report for non–part 70 sources. In addition to the reporting requirements under subs. (4) to (6), all deviations from and violations of applicable requirements shall be clearly identified in the monitoring reports.

(c) After an operation permit has been issued to a source by the department, the responsible official for the source shall annually, or more frequently if specified in an applicable requirement or in the permit, certify the source's compliance status with the operation permit in accordance with subs. (8) and (10). The methods used to determine compliance status under this paragraph shall be the same methods which are required under s. NR 407.09 (1) (c) 1.

(2) A person requested to submit information under sub. (1) may subsequently be required to submit annually, or at such other

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intervals as specified by the department, reports detailing any changes in the nature of the source since the previous report and the total quantities of the air contaminants emitted.

(3) When requested by the department, the owner or operator of a source shall submit to the department, within 60 days, a standard operating procedure which includes a detailed description of process and emission control equipment startup, operating and shutdown procedures designed to maintain compliance with emission limitations.

(4) (a) The owner or operator of a source shall report to the department the next business day following the onset, any malfunction or other unscheduled event at the source, not reported in advance to the department, which causes or may cause any emission limitation, including the visible emission limit, to be exceeded with the following exceptions:

1. Hazardous air spills that require immediate notice to the department under s. NR 445.16.

2. Exceedances of visible emission limitations detected by a continuous emission monitor which are less than 10% opacity above the opacity limit for a period not to exceed 30 minutes. These exceedances shall be reported in the quarterly excess emissions reports required under s. NR 439.09 (10).

(b) The person shall report the cause and duration of the exceedance, the period of time considered necessary for correction, and measures taken to minimize emissions during the period.

(c) The owner or operator of a source which has been issued an operation permit shall report to the department by the next business day any deviation from permit requirements, the probable cause of the deviation, and any corrective actions or preventive measures taken or which will be taken to prevent future deviations.

(5) The owner or operator of a source required to operate a continuous emission monitoring system or monitoring device shall notify the department of any shutdown, breakdown or malfunction of such device or system which is anticipated to continue in excess of one week. Notice shall occur at the next business day following the onset of the shutdown, breakdown or malfunction.

(6) The owner or operator of a source shall report to the department in advance schedules for planned shutdown and startup of air pollution control equipment and the measures to be taken to minimize the down time of the control equipment while the source is operating. Scheduled maintenance or any other scheduled event, including startup, shutdown or sootblowing procedures which have been approved by the department under s. NR 436.03 (2) (b), which causes an emission limitation to be exceeded shall also be reported in advance to the department. Advance reporting under this subsection does not relieve any person from the duty to comply with any applicable emission limitation.

(7) Any owner or operator of a coating or printing line achieving compliance by means of s. NR 422.04 (1) shall, upon startup of the line, or upon changing the method of compliance to s. NR 422.04 (1), notify the department. The notification shall contain:

(a) The name and location of the facility.

(b) The name or identification number of each coating or printing line which will comply by means of s. NR 422.04 (1).

(c) A description of the method by which the owner or operator will measure or calculate the volume of each coating or ink applied each day on each coating or printing line.

(d) An example of the format in which the records required under s. NR 439.04 (5) (g) will be kept.

(8) The responsible official required to certify the source's compliance status under sub. (1) (c) shall include in each certification the following information:

(a) Identification of each permit term or condition that is the basis of the compliance certification.

(b) The compliance status of the stationary source with respect to each term or condition identified in par. (a).

(c) Information on whether compliance was continuous or intermittent.

(d) The methods used for determining the compliance status of the stationary source, currently and over the previous 12 month period.

(e) Any other information the department may require, as specified in the operation permit, to determine the compliance status of the source.

(9) All certifications required to be submitted under sub. (1) (c) by a part 70 source shall be submitted to the administrator and the department.

(10) Each report required under this section shall be certified by a responsible official as to its truth, accuracy and completeness. This certification and any other certification required under this chapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

(11) All certifications made under this section and all material statements and representations made in any report or notice required by an operation permit shall be truthful.

(12) No one may render inaccurate any monitoring device or method required under this chapter or in a construction permit or an operation permit.

History: Renum. from NR 154.06 (2) and am. Register, September, 1986, No. 369, eff. 10–1–86; renum. from NR 439.025, r. (4) and (5), renum. and am. (1) to (3), (6) to (8), Register, September, 1987, No. 381, eff. 10–1–87; correction in (4) (a) 1. made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1989, No. 404; am. (4) (a) 2., Register, May, 1992, No. 437, eff. 6–1–92; renum. (1) to be (1) (a), cr. (1) (b) and (c), (4) (c) and (7) to (12), am. (4) (a) 2., Register, December, 1993, No. 456, eff. 1–1–94; correction in (1) (c) made under s. 13.93 (2m) (6) 7., Stats., Register, February, 1995, No. 470; am. (1) (b), (c), (2) and (8) (intro.), Register, December, 1997, No. 504, eff. 1–1–98; CR 02–097: am. (4) (a) 1. Register June 2004 No. 582, eff. 7–1–04.

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.

(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 s. NR 422.07,

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422.10, 422.11, 422.12, or 422.13, under s. NR 422.03, or of a facility whose VOC emissions are below an applicability threshold of any section of ch. NR 422, shall collect and record the following information as appropriate to support the exemption or the applicability determination:

(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, including cleaning operations if necessary, meeting the same applicability statement at the facility before the application of capture systems and control devices per day, or per month and per 12 consecutive month period, consistent with and depending on the units in the applicability statement.

(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.

(f) For each heatset web lithographic or letterpress printing press, the maximum theoretical emissions of VOC from the dryer for heatset inks in units of tons per month and tons per year.

(g) For solvent and solvent solutions used for cleaning activities, all of the following:

1. The VOC content of each solvent or solvent solution used.

2. The volume of each solvent or solvent solution used per month.

3. The total emissions, before consideration of controls, for each month from all solvents or solvent solutions.

4. The total emissions, before consideration of controls, for each consecutive 12 month period from all solvents or solvent solutions.

(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 422.083, 422.09 to 422.12, 422.132, 422.135, 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.

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.

3. The amount of VOC per area of surface to which coatings are applied in units of pounds of VOC per 1000 ft^2, regardless of the number of coats applied.

(d) 1. Any owner or operator of a printing line or operation subject to the emission limitations of s. NR 422.14 (2) (a) or (b) shall collect and record the following information:

a. A unique name or identification number for each ink, as applied.

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

2. Any owner or operator of a printing line or operation subject to the emission limitation in s. NR 422.14 (2) (c) shall collect and record the following information for each day of operation:

a. Monitoring data for the control device.

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

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

(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 422.135 or 422.145 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.

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.

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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.

(6) (a) If an owner or operator of a solvent cleaning operation employs a thermal incinerator or catalytic incinerator to achieve and maintain compliance as allowed in any section in ch. NR 422 or in s. NR 423.037, the owner or operator shall comply with the following requirements:

1. Continuous temperature monitoring and continuous temperature recording equipment shall be installed and operated to accurately measure the operating temperature for the control device.

