

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

The Wisconsin Natural Resources Board adopts an order to **amend** NR 484.06(4)(c) and (e) and to **create** NR 460 Appendix EEEEE and 463 Subchapter III relating to national emission standards for hazardous air pollutants for iron and steel foundries.

AM-29-06

Analysis Prepared by the Department of Natural Resources

**Statutes interpreted:** ss. 285.11(6) and 285.27(2)(a), Stats.

**Statutory authority:** ss. 227.11(2)(a), 227.14(1m), 285.11(1) and 285.27(2)(a), Stats.

**Explanation of agency authority:** Section 285.27(2), Stats., requires that the Department promulgate National Emission Standards for Hazardous Air Pollutants (NESHAP) by rule. In addition, since this NESHAP affects more than ten facilities in Wisconsin, promulgation into state rule is consistent with the Maximum Achievable Control Technology (MACT) Streamlining Policy approved by the Natural Resources Board in 1996.

**Related statute or rule:** NESHAP regulations for other source categories are contained in chapters NR 460 to 469. Chapter NR 463 contains the NESHAP rules relating to metals treating and processing.

**Plain language analysis:** The US EPA promulgated the NESHAP for iron and steel foundries on April 22, 2004 (40 CFR Part 63, Subpart EEEEE) and revised this rule on May 20, 2005 (70 FR 29400). The NESHAP establishes maximum achievable control technology (MACT) requirements for this source category. The proposed rule will incorporate this NESHAP, as revised, into the Wisconsin Administrative Code.

**Summary of, and comparison with, existing or proposed federal regulation:** As noted above, the federal NESHAP for this source category is an existing federal regulation. While some changes to the federal rule language and organization were made to accommodate state administrative rule format and style, no substantive changes were made. In most parts of the proposed rule, the federal format and language was retained as allowed under s. 227.14(1m)(a), Stats., and the proposed state rule is essentially identical to the federal rule.

**Comparison with similar rules in adjacent states:** The federal NESHAP regulation for this source category is in effect in every state in the nation, and all affected sources in any state are required to comply with the federal rule. The U.S. Environmental Protection Agency has delegated authority to most states to enforce the federal NESHAP regulations, which generally means that those states adopt the federal regulations as state regulations. Thus, the NESHAP regulations in adjacent states, if any, are identical to the federal regulations and the proposed Wisconsin rule.

**Summary of factual data and analytical methodologies:** Since the Department is merely adopting a federal regulation, the Department has not compiled any factual data nor used any analytical methodologies. Please see the federal documentation supporting the development and promulgation of the federal regulation at <http://www.epa.gov/ttn/atw/ifoundry/ifoundrypg.html>.

**Analysis and supporting documentation used to determine any effect on small business or in preparation of an economic impact report:** Cost estimates and economic impact analyses were prepared by the US Environmental

Protection Agency when they promulgated this regulation. See <http://www.epa.gov/ttn/atw/ifoundry/ifoundrypg.html>.

**Effect on small business:** Because the federal regulation is in effect and all affected sources must comply with it, there will be no additional effect on small business as a result of the promulgation of the state rules.

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SECTION 1. NR 460 Appendix EEEEE is created to read:

**Chapter NR 460**

**Appendix EEEEE**

**General Provisions Applicability to Chapter NR 463 Subchapter III**

The general provisions of this chapter listed under the column heading "Reference" apply to sources subject to ch. NR 463 subch. III only if a Yes appears in the same row under the column heading "Applies to Chapter NR 463 Subchapter III?". Certain provisions in other chapters which correspond to federal provisions in 40 CFR part 63 Subpart A are also included in the Reference column.