2. The following information shall be collected and recorded each day of operation of the solvent cleaning operation and the control device, and the information shall be maintained at the facility for a period of 5 years:

a. A log or record of the operating time for the control device, monitoring equipment, and the associated solvent cleaning operation.

b. For thermal incinerators, all 3−hour periods of operation during which the average combustion temperature was more than 50 degrees Fahrenheit below the average combustion temperature during the most recent emission test that demonstrated that the solvent cleaning operation was in compliance.

c. For catalytic incinerators, all 3−hour periods of operation during which the average temperature of the dryer exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature of the dryer exhaust gases during the most recent emission test that demonstrated that the solvent cleaning operation was in compliance, and all 3−hour periods during which the average temperature difference across the catalyst bed was less than 80% of the average temperature difference during the most recent emission test that demonstrated that the solvent cleaning operation was in compliance.

(b) If an owner or operator of a solvent cleaning operation employs a carbon adsorption system to achieve and maintain compliance as allowed in any section in ch. NR 422 or in s. NR 423.037, the owner or operator shall comply with the following requirements:

1. One of the following types of monitoring and recording equipment shall be installed and operated for the carbon adsorption system:

a. A continuous emission monitoring and recording system that is capable of accurately measuring and recording the concentration of organic compounds in the exhaust gases from the carbon adsorption system.

b. Monitoring and recording equipment that are capable of accurately measuring and recording the total mass steam flow rate for each regeneration cycle of each carbon bed.

c. Monitoring and recording equipment that are capable of accurately measuring and recording the temperature of each carbon bed after each regeneration and cooling cycle.

2. The following information shall be collected and recorded each day of operation of the solvent cleaning operation and the carbon adsorption system, and the information shall be maintained at the facility for a period of 5 years:

a. A log or record of the operating time for the carbon adsorption system, monitoring equipment, and the associated solvent cleaning operation.

b. For a carbon adsorption system that employs a continuous emission monitoring and recording system to measure and record the concentration of organic compounds in the exhaust gases, all 3−hour periods of operation during which the average concentration level or reading in the exhaust gases is more than 20% greater than the exhaust gas organic compound concentration level or reading measured by the most recent performance test that demonstrated that the solvent cleaning operation was in compliance.

c. For a carbon adsorption system that employs monitoring and recording equipment to measure and record the total mass steam flow rate for each regeneration cycle of each carbon bed, all carbon bed regeneration cycles during which the total mass steam flow rate was more than 10% below the total mass steam flow rate during the most recent performance test that demonstrated that the solvent cleaning operation was in compliance.

d. For a carbon adsorption system that employs monitoring and recording equipment to measure and record the temperature of each carbon bed after each regeneration and cooling cycle, all carbon bed regeneration cycles during which the temperature of the carbon bed after the regeneration and cooling cycle was more than 10% greater than the carbon bed temperature during the most recent performance test that demonstrated that the solvent cleaning operation was in compliance.

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; am. (5) (a) (intro.), Register, August, 1994, No. 464, eff. 9−1−94; renum. (5) (d) (intro.) to be (5) (d) 1. intro. and am., renum. (5) (d) 1. and 2. to be (5) (d) 1. a. and b., cr. (5) (d) 2., am. (5) (e) (intro.), Register, June, 1995, No. 474, eff. 7−1−95; CR 00−174: am. (5) (a) (intro.), Register August 2001 No. 548, eff. 9−1−01; **CR 11−005: am. (4) (intro.), (d), cr. (4) (f), (g), (h), (6) Register January 2012 No. 673, eff. 2−1−12.**

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

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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.

(c) Electrostatic precipitators — primary and secondary voltage in volts, primary and secondary current in amps, and sparking rate in sparks per minute.

(d) Incinerators — temperature in the primary chamber and the afterburner in degrees Fahrenheit or Celsius (centigrade).

(e) Wet scrubbers for control of particulates — pressure drop across the scrubber and demister in inches of water and scrubber liquor flow in gallons per minute.

(f) Absorption equipment for control of gases — pressure drop across the absorber and demister in inches of water, and pH of the absorbing fluid, if appropriate.

(g) Adsorption equipment — pressure drop across the adsorber and prefilter in inches of water, and temperature within the adsorber in degrees Fahrenheit or Celsius (centigrade).

(2) When the department requires instrumentation to monitor the operation of a source or of air pollution control equipment, the following monitoring and recording frequencies shall, at minimum, be used:

(a) Temperature in the primary chamber and afterburner of an incinerator shall be monitored and recorded every 15 minutes.

(b) The following operational variables shall be measured and recorded once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements:

1. Pressure drop across baghouses, mechanical collectors, wet scrubbers, absorption equipment or adsorption equipment.
2. Current and secondary current in electrostatic precipitators.
3. Voltage in electrostatic precipitators.
4. The sparking rate from electrostatic precipitators.
5. Flow of liquor in wet scrubbers used for particulate control.
6. pH of absorption scrubbing fluid.

(3) When the department requires instrumentation to monitor the operation of air pollution control equipment, or to monitor source performance, the instrument shall measure operational variables with the following accuracy:

(a) The temperature monitoring device shall have an accuracy of 0.5% of the temperature being measured in degrees Fahrenheit or ± 5°F of the temperature being measured, or the equivalent in degrees Celsius (centigrade), whichever is greater.

(b) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ± 1 inch of water column, whichever is greater.

(c) The current, voltage, flow or pH monitoring device shall be accurate to within 5% of the specific variable being measured.

(4) All instruments used for measuring source or air pollution control equipment operational variables shall be calibrated yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent.

(5) The department may require, in an operation permit or order, the measurement of a greater number of source or air pollution control operational variables, more frequent monitoring of operational variables, more accurate measurement of operational variables or more frequent calibration of monitoring equipment than those required under subs. (1) to (4) if the department determines that these requirements are necessary to ensure that the source does not exceed an applicable emission limit, or to ensure that the requirements of chs. NR 400 to 499 are met.

(6) For any air pollution control equipment or monitoring instrumentation not specifically identified in subs. (1) and (2), the department may require, in an operation permit or order, and after consultation with the owner or operator of the facility, monitoring of air pollution control equipment operational variables and may specify the frequency of the monitoring and the type of monitoring instrumentation.

History: Renum. from NR 154.06 (6), Register, September, 1986, No. 369, eff. 10−1−86; renum. from NR 439.06 and am. Register, September, 1987, No. 381, eff. 10−1−87; renum. from NR 439.08 and am., Register, May, 1992, No. 437, eff. 6−1−92; r. and recr. Register, December, 1993, No. 456, eff. 1−1−94; am. (1) (d) and (g) and (3) (a), Register, December, 1996, No. 492, eff. 1−1−97; CR 02−146: am. (6) Register October 2003 No. 574; **CR 09−020: am. (2) (b) 2. Register January 2010 No. 649, eff. 2−1−10.**

NR 439.06 Methods and procedures for determining compliance with emission limitations (by air contaminant). When tests or a continuous monitoring system are required by the department, the owner or operator of a source shall use the reference methods listed in this section and in ss. NR 439.07 to 439.095 to determine compliance with emission limitations, unless an alternative or equivalent method is approved, or a specific method is required, in writing, by the department. Any alternative, equivalent or other specific method approved or required by the department for an ozone precursor shall be submitted to, and will not become effective for federal purposes until approved by, the administrator or designee as a source−specific revision to the department's state implementation plan for ozone. The test methods shall include quality control and quality assurance procedures and the data reporting format which are specified and approved by the department for collection, analysis, processing and reporting of compliance monitoring data. Notwithstanding the compliance determination methods which the owner or operator of a source is authorized to use under this chapter, the department may use any relevant information or appropriate method to determine a source's compliance with applicable emission limitations.