<b>Reference</b>	<b>Subject</b>	<b>Applies to Chapter NR 463 Subchapter III?</b>	<b>Explanation</b>
NR 2.19 and 2.195	Availability of information and confidentiality	Yes	
NR 406	Construction and reconstruction	Yes	
NR 460.01(1)	Applicability	Yes	
NR 460.02	Definitions	Yes	
NR 460.03	Units and abbreviations	Yes	
NR 460.04	Prohibited activities	Yes	
NR 460.05(1) to (5)	Compliance with standards and maintenance requirements	Yes	
NR 460.05(6)	Compliance with opacity and visible emission standards	Yes	
NR 460.05(7)	Compliance extension	Yes	
NR 460.06(1)	Applicability and performance test dates	No	Chapter NR 463 subchapter III specifies applicability and performance test dates.
NR 460.06(2) to (7)	Performance testing requirements	Yes	

NR 460.07(1)(a) and (b), (2), (3)(a) to (c) and (f) to (h), (4), (5) and (6)	Monitoring requirements	Yes	Chapter NR 463 subchapter III specifies requirements for alternative monitoring systems.
NR 460.07(1)(c)	Additional monitoring requirements for control devices in s. NR 460.10	No	Chapter NR 463 subchapter III does not require flares.
NR 460.07(3)(d)	Continuous monitoring system (CMS) requirements	No	Chapter NR 463 subchapter III specifies requirements for operation of CMS and CEMS.
NR 460.07(3)(e)	Continuous opacity monitoring system (COMS) minimum procedures	No	Chapter NR 463 subchapter III does not require COMS.
NR 460.07(7)	Data reduction	No	Chapter NR 463 subchapter III specifies data reduction requirements.
NR 460.08	Notification requirements	Yes	
NR 460.09(1), (2), (3)(a)1. to 3. and 6. to 10., (4)(a) and (b), (5)(a) and (b) and (6)	Recordkeeping and recording requirements	Yes	Additional records for CMS in s. NR 460.09(3)(a)1. to 3. and 6. to 10. apply only to CEMS.
NR 460.09(3)(a)4. and 5.	Records of excess emissions and parameter monitoring exceedances for CMS	No	Chapter NR 463 subchapter III specifies records requirements.
NR 460.09(4)(c)	Reporting opacity or visible emissions observations	Yes	
NR 460.09(5)(c)	Excess emissions reports	No	Chapter NR 463 subchapter III specifies reporting requirements.
NR 460.09(5)(d)	Reporting COMS data	No	Chapter NR 463 subchapter III does not require COMS
NR 460.10	Control device requirements	No	Chapter NR 463 subchapter III does not require flares.
NR 484	Incorporation by reference	Yes	

SECTION 2. NR 463 subchapter III is created to read:

### **Subchapter III**

#### **Iron and Steel Foundries**

**NR 463.21 What this subchapter covers.** (1) WHAT IS THE PURPOSE OF THIS SUBCHAPTER? This subchapter establishes national emission standards for hazardous air pollutants (NESHAP) for iron and steel foundries. This subchapter also establishes requirements to demonstrate initial and continuous compliance with the emissions limitations, work practice standards and operation and maintenance requirements in this subchapter.

(2) AM I SUBJECT TO THIS SUBCHAPTER? You are subject to this subchapter if you own or operate an iron and steel foundry that is, or is part of, a major source of hazardous air pollutant (HAP) emissions. Your iron

and steel foundry is a major source of HAP for purposes of this subchapter if it emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year or if it is located at a facility that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year.

(3) WHAT PARTS OF MY FOUNDRY DOES THIS SUBCHAPTER COVER? (a) The affected source is a new or existing iron and steel foundry.

(b) This subchapter covers emissions from metal melting furnaces, scrap pre-heaters, pouring areas, pouring stations, automated conveyor and pallet cooling lines, automated shakeout lines and mold and core making lines. This subchapter also covers fugitive emissions from foundry operations.

(c) An affected source is existing if you commenced construction or reconstruction of the affected source before December 23, 2002.

(d) An affected source is new if you commenced construction or reconstruction of the affected source on or after December 23, 2002. An affected source is reconstructed if it meets the definition of "reconstruction" in s. NR 463.22.

(4) WHEN DO I HAVE TO COMPLY WITH THIS SUBCHAPTER? (a) Except as specified in par. (b), if you have an existing affected source, you shall comply with each emissions limitation, work practice standard and operation and maintenance requirement in this subchapter that applies to you no later than April 23, 2007. Major source status for existing affected sources shall be determined no later than April 23, 2007.

(b) If you have an existing affected source, you shall comply with the work practice standards in s. NR 463.23(2)(b) or (c), as applicable, no later than April 22, 2005.

(c) If you have a new affected source for which the initial startup date is on or before April 22, 2004, you shall comply with each emissions limitation, work practice standard and operation and maintenance requirement in this subchapter that applies to you by April 22, 2004.