(1) NONFUGITIVE PARTICULATE EMISSIONS. The owner or operator of a source shall use Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H, 5I, or 17 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), and when required, Method 202 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to determine compliance with a nonfugitive particulate emission limitation.

(1m) NONFUGITIVE PM_{10} PARTICULATE EMISSIONS. The owner or operator of a source shall use Method 201 or 201A in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to determine compliance with a nonfugitive PM_{10} particulate emission limitation.

(2) SULFUR DIOXIDE EMISSIONS. The owner or operator of a source shall use one or more of the following methods to determine compliance with a sulfur dioxide emission limitation:

(a) Perform compliance emission testing following Method 6, 6A, 6B, 6C, or 8 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).

(b) Install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or, for affected units, the performance specifications in 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04 (21) and (27). The owner or operator of the source shall submit a quality control and quality assurance plan for approval by the department. The monitor shall follow the plan, as approved by the department.

(c) Perform periodic fuel sampling and analysis of fossil and nonfossil fuels using the methods and procedures specified in s. NR 439.08.

(3) ORGANIC COMPOUND EMISSIONS. The owner or operator of a source shall use the test methods and procedures listed in this subsection to determine compliance with an organic compound emission limitation. If a test method inadvertently measures com-

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pounds which are listed in s. NR 400.02 (162) as having negligible photochemical reactivity, the owner or operator may exclude these compounds when determining compliance with a VOC emission limit if the amount of these compounds is accurately quantified and the exclusion is approved by the department. As a precondition to excluding these compounds as VOC or at any subsequent time, the department may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the department, the amount of negligibly reactive compounds in the source's emissions. Unless a source achieves compliance through an averaging method specifically authorized by the department, organic compound emission limitations in chs. NR 419 to 424 shall be achieved on an instantaneous basis.

(a) Method 18, 25, 25A, or 25B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to determine organic compound emission concentrations or emission rates.

(am) Method 204, 204A, 204B, 204C, 204D, 204E, or 204F in 40 CFR part 51, Appendix M, or the data quality objective method or lower confidence limit method in 40 CFR part 63, Subpart KK, Appendix A, incorporated by reference in s. NR 484.04 (9) and (24), shall be used to determine the capture efficiency of a control system for volatile organic compound emissions. The reporting and recordkeeping recommendations within a test method shall be followed unless alternative reporting or recordkeeping provisions have been approved in writing by the department. When determining the overall emission reduction efficiency of a volatile organic compound control system, simultaneous measurements of both the capture efficiency of the system and the pollutant reduction efficiency of the control device may be required.

(b) Method 24 or 24A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to determine the organic solvent content, the volume of solids, the weight of solids, the water content and the density of surface coatings, inks, and cleaning materials.

(c) Method 21 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to detect organic compound emission leaks except as provided in par. (i) 2. or 3.

(d) Method 27 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to verify the vapor tightness of gasoline delivery tanks.

(e) An equation established under s. NR 425.05 (1) (b) 2. or contained in s. NR 425.05 (2) (b) 2. shall be used to determine compliance with an internal offset.

(f) Methods approved by the department shall be used to determine the transfer efficiency of surface coating equipment.

(g) Method 25A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to determine compliance with the aerosol can filling VOC emission limit in s. NR 424.04. If a flame ionization detector is used to test compliance with s. NR 424.04, test equipment calibration shall be conducted with propane. During the testing procedure, the flame ionization detector shall continuously measure VOC emissions for a minimum of one hour per aerosol can filling line with the control device not in operation and for a minimum of one hour with the control device in full operation. Production data taken concurrently with the testing procedure shall be used to calculate the VOC emission rates for the tested aerosol can filling line when the control device is not in operation and when the control device is in full operation.

(h) Compounds identified in s. NR 400.02 (162) as having negligible photochemical reactivity shall be treated as water to determine compliance with emission limitations which refer to water.

(i) The owner or operator of a gasoline dispensing facility shall use the methods in this paragraph to determine compliance of motor vehicle fueling vapor recovery systems required under s. NR 420.045 (7):

1. San Diego Air Pollution Control District Test Procedure TP–91–2, incorporated by reference in s. NR 484.05 (5), shall be used for dynamic backpressure and liquid blockage tests.

2. San Diego Air Pollution Control District Test Procedure TP–91–1, incorporated by reference in s. NR 484.05 (4), shall be used for leak tests.

3. The department may approve the use of alternative test methods for a vapor recovery system only if the manufacturer, installer or operator of the vapor recovery system demonstrates all of the following:

a. The test method in subd. 1. or 2. is not applicable to the vapor recovery system.

b. The proposed test method will provide test results which are similar to those provided by the test method in subd. 1. or 2. in terms of accuracy and validity.

c. The proposed test method has been accepted by another air pollution control agency within the United States.

(j) Notwithstanding par. (b), Method 24 of 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be used to determine the VOC content of lithographic inks, fountain solutions and blanket or roller wash in complying with ss. NR 422.142 and 422.143.

(4) CARBON MONOXIDE EMISSIONS. The owner or operator of a source shall use one of the following methods to determine compliance with a carbon monoxide emission limitation:

(a) Method 10, 10A, or 10B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).

(b) Install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04 (21), and follow quality control and quality assurance procedures for the monitor which have been submitted by the owner or operator of the source and approved by the department.

(5) LEAD EMISSIONS. The owner or operator of a source shall use Method 12 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), to determine compliance with a lead emission limitation.

(6) NITROGEN COMPOUND EMISSIONS. The owner or operator of a source shall use one of the following methods to determine compliance with a nitrogen compound emission limitation:

(a) Method 7, 7A, 7B, 7C, 7D, or 7E in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).

(b) Install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B, or, for affected sources, the performance specifications in 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04 (21) and (27). The owner or operator of the source shall submit and follow the quality control and quality assurance plan for the monitor which has been approved by the department.

(7) TOTAL REDUCED SULFUR EMISSIONS. The owner or operator of a source shall use one of the following methods to determine compliance with a total reduced sulfur emission limitation:

(a) Method 15A, 16, 16A, or 16B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).

(b) Install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04 (21), and follow quality control and quality assurance procedures for the monitor which have been submitted by the owner or operator of the source and approved by the department.

(8) EMISSIONS OF OTHER AIR CONTAMINANTS. The owner or operator of a source shall use methods and plans approved, in writ-

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ing, by the department to determine compliance with an emission limitation for an air contaminant not listed in subs. (1) to (7).