(d) If you have a new affected source for which the initial startup date is after April 22, 2004, you shall comply with each emissions limitation, work practice standard and operation and maintenance requirement in this subchapter that applies to you upon initial startup.

(e) If your iron and steel foundry is an area source that becomes a major source of HAP, you shall meet the requirements of s. NR 460.05(3)(c).

(f) You shall meet the notification and schedule requirements in s. NR 463.27(1).

**Note:** Several of these notifications must be submitted before the compliance date for your affected source.

**NR 463.22 What definitions apply to this subchapter?** For terms not defined in this section, the definitions contained in chs. NR 400 and 460 apply to the terms in this subchapter, with definitions in ch. NR 460 taking precedence over definitions in ch. NR 400. If this section defines a term which is also defined in ch. NR 400 or 460, the definition in this section applies in this subchapter. In this subchapter:

(1) “Automated conveyor and pallet cooling line” means any dedicated conveyor line or area used for cooling molds received from pouring stations.

(2) “Automated shakeout line” means any mechanical process unit designed for and dedicated to separating a casting from a mold. These mechanical processes include shaker decks, rotary separators and high-frequency vibration units. Automated shakeout lines do not include manual processes for separating a casting from a mold, such as personnel using a hammer, chisel, pick ax, sledge hammer or jackhammer.

(3) “Bag leak detection system” means a system that is capable of continuously monitoring relative particulate matter loadings in the exhaust of a baghouse to detect bag leaks and other upset conditions. A bag leak detection system includes an instrument that operates on triboelectric, electrodynamic, light scattering, light transmittance or other effect to continuously monitor relative particulate matter loadings.

(4) “Binder chemical” means a component of a system of chemicals used to bind sand together into molds, mold sections and cores through chemical reaction as opposed to pressure.

(5) “Capture system” means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device or to the atmosphere. A capture system may include the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums and fans.

(6) “Cold box mold or core making line” means a mold or core making line in which the formed aggregate is hardened by catalysis with a gas.

(7) “Combustion device” means an afterburner, thermal incinerator or scrap preheater.

(8) “Conveyance” means the system of equipment that is designed to capture pollutants at the source, convey them through ductwork and exhaust them using forced ventilation. A conveyance may include control equipment designed to reduce emissions of the pollutants. Emissions that are released through windows, vents or other general building ventilation or exhaust systems are not considered to be discharged through a conveyance.

(9) “Cooling” means the process of molten metal solidification within the mold and subsequent temperature reduction prior to shakeout.

(10) “Cupola” means a vertical cylindrical shaft furnace that uses coke and forms of iron and steel such as scrap and foundry returns as the primary charge components and melts the iron and steel through combustion of the coke by a forced upward flow of heated air.

(11) “Deviation” means any instance in which an affected source or an owner or operator of an affected source fails to meet any of the following:

(a) Any requirement or obligation established by this subchapter, including any emission limitation, operating limit, work practice standard or operation and maintenance requirement.

(b) Any term or condition that is adopted to implement an applicable requirement in this subchapter and that is included in the operating permit for any iron and steel foundry required to obtain an operating permit.

(c) Any emission limitation, operating limit or work practice standard in this subchapter during startup, shutdown or malfunction, regardless of whether or not the failure is permitted by this subchapter.

(12) “Electric arc furnace” means a vessel in which forms of iron and steel, such as scrap and foundry returns, are melted through resistance heating by an electric current flowing through the arcs formed between the electrodes and the surface of the metal and also flowing through the metal between the arc paths.

(13) “Electric induction furnace” means a vessel in which forms of iron and steel, such as scrap and foundry returns, are melted through resistance heating by an electric current that is induced in the metal by passing an alternating current through a coil surrounding the metal charge or surrounding a pool of molten metal at the bottom of the vessel.

(14) “Emissions limitation” has the meaning given in s. 285.01(16), Stats., and includes any operating limit specified in this subchapter.

(15) “Exhaust stream” means gases emitted from a process through a conveyance, as defined in sub. (8).

(16) “Free organic liquids” means material that fails the paint filter test by Method 9095A, “Paint Filter Liquids Test”, Revision 1, December 1996, as published in EPA Publication SW-846 “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods”, incorporated by reference in s. NR 484.06(4)(e). If any portion of the material passes through and drops from the filter within the 5-minute test period, the material contains free liquids.