(9) METHODS AND PROCEDURES FOR VISIBLE EMISSIONS. (a) The owner or operator of a source shall use one of the following methods to determine compliance with a visible emission limitation:

1. Method 9 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).

2. Install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04 (21) and (27), and follow a quality control and quality assurance plan for the monitor which has been approved by the department.

(b) The owner or operator of a source shall use Method 22 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), to determine compliance with a no visible emission requirement.

History: Cr. Register, September, 1987, No. 381, eff. 10−1−87; cr. (3) (g), Register, April, 1988, No. 388, eff. 5−1−88; am. (intro.) (3) and (6) (a), cr. (3) (h), Register, February, 1990, No. 410, eff. 3−1−90; am. (intro.) and (2) (c), Register, May, 1992, No. 437, eff. 6−1−92; am. (3) (c), cr. (3) (i), Register, January, 1993, No. 445, eff. 2−1−93; am. (2) (a) and (3) (intro.), Register, May, 1993, No. 449, eff. 6−1−93; am. (intro.), (1), (4) (a), (6) (b), (6) (e), (7) (a), (8), (9) (a) 2., cr. (1m), Register, December, 1993, No. 456, eff. 1−1−94; am. (1), (1m), (2) (a), (b), (3) (a) to (d), (g), (i) 1., 2., (4) (a), (b), (5), (6) (a), (b), (7) (a), (b), (9) (a) 1., 2., (9) (b), Register, February, 1995, No. 470, eff. 3−1−95; am. (2) (b), Register, April, 1995, No. 472, eff. 5−1−95; cr. (3) (j), Register, June, 1995, No. 474, eff. 7−1−95; am. (3) (intro.) and (h), Register, November, 1999, No. 527, eff. 12−1−99; cr. (3) (am), Register, March, 2000, No. 531, eff. 4−1−00; CR. 02−146: am. (1) Register October 2003 No. 574, eff. 11−1−03; CR 08−102: am. (3) (j) Register July 2009 No. 643, eff. 8−1−09; **CR 11−005: am. (3) (b) Register January 2012 No. 673, eff. 2−1−12.**

NR 439.07 Methods and procedures for periodic compliance emission testing. The owner or operator of a source required to conduct emission testing under s. NR 439.075 shall comply with all applicable methods and procedures listed in this section.

(1) GENERAL. All emission tests conducted for the purpose of determining compliance with an emission limitation under chs. NR 400 to 499 shall be performed according to the test methods established in 40 CFR part 60, Appendix A, 40 CFR part 61, Appendix B, and 40 CFR part 63, Appendix A, incorporated by reference in s. NR 484.04 (13), (23), and (25), or according to other test methods approved in writing by the department. The owner, operator or contractor responsible for emission testing shall follow the procedures in this section. Unless the department requires or approves the performance of a test at less than capacity, all compliance emission tests shall be performed with the equipment operating at capacity or as close to capacity as practicable.

(2) EMISSION TEST NOTIFICATION AND TEST PLAN SUBMITTAL. The department shall be notified in writing at least 20 business days in advance of a compliance emission test, including initial certification tests and relative accuracy tests performed under s. NR 439.09, to provide the department an opportunity to have a representative present to witness the testing procedures. The notice shall provide a test plan which includes, but need not be limited to, the following:

(a) A description of the sampling equipment and the test methods and procedures to be used.

(b) A description of the process to be tested.

(c) A description of the process or operation variables which affect the air contaminant source's emissions.

(d) The date and starting time of the test.

(e) A description of the number and location of the sampling ports and sampling points including a sketch showing the distance of the sampling ports from the nearest upstream and downstream flow disturbances and the stack dimensions.

(f) A statement indicating the production rate and the operating conditions at which the test will be conducted.

(3) TEST PLAN EVALUATION. In evaluating the test plan, the department shall respond to the source owner or operator within 10 business days of receipt of the plan and may require the following:

(a) A pre−test conference which includes the owner or operator of the source, the tester and the department to discuss any deficiencies in the plan or settle any test procedure questions the department, the tester or the source owner or operator might have.

(b) Any reasonable stack or duct modification or any change to the sampling method that is deemed necessary by the department to obtain a representative sample.

(c) Additional tests for the same pollutants to be performed at the same or different operating conditions.

(d) A rescheduling of the test to accommodate witnessing or source production schedules.

(4) NOTIFICATION OF TEST PLAN REVISION. The source owner or operator shall notify the department of any modifications to the test plan at least 5 business days prior to the test. In the event the owner or operator is unable to conduct the compliance emission test on the date specified in the test plan, due to unforeseeable circumstances beyond the owner or operator's control, the owner or operator shall notify the department at least 5 business days prior to the scheduled compliance emission test date and specify the date when the test is rescheduled.

(5) TESTING FACILITIES. The department may require the owner or operator of a source to provide the following emission testing facilities:

(a) The installation of sampling ports and safe sampling platforms.

(b) A safe work area for the test crew or any witnessing personnel.

(c) Safe access to the work area or sampling platform.

(d) Utilities for the sampling equipment.

(e) Instrumentation to monitor and record emissions data.

(6) WITNESSING REQUIREMENTS. The department may require that a department representative be present at any compliance emission test. The department representative has the following authority:

(a) The department representative shall, during the test, supply the tester with the appropriate audit samples required in the reference method for quality assurance purposes.

(b) The department representative may require the tester to provide the department a copy of all test data and equipment calibration data prepared or collected for the test.

(c) The department representative may take any or all of the test samples collected during the test for analysis by the department.

(d) The department witness may require the source owner or operator and tester to correct any deficiency in the performance of the test provided that the department witness notifies the source owner or operator and tester of the deficiency as soon as it is discovered. The failure of a source owner or operator and tester to correct any deficiency may result in the department refusing to accept the testing results.

(7) EMISSION TESTING EQUIPMENT CALIBRATION REQUIREMENTS. The following components of any emission sampling train or associated sampling equipment shall be calibrated not more than 60 days before the test:

(a) Any equipment used to measure gas velocity.

(b) Any equipment used to meter sample gas volume.

(c) Any equipment used to regulate sample gas flow.

(d) Any equipment used to measure temperature.

(e) Any gas sampling nozzle used during the emission test.

(f) Any equipment used to determine gas molecular weight.

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(g) Any other sampling equipment that requires periodic calibration.

(8) PROCEDURES FOR CONDUCTING COMPLIANCE EMISSION TESTS. In conducting any compliance emission test the following procedures apply:

(a) *General provisions*. Except as provided for in par. (c), (d), (f) or (g), an emission test shall consist of a minimum of 3 representative repetitions, as determined by the department, of the applicable test method with a minimum sampling time of one hour per repetition. Shorter sampling times as referenced in par. (g) may be used with the written approval of the department. The arithmetic mean of the results of all repetitions shall be used to determine compliance with an emission limitation. In addition, the following requirements apply:

1. The gas flow rate, in dry standard cubic feet per minute, shall be determined during each repetition of an emission test using Method 1, 1A, 2, 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 3, 3A, 3B, and 4 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), as applicable.