(17) “Fresh acid solution” means a sulfuric acid solution used for the control of triethylamine emissions that has a pH of 2.0 or less.

(18) “Fugitive emissions” means any pollutant released to the atmosphere that is not discharged through a conveyance, as defined in sub. (8).

(19) “Furan warm box mold or core making line” means a mold or core making line in which the binder chemical system used is that system commonly designated as a furan warm box system by the foundry industry.

(20) “Iron and steel foundry” means a facility or portion of a facility that melts one or more of the following: scrap, ingot or other forms of iron and steel, and pours the resulting molten metal into molds to produce final or near final shape products for introduction into commerce. Research and development facilities and operations that only produce non-commercial castings are not included in this definition.

(21) “Metal melting furnace” means a cupola, electric arc furnace or electric induction furnace that converts one or more of the following: scrap, foundry returns and other solid forms of iron and steel to a liquid state. Metal melting furnace does not include a holding furnace, an argon oxygen decarburization vessel or ladle that receives molten metal from a metal melting furnace, and to which metal ingots or other material may be added to adjust the metal chemistry.

(22) “Mold or core making line” means the collection of equipment that is used to mix an aggregate of sand and binder chemicals, form the aggregate into final shape and harden the formed aggregate. A mold or core making line does not include a line for making green sand molds or cores.

(23) “Mold vent” means an intentional opening in a mold through which gases containing pyrolysis products of organic mold and core constituents produced by contact with or proximity to molten metal normally escape the mold during and after metal pouring.

(24) “Monitoring malfunction” means any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(25) “Pouring area” means an area, generally associated with floor and pit molding operations, in which molten metal is brought to each individual mold. Pouring areas include all pouring operations that are not a pouring station.

(26) “Pouring station” means the fixed location to which molds are brought in a continuous or semi-continuous manner to receive molten metal, after which the molds are moved to a cooling area.

(27) “Responsible official” has the meaning given in s. NR 400.02(136).

(28) “Scrap preheater” means a vessel or other piece of equipment in which metal scrap that is to be used as melting furnace feed is heated to a temperature high enough to eliminate moisture and other volatile impurities or tramp materials by direct flame heating or similar means of heating.

(29) “Scrubber blowdown” means liquor or slurry discharged from a wet scrubber that is either removed as a waste stream or processed to remove impurities or adjust its composition or pH before being returned to the scrubber.

(30) “Work practice standard” means any design, equipment, work practice, operational standard or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act (42 USC 7412(h)).

(31) “You” or “your” means the owner or operator of an iron and steel foundry.

**NR 463.23 Emissions limitations, work practice standards and operation and maintenance requirements.** (1) WHAT EMISSION LIMITS MUST I MEET? (a) You shall meet each of the following emission limits or standards that applies to you:



1. For each electric arc metal melting furnace, electric induction metal melting furnace or scrap preheater at an existing iron and steel foundry, as described in s. NR 463.21(3)(c), you may not discharge emissions through a conveyance to the atmosphere that exceed either the limit for particulate matter (PM) in subd. 1.a. or the limit for total metal HAP in subd. 1.b.:

- a. 0.005 gr/dscf of PM.
- b. 0.0004 gr/dscf of total metal HAP.

2. For each cupola metal melting furnace at an existing iron and steel foundry, as described in s. NR 463.21(3)(c), you may not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in subd. 2.a. or the limit for total metal HAP in subd. 2.b.:

- a. 0.006 gr/dscf of PM.
- b. 0.0005 gr/dscf of total metal HAP.

3. For each cupola metal melting furnace or electric arc metal melting furnace at a new iron and steel foundry, as described in s. NR 463.21(3)(d), you may not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in subd. 3.a. or, alternatively, the limit for total metal HAP in subd. 3.b.:

- a. 0.002 gr/dscf of PM.
- b. 0.0002 gr/dscf of total metal HAP.

4. For each electric induction metal melting furnace or scrap preheater at a new iron and steel foundry, as described in s. NR 463.21(3)(d), you may not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in subd. 4.a. or, alternatively, the limit for total metal HAP in subd. 4.b.:

- a. 0.001 gr/dscf of PM.
- b. 0.00008 gr/dscf of total metal HAP.