2. A record shall be maintained of all persons who have handled the test samples.

(b) *Particulate matter.* When compliance with a particulate emission limitation is determined using Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H, 5I, or 17 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), the test shall consist of 3 representative repetitions. In addition, the following provisions apply:

1. Sootblowing shall be performed during one repetition of each test for particulate emissions on any boiler that routinely employs sootblowing, unless the boiler uses a continuous sootblowing system. If a continuous sootblowing system is operating during the test, compliance with the emission limitation shall be determined by the arithmetic mean of the results of all repetitions. If a continuous sootblowing system is not operating during the test, the representative average pounds of particulate emissions per million Btu heat input shall be determined by the following equation:

$$E = E_s ((A + B) S/AR) + E_{ns}((R - S)/R - (BS/AR))$$

where:

E is the weighted average pounds of particulate matter per million Btu heat input

E_s is the pounds of particulate matter per million Btu heat input for test runs during sootblowing

E_{ns} is the arithmetic average pounds of particulate matter per million Btu heat input for test runs with no sootblowing

A is the hours of sootblowing during test runs containing sootblowing

B is the hours with no sootblowing during test runs containing sootblowing

R is the average hours of boiler operation per 24 hours

S is the average hours of sootblowing per 24 hours

2. Each repetition for a particulate emission test shall have a sample volume of at least 30 dry standard cubic feet.

3. Method 17, for particulates, in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), may not be used where stack or duct temperatures exceed 320°F.

4. Heat input shall be equal to the fuel use rate multiplied by the heat content of the fuel on an as−fired basis. Fuels shall be analyzed for heat content using the procedures in Method 19 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).

5. Any boiler emission rate in pounds per million Btu heat input shall be determined using the heat input based on fuel use rate. The emission rate may be determined using the F−Factor calculation shown in Method 19 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), with written approval from the department. If the F−Factor method is used, an ultimate fuel analysis shall be performed. An integrated gas sample, using Method 3, 3A or 3B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), shall be collected and analyzed for oxygen and carbon dioxide content. Other methods for determining the boiler heat input may be used only if approved, in writing, by the department.

6. If cyclonic flow is a possibility at a particulate emission test location, a test for the presence of cyclonic flow shall be performed before the particulate test using the procedures in Method 1 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13). If cyclonic flow is present, the flow must be straightened before testing can begin unless the source owner or operator demonstrates, to the department's satisfaction, the acceptability of the location using the alternate procedure to Method 1. If cyclonic flow is not present, testing can proceed.

7. Except for sources subject to emission testing requirements in ch. NR 440, the department may require the owner or operator of a source capable of emitting condensible particulate matter, to include an analysis of the back half of the stack sampling train catch in the total particulate catch for any emission test using Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H, 5I, or 17, in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13). This procedure and analysis shall be performed using Method 202 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9).

(c) *Sulfur dioxide emissions.* 1. When compliance with a sulfur dioxide emission limitation is determined using Method 6 or 6A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), the test shall consist of 3 repetitions. A repetition shall consist of 2 20−minute sampling periods with each sampling period followed by a 15−minute fresh air purge. The 2 samples shall be analyzed independently. The arithmetic mean of the results of the 2 samples shall be the result of that repetition.

2. When compliance with a sulfur dioxide emission limitation is determined using Method 6B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), the test shall consist of 3 24−hour repetitions with the sampling train operating continuously during each 24−hour repetition.

3. When compliance with a sulfur dioxide emission limitation is determined using Method 6C in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), the test shall consist of 3 representative repetitions.

(d) *Nitrogen oxide emissions.* 1. When compliance with a nitrogen oxide emission limitation is determined using Method 7, 7A or 7B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), the test shall consist of 3 repetitions. A repetition shall consist of 4 2−liter evacuated sample bottles that are filled, one at a time, with stack gas at 15 minute intervals. The 4 samples shall be analyzed independently. The arithmetic mean of the results of the 4 samples shall be the result of that repetition.

2. When compliance with a nitrogen oxide emission limitation is determined using Method 7C, 7D, or 7E in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), the test shall consist of 3 representative repetitions.

(e) *Organic compound emissions.* When compliance with an organic compound emission limitation is determined using Methods 18, 25, 25A, or 25B in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), the test shall consist of a minimum of 3 representative repetitions.

(f) *Visible emissions.* When compliance with a visible emission limitation is determined using Method 9 in 40 CFR part 60, Appendix A−4, incorporated by reference in s. NR 484.04 (13), the test shall be performed based on the either of the following time criteria, unless otherwise specified in any applicable regulation, permit or compliance order:

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1. For a new construction permit, operation permit or a renewal of an operation permit, the minimum total time of observations shall be 60 minutes, consisting of 10 6−minute averages.

2. For any other circumstances, the minimum total time of observations shall be 18 minutes, consisting of 3 6−minute averages.

(g) *Exceptions*. With department approval, compliance with pars. (a) to (e) may be determined as the arithmetic mean of 2 representative repetitions if 3 repetitions cannot be used to determine compliance because of any of the following circumstances:

1. A shutdown of the process being tested due to circumstances beyond the control of the source owner or operator.

2. A production cycle that does not allow for 3 repetitions of the test method.

3. The interruption of the test by unfavorable weather.

4. The accidental loss of a sample.

5. Any other circumstances beyond the control of the tester or the owner or operator of the source.

(9) EMISSION TEST REPORTING REQUIREMENTS. The owner or operator of the source tested, including initial certification tests and relative accuracy tests performed under s. NR 439.09, shall submit 2 copies of the emission test report to the department within 60 days after completion of a compliance emission test if no samples were collected by the department witness. If samples were collected by the department, the test report shall be submitted within 30 days after the results from the test samples have been reported to the source owner or operator by the department. If requested, the department may grant an extension of up to 30 days for test report submittal. The failure to include the following information in an emission test report may result in rejection of the test. The emission test report shall include, but need not be limited to, the following information:

(a) A detailed description of the process tested and the sampling procedure employed.

(b) A log of the operating conditions of the process tested and any associated air pollution control device.

(c) A summary of results expressed in units consistent with the emission limitation applicable to the source.

(d) Sample calculations employing all the formulas used to calculate the results.

(e) The field and laboratory data for each repetition of the test.

(f) Calibration data for the components of the sampling train used.

(g) The results of quality assurance audit sample analyses required in the reference method.

(h) The report of any visible emission evaluations performed by the tester or source owner or operator.

(i) A copy of any steam, opacity or airflow charts made during the test.

(j) The report of any fuel analysis performed on the fuel burned during the test.

(k) Documentation of any process upset occurring during the test.

(L) An explanation of any excessive variation in the results when comparing the repetitions of the compliance emission test.

(m) If the compliance emission test being conducted is a retest, the changes made to the process or control device since the last test.

(10) REPORTING OF TEST RESULTS FOR TESTS CONDUCTED BY THE DEPARTMENT. The department shall furnish a report of emission tests it conducts to the source owner or operator within 60 days after the testing is completed. This emission test report shall include, but need not be limited to, the following information:

(a) A summary of results expressed in units consistent with the emission limitation applicable to the source.

(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. 437, eff. 6−1−92; am. (1), (8) (g), (i) and (n), Register, December, 1993, No. 456, eff. 1−1−94; am. (1), (8) (b), (e) to (k), (m) and (n), Register, February, 1995, No. 470, eff. 3−1−95; am. (4), Register, September, 1997, No. 501 eff. 10-1-97**;** am. (1) and (4), Register, November, 1999, No. 527, eff. 12−1−99; r. (8) (L), Register, March, 2000, No. 531, eff. 4−1−00; CR 02−146: am. (2) (intro.), (8) (a) and (9) (intro.), renum. (8) (b) to be (b) 1., (8) (d) to (h) to be (8) (b) 2. to 6., (8) (j) to be (8) (c) 1., (8) (k) to be (8) (c) 2., (8) (m) to be (8) (d) 1. and (8) (o) to be (8) (a) 2., cr. (8) (b) (intro.), (8) (c) 3., (8) (d) 2. and (8) (e) and (f), renumber and am. (8) (c) to be (8) (g), (8) (i) to be (8) (a) 1. and (8) (n) to be (8) (b) 7., Register October 2003 No. 574, eff. 11−1−03; **CR 09−020: am. (8) (b) 7. Register January 2010 No. 649, eff. 2−1−10.**

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. 285.60, 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 volatile 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 volatile 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).

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1. Compliance emission testing for mercury is required for an emission point subject to s. NR 446.08 (1) or 446.21 (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, 440.686 or 440.705.

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) 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.

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(c) The owner or operator of a direct stationary source which has received an elective operation permit under s. 285.60 (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 any of the following applies:

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.

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.

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.

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.

4. The department may grant an extension of up to 180 days for compliance emission testing if the owner or operator of a direct stationary source requests an extension, in writing, and can demonstrate that a representative emissions test cannot be performed within the time frames specified in sub. (3) (b).

5. No periodic compliance emission testing for sulfur dioxide emissions is required under this section for any affected emission point which performs periodic fuel sampling and analysis under s. NR 439.085, according to s. NR 439.08.

(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; am. (2) (a) (intro.), 4., Register, December, 1995, No. 480, eff. 1−1−96; am. (4) (a) 1. (intro.), Register, December, 1996, No. 492, eff. 1−1−97; CR 02−146: cr. (4) (a) 4. and 5. Register October 2003 No. 574, eff. 11−1−03; CR 01−081: am. (2) (b) 1. Register September 2004 No. 585, eff. 10−1−04; CR 07−036: am. (2) (b) 1. Register November 2008 No. 635, eff. 12−1−08; CR 08−114: am. (2) (c) 3. j. Register July 2009 No. 643, eff. 8−1−09; **CR 09−020: am. (3) (a) Register January 2010 No. 649, eff. 2−1−10.**

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 D2234−02, Standard Practice for Collection of a Gross Sample of Coal, incorporated by reference in s. NR 484.10 (33).

(b) *Preparing coal for analysis.* Preparation of a coal sample for analysis shall be performed according to ASTM D2013−01, Standard Method of Preparing Coal Samples for Analysis, incorporated by reference in s. NR 484.10 (30).

(c) *Sulfur content in coal.* The sulfur content of a coal sample shall be determined according to ASTM D3177−02, Standard Test Methods for Total Sulfur in the Analysis Sample of Coal and Coke, or ASTM D4239−04a, Standard Test Methods for Sulfur in the Analysis Sample of Coal and Coke Using High Temperature Tube Furnace Combustion Methods, both incorporated by reference in s. NR 484.10 (45) and (53).

(d) *Heat content in coal.* The heat content of a coal sample shall be determined according to ASTM D5865−04, Standard Test Method for Gross Calorific Value of Coal and Coke, incorporated by reference in s. NR 484.10 (55g).

(e) *Ash content in coal.* The ash content of a coal sample shall be determined according to ASTM D3174−04, Standard Test Method for Ash in the Analysis Sample of Coal and Coke from Coal, incorporated by reference in s. NR 484.10 (43).

(f) *Moisture content in coal.* The moisture content of a coal sample shall be determined according to ASTM D3173−02, Standard Test Method for Moisture in the Analysis Sample of Coal and Coke, incorporated by reference in s. NR 484.10 (42).

(g) *Ultimate analysis of coal.* The ultimate analysis of a coal sample shall be determined according to ASTM D3176−89, Standard Practice for Ultimate Analysis of Coal and Coke, incorporated by reference in s. NR 484.10 (44).

(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 D4057−95, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, or ASTM D4177−95, Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, incorporated by reference in s. NR 484.10 (51) and (52).

(b) *Sulfur content in liquid fossil fuel.* The sulfur content of a liquid fossil fuel sample shall be determined according to ASTM D129−00, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), ASTM D1552−03, Standard Test Method for Sulfur in Petroleum Products (High−Temperature Method), or ASTM D4294−03, Standard Test Method for Sulfur in Petroleum Products by Energy−Dispersive X−ray Fluorescence Spectroscopy, incorporated by reference in s. NR 484.10 (3), (25) and (54).

(c) *Heat content in liquid fossil fuel.* The heat content of a liquid fossil fuel sample shall be determined according to ASTM D240−02, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by a Bomb Calorimeter, incorporated by reference in s. NR 484.10 (4).

(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 liq-

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uid 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; am. (1) (a) to (g), (2) (a) to (c), Register, February, 1995, No. 470, eff. 3−1−95; am. (1) (b), (c), (d), (e) and (g), Register, December, 1996, No. 492, eff. 1−1−97; am. (1) (a), (d), (f), (2) (a) and (b), Register, November, 1999, No. 527, eff. 12−1−99; CR 00−175: am. (1) (a) to (f) and (2) (b) Register March 2002 No. 555, eff. 4−1−02; CR 02−146: am. (1) (a) to (d) and (2) (b) and (c) Register October 2003 No. 574, eff. 11−1−03; CR 05−116: am. (1) (c) to (f) and (2) (b) Register November 2006 No. 611, eff. 12−1−06.

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. The coal burning rate for an installation shall be based on the maximum permitted capacity. If the permit does not limit the capacity, the total heat input capacity shall be used:

(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/D2234M−03e1, incorporated by reference in s. NR 484.10 (33), which result in data at least as reliable as classification I−B−1, defined in ASTM D2234/D2234M−03e1 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/D2234M−03e1, incorporated by reference in s. NR 484.10 (33), which result in data at least as reliable as classification I−C−2, defined in ASTM D2234/D2234M−03e1 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/D2234M−03e1, incorporated by reference in s. NR 484.10 (33), which result in data at least as reliable as classification II−D−2, defined in ASTM D2234/D2234M−03e1 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. The residual fuel burning rate for an installation shall be based on the maximum permitted capacity. If the permit does not limit the capacity, the total heat input capacity shall be used:

(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:

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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). Sampling shall be performed for each tank volume turnover or on a monthly basis, whichever is more frequent.