5. For each pouring station at an existing iron and steel foundry, as described in s. NR 463.21(3)(c), you may not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in subd. 5.a. or, alternatively, the limit for total metal HAP in subd. 5.b.:

- a. 0.010 gr/dscf of PM.

b. 0.0008 gr/dscf of total metal HAP.

6. For each pouring area or pouring station at a new iron and steel foundry, as described in s. NR 463.21(3)(d), you may not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in subd. 6.a. or, alternatively, the limit for total metal HAP in subd. 6.b. :

a. 0.002 gr/dscf of PM.

b. 0.0002 gr/dscf of total metal HAP.

7. For each building or structure housing any emissions source at the iron and steel foundry, you may not discharge any fugitive emissions to the atmosphere that exhibit opacity greater than 20% averaged over 6 minutes except for one 6-minute average per hour that does not exceed 27% opacity.

8. For each cupola metal melting furnace at a new or existing iron and steel foundry, you may not discharge emissions of volatile organic hazardous air pollutants (VOHAP) through a conveyance to the atmosphere that exceed 20 parts per million by volume (ppmv) corrected to 10% oxygen.

9. As an alternative to the work practice standard in sub. (2)(e) for a scrap preheater at an existing iron and steel foundry or in sub. (2)(f) for a scrap preheater at a new iron and steel foundry, as described in s. NR 463.21(3)(d), you may not discharge emissions of VOHAP through a conveyance to the atmosphere that exceed 20 ppmv.

10. For one or more automated conveyor and pallet cooling lines that use a sand mold system, or one or more automated shakeout lines that use a sand mold system, at a new iron and steel foundry, as described in s. NR 463.21(3)(d), you may not discharge emissions of VOHAP through a conveyance to the atmosphere that exceed a flow-weighted average of 20 ppmv.

11. For each triethylamine (TEA) cold box mold or core making line at a new or existing iron and steel foundry, you shall meet either the emission limit in subd. 11.a. or the emission standard in subd. 11.b.:

a. You may not discharge emissions of TEA through a conveyance to the atmosphere that exceed 1 ppmv, as determined when scrubbing with fresh acid solution.

b. You shall reduce emissions of TEA from each TEA cold box mold or core making line by at least 99%, as determined when scrubbing with fresh acid solution.

(b) You shall meet each of the following operating limits that applies to you:

1. You shall install, operate and maintain a capture and collection system for all emission sources subject to an emission limit or standard for VOHAP or TEA in par. (a)8. to 11. in accordance with both of the following:

a. Each capture and collection system shall meet accepted engineering standards, such as those published by the American Conference of Governmental Industrial Hygienists.

**Note:** Publications of the American Conference of Governmental Industrial Hygienists may be obtained at:  
American Conference of Governmental Industrial Hygienists  
1330 Kemper Meadow Drive  
Cincinnati, Ohio 45240  
(513) 742-2020  
mail@acgih.org  
www.acgih.org

b. You shall operate each capture system at or above the lowest value or settings established as operating limits in your operation and maintenance plan.

2. You shall operate each wet scrubber applied to emissions from a metal melting furnace, scrap preheater, pouring area or pouring station subject to an emission limit for PM or total metal HAP in par. (a)1. to 6. to insure that the 3-hour average pressure drop and scrubber water flow rate does not fall below the minimum levels established during the initial or subsequent performance test.

3. You shall operate each combustion device applied to emissions from a cupola metal melting furnace subject to the emission limit for VOHAP in par. (a)8. to insure that the 15-minute average combustion zone temperature does not fall below 1,300°F. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.

4. You shall operate each combustion device applied to emissions from a scrap preheater subject to the emission limit for VOHAP in par. (a)9. or from a TEA cold box mold or core making line subject to the emission limit for TEA in par. (a)11. to insure that the 3-hour average combustion zone temperature does not fall below the minimum level established during the initial or subsequent performance test.

5. You shall operate each wet acid scrubber applied to emissions from a TEA cold box mold or core making line subject to the emission limit for TEA in par. (a)11. to insure both of the following:

a. The 3-hour average scrubbing liquid flow rate does not fall below the minimum level established during the initial or subsequent performance test.

b. The 3-hour average pH of the scrubber blowdown, as measured by a continuous parameter monitoring system (CPMS), does not exceed 4.5 or the pH of the scrubber blowdown, as measured once every 8 hours during process operations, does not exceed 4.5.