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; am. (2) (a) 1., Register, February, 1995, No. 470, eff. 3−1−95; am. (2) (a) 1., (b) 1. and (c) 1., Register, November, 1999, No. 527, eff. 12−1−99; CR 00−175: am. (2) (a) 1., (b) 1. and (c) 1. Register March 2002 No. 555, eff. 4−1−02; CR 02−146: am. (2) (a) 1., (b) 1., (c) 1. and (3) (a) 1., cr. (3) (intro.) Register October 2003 No. 574, eff. 11−1−03; CR 05−116: am. (2) (a) 1., (b) 1. and (c) 1. Register November 2006 No. 611, eff. 12−1−06.

NR 439.09 Methods and procedures for continuous emission monitoring. The owner or operator of a source conducting 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 s. NR 484.04 (21).

(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 or, for affected units, the performance specifications in 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04 (21) and (27).

(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 or, for affected units, the performance specifications in 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04 (21) and (27).

(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 s. NR 484.04 (21).

(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 s. NR 484.04 (21).

(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 s. NR 484.04 (21).

(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 s. NR 484.04 (21).

(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

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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; am. (1) to (7), Register, February, 1995, No. 470, eff. 3−1−95; am. (2), (3), Register, April, 1995, No. 472, eff. 5−1−95; CR 02−146: am. (intro.) Register October 2003 No. 574, eff. 11−1−03.

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 as follows:

(a) Fossil fuel fired steam generating units 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.

(f) Phase I and phase II acid rain units identified in sub. (5) shall be monitored for sulfur dioxide, nitrogen oxides, carbon dioxide, stack flow rate and opacity.

(g) Direct stationary sources, required under an enforcement agreement or which have elected to use continuous emission monitoring to determine compliance with applicable rules, shall monitor for the parameters and pollutants for which they have installed the monitoring device. Those parameters may include stack flow rate, opacity, or emissions of nitrogen oxides, sulfur dioxide, total reduced sulfur, carbon dioxide, VOCs and hazardous air contaminants.

(2) EXEMPTIONS. The department may grant an exemption from any monitoring requirement of this section for any source which is subject to a continuous emission monitoring requirement under a new source performance standard in ch. NR 440.

(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 units.* Except as provided for under par. (f) or (g), the owner or operator of a fossil fuel fired steam generating unit subject to sub. (1) shall comply with the monitoring requirements of this paragraph:

1. Opacity. The owner or operator of any steam generating unit 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 maximum combined coal burning rate equal to or greater than 25,000 tons 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 unit shall install, calibrate, maintain and operate a continuous monitoring system which meets the performance specifications of sub. (6) for the measurement of sulfur dioxide if one of the following applies:

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 emission rate.

b. The maximum 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.

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3. Nitrogen oxides. The owner or operator of a fossil fuel fired steam generating unit 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's 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 generating unit 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 measurement 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).

(f) *Phase I and phase II affected units.* The owner or operator of any phase I or phase II affected unit shall install, calibrate, maintain and operate a continuous monitoring system for the measurement of sulfur dioxide, nitrogen oxides, carbon dioxide, stack flow rate and opacity which meets the performance specifications in sub. (6) for each affected unit, or as approved by the department, for a combination of affected units that share a common stack.

(g) *Other steam generating units sharing a common stack.* The owner or operator of a combination of steam generating units not regulated under par. (f) that share a common stack or duct may, with department approval, install, calibrate, maintain and operate a single continuous monitoring system for the measurement of stack flow rate, opacity, sulfur dioxide, nitrogen oxides, total reduced sulfur, carbon dioxide, VOCs and hazardous air contaminants that meets the performance specifications in sub. (6).

(6) PERFORMANCE SPECIFICATIONS. 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 or, for affected units, the performance specifications in 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04 (21) and (27), and the requirements in s. NR 439.09. The owner or operator of the source shall submit a quality control and quality assurance plan for approval by the department. The monitor shall follow the plan, as approved by the department.

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; am. (6), Register, February, 1995, No. 470, eff. 3−1−95; cr. (1) (f), (5) (f), am. (5) (a) (intro.), (6), Register, April, 1995, No. 472, eff. 5−1−95; am. (2) (intro.), r. (2) (a), (b), Register, December, 1995, No. 480, eff. 1−1−96; am. (5) (a) 2. (intro.), Register, December, 1996, No. 492, eff. 1−1−97; CR 02−146: am. (1) (intro.), (a), (5) (a) (intro.), 1., 2. (intro.) and b., 3. and 4., cr. (1) (g) and (5) (g) Register October 2003 No. 574, eff. 11−1−03.

NR 439.096 Methods and procedures for combustion optimization. The owner or operator of a unit subject to the combustion optimization requirements of s. NR 428.05 (2) shall comply with all applicable methods and procedures for combustion optimization listed in this section.

(1) GENERAL. All combustion optimizations conducted shall be performed according to methods approved in writing by the department. The owner or operator responsible for combustion optimizations shall follow the procedures in this section.

(2) COMBUSTION OPTIMIZATION NOTIFICATION AND PLAN SUBMITTAL. The department shall be notified in writing at least 45 days in advance of a combustion optimization to provide the department an opportunity to evaluate the plan and to have a representative present to witness the combustion optimization procedures. The notice shall provide a combustion optimization plan which includes, but need not be limited to, the following information:

(a) The results of an engineering study of the process to be optimized. The engineering report shall identify and evaluate the options available for modifications to the process that would optimize combustion while minimizing NO_x emissions.

(b) A description of the process or operation variables which affect the air contaminant source's emissions.

(c) A description of the process to be optimized.

(d) A description of the sampling equipment and the combustion optimization methods and procedures to be used.

(e) The date and starting time of the combustion optimization.

(f) A description of the number and location of any sampling ports and sampling points and an identification of the combustion gases to be sampled.

(g) A statement indicating the production rate and the operating conditions at which the combustion optimization will be conducted.

(3) COMBUSTION OPTIMIZATION PLAN EVALUATION. In evaluating the combustion optimization plan, the department shall respond to the source owner or operator within 15 business days of receipt of the plan and may require one or more of the following activities:

(a) A pre−combustion optimization conference which includes the owner or operator of the source, the person conducting the combustion optimization and the department to discuss any deficiencies in the plan or settle any combustion optimization procedure questions the department, the person conducting the combustion optimization or the source owner or operator might have.

(b) Any change to the sampling method that is deemed necessary by the department to conduct a proper combustion optimization.

(c) A rescheduling of the combustion optimization to accommodate witnessing or source production schedules.

(4) NOTIFICATION OF COMBUSTION OPTIMIZATION PLAN REVISION. The source owner or operator shall notify the department of any modifications to a combustion optimization plan at least 5 business days prior to the combustion optimization. In the event the owner or operator is unable to conduct the combustion optimization on the date specified in the plan, due to unforeseeable circumstances beyond the owner or operator's control, the owner or operator shall notify the department at least 5 business days

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prior to the scheduled combustion optimization date and specify the date when the combustion optimization is to be rescheduled.

(5) PROPER FACILITIES FOR COMBUSTION OPTIMIZATION. The department may require the owner or operator of a source to provide proper facilities for conducting combustion optimization tests which may include the testing facilities listed in s. NR 439.07 (5) (a) to (e).

(6) WITNESSING REQUIREMENTS. The department may require that a department representative be present at any combustion optimization. The department may require the following activities:

(a) The department may require the person conducting the combustion optimization to provide the department a copy of all test data and equipment calibration data prepared or collected for the combustion optimization.

(b) The department may require the source owner or operator and person conducting the combustion optimization to correct any deficiency in the performance of the combustion optimization provided that the department notifies the source owner or operator and person conducting the combustion optimization of the deficiency as soon as it is discovered. The failure of a source owner or operator and person conducting the combustion optimization to correct any deficiency may result in the department refusing to accept the results of the combustion optimization.

(7) COMBUSTION OPTIMIZATION EQUIPMENT CALIBRATION REQUIREMENTS. The components of any emission sampling train or associated sampling equipment listed in this subsection shall be calibrated not more than 60 days before the test. This includes the following:

(a) Any equipment used to measure gas velocity.

(b) Any equipment used to meter sample gas volume.

(c) Any equipment used to regulate sample gas flow.

(d) Any equipment used to measure temperature.

(e) Any gas sampling nozzle used during the emission test.

(f) Any equipment used to determine gas molecular weight.

(g) Any other sampling equipment that requires periodic calibration.

(8) PROCEDURES FOR CONDUCTING COMBUSTION OPTIMIZATIONS. Any emissions testing conducted in conjunction with combustion optimization shall be conducted in accordance with s. NR 439.07. The combustion optimization shall include the following procedures:

(a) An engineering study to identify the optimized combustion profile or equipment modifications needed to optimize combustion. The study shall address, but is not limited to, the modification of the following systems: fuel delivery, burner, primary and secondary combustion monitoring, combustion air delivery and burner management.

(b) The combustion optimization shall be based on burner tune–up procedures which result in maximum combustion efficiency and a low NO_x operating curve. This curve shall determine the operating range of combustion variables such as CO and O_2 at set points within the following ranges: 20–30% load, 45–55% load, 70–80% load and 95–100% load, for those set points that represent at least 10% of boiler operating hours in a typical year.

(c) A continuous combustion analyzer shall be used to monitor the operation of the combustion unit in accordance with the combustion efficiency and low NO_x operating curve required under this section. The analyzer shall monitor the combustion parameters CO and O_2 or monitor NO_x directly. The fuel flow rate shall be monitored.

(9) COMBUSTION OPTIMIZATION REPORTING REQUIREMENTS. The owner or operator of a source that conducts a combustion optimization shall submit a copy of the report of the combustion optimization to the department within 60 days after its completion. If requested, the department may grant an extension of up to 30 days for combustion optimization report submittal. The failure to include the following information in a combustion optimization report may result in rejection of the combustion optimization. The combustion optimization report shall include, but need not be limited to, the following information:

(a) A detailed description of the process optimized and the procedures employed.

(b) A log of the operating conditions of the process optimized and of any associated air pollution control device.

(c) A summary of results, expressed in terms of the concentrations of NO_x, O_2 and CO, prior to and following the combustion optimization.

(d) Sample calculations employing all the formulas used to calculate the results.

(e) The field and laboratory data for the optimization.

(f) The engineering study and combustion efficiency and low NO_x operating curve required under sub. (8) (a) and (b).

(g) The report of any visible emission evaluations performed during the combustion optimization.

(h) A copy of any steam, opacity or airflow charts made during the optimization.

(i) The report of any fuel analysis performed on the fuel burned during the optimization.

(j) Documentation of any process upset occurring during the optimization.

(k) If the combustion optimization being conducted is one required under sub. (10), the changes made to the process or control device since the last test.

(10) ADDITIONAL COMBUSTION OPTIMIZATIONS. (a) The department may require an NO_x emissions source to conduct an additional combustion optimization if the department determines that a source has not satisfied the requirements of sub. (8) or (9).

(b) Combustion units that are modified sources with respect to NO_x due to a change in the method of operation shall perform a new combustion optimization including the determination of a new combustion efficiency and low NO_x operating curve.

History: Cr. Register, January, 2001, No. 541, eff. 2–1–01.

NR 439.098 Methods and procedures for parametric testing of NO_x emissions pursuant to an acid rain program alternative NO_x emission limitation. (1) The owner or operator of an affected unit subject to the requirements of s. NR 409.065 may use the following tests as a basis for the report required by s. NR 409.065 (6) (e) 7.

(a) An ultimate analysis of coal conducted according to ASTM D 3176–89, incorporated by reference in s. NR 484.10 (44).

(b) A proximate analysis of coal conducted according to ASTM D 3172–89, incorporated by reference in s. NR 484.10 (41m).

(c) A measurement of the coal mass flow rate to each individual burner using ASME Performance Test Code 4.2–1969 (1997) or ISO 9931 (1991), incorporated by reference in s. NR 484.11 (6) and (8).

(2) The owner or operator of an affected unit subject to the requirements of s. NR 409.065 may measure and record the actual NO_x emission rate in accordance with the requirements of s. NR 409.065 while varying the following parameters where possible to determine their effects on the emissions of NO_x from the affected boiler:

(a) Excess air levels.

(b) Settings of burners or coal and air nozzles, including tilt and yaw, or swirl.

(c) For tangentially fired boilers, distribution of combustion air within the NO_x emission control system.

(d) Coal mass flow rates to each individual burner.

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(e) Coal–to–primary air ratio (based on pound per hour) for each burner, the average coal–to–primary air ratio for all burners, and the deviations of individual burners' coal–to–primary air ratios from the average value.

(f) If the boiler uses varying types of coal, the type of coal; in this case the owner or operator shall provide the results of proximate and ultimate analyses of each type of as–fired coal.

(3) In performing the tests specified in sub. (1), the owner or operator shall begin the tests using the equipment settings for which the NO_x emission control system was designed to meet the NO_x emission rate guaranteed by the primary NO_x emission control system vendor. These results constitute the baseline controlled condition.

(4) After establishing the baseline controlled condition under sub. (3), the owner or operator may do any of the following:

(a) Change excess air levels $\pm 5\%$ from the baseline controlled condition to determine the effects on emissions of NO_x, by providing a minimum of 3 readings.

Note: For example, with a baseline reading of 20% excess air, excess air levels will be changed to 19% and 21%.

(b) For tangentially fired boilers, change the distribution of combustion air within the NO_x emission control system to determine the effects on NO_x emissions by providing a minimum of 3 readings, one with the minimum, one with the baseline, and one with the maximum amounts of staged combustion air.

(c) Show that the combustion process within the boiler is optimized.

Note: For example, boiler optimization can mean that the burners are balanced.

History: Cr. Register, November, 1999, No. 527, eff. 12–1–99; correction in (1) (c) made under s. 13.93 (2m) (b) 7., Stats., Register August 2001 No. 548.

NR 439.10 Circumvention. No person 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. 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; CR 02–146: am. Register October 2003 No. 574, eff. 11–1–03.

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 variables. 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.