(c) If you use a control device other than a baghouse, wet scrubber, wet acid scrubber or combustion device, you shall prepare and submit a monitoring plan. The monitoring plan is subject to approval by the department and shall contain all of the following:

1. A description of the device.
2. Test results collected in accordance with s. NR 463.25(3) verifying the performance of the device for reducing emissions of PM, total metal HAP, VOHAP or TEA to the levels required by this subchapter.
3. A copy of the operation and maintenance plan required by sub. (3)(b).
4. A list of appropriate operating parameters that will be monitored to maintain continuous compliance with the applicable emissions limitations.
5. Operating parameter limits based on monitoring data collected during the performance test.

(2) WHAT WORK PRACTICE STANDARDS MUST I MEET? (a) For each segregated scrap storage area, bin or pile, you shall either comply with the certification requirements in par. (b) or prepare and implement a plan for the selection and inspection of scrap according to the requirements in par. (c). You may have certain scrap subject to par. (b) and other scrap subject to par. (c) at your facility, provided the scrap remains segregated until being aggregated to make up the charge for the furnace.

(b) If you elect to meet this paragraph as allowed under par. (a), you shall prepare, and operate at all times according to, a written certification that the foundry purchases and uses only metal ingots, pig iron, slitter or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, mercury switches, plastics or free organic liquids, as defined in s. NR 423.02(16). Any post-consumer engine blocks, post-consumer oil filters or oily turnings that are processed and

cleaned, to the extent practicable, such that the materials do not include lead components, mercury switches, plastics or free organic liquids may be included in this certification.

(c) If you elect to meet this paragraph as allowed under par. (a), you shall prepare and operate at all times according to a written plan for the selection and inspection of iron and steel scrap to minimize, to the extent practicable, the amount of organics and HAP metals in the charge materials used by the iron and steel foundry. This scrap selection and inspection plan is subject to approval by the department. You shall keep a copy of the plan onsite and readily available to all plant personnel with materials acquisition or inspection duties. You shall provide a copy of the material specifications to each of your scrap vendors. Each plan shall include all of the following information:

1. A materials acquisition program to limit organic contaminants according to the following requirements as applicable:

a. For scrap charged to a scrap preheater, electric arc metal melting furnace or electric induction metal melting furnaces, specifications for scrap materials to be depleted, to the extent practicable, of the presence of used oil filters, plastic parts and organic liquids, and a program to ensure the scrap materials are drained of free liquids.

b. For scrap charged to a cupola metal melting furnace, specifications for scrap materials to be depleted, to the extent practicable, of the presence of plastic, and a program to ensure the scrap materials are drained of free liquids.

2. A materials acquisition program specifying that the scrap supplier remove accessible mercury switches from the trunks and hoods of any automotive bodies contained in the scrap and remove accessible lead components such as batteries and wheel weights. You shall obtain and maintain onsite a copy of the procedures used by the scrap supplier for either removing accessible mercury switches or for purchasing automobile bodies that have had mercury switches removed, as applicable.

3. Procedures for visual inspection of a representative portion, but not less than 10%, of all incoming scrap shipments to ensure the materials meet the specifications. The inspection procedures shall do all of the following:

a. Identify the locations where inspections are to be performed for each type of shipment. Inspections may be performed at the scrap supplier's facility. The selected locations shall provide a reasonable vantage point, considering worker safety, for visual inspection.

b. Include recordkeeping requirements for the documentation of each visual inspection including the results.

c. Include provisions for rejecting or returning entire or partial scrap shipments that do not meet specifications and limiting purchases from vendors whose shipments fail to meet specifications for more than 3 inspections in one calendar year.

d. If the inspections are performed at the scrap supplier's facility, include an explanation of how the periodic inspections ensure that not less than 10% of scrap purchased from each supplier is subject to inspection.

(d) For each furan warm box mold or core making line in a new or existing iron and steel foundry, you shall use a binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation as determined by the material safety data sheet. This requirement does not apply to the resin portion of the binder system.

(e) For each scrap preheater at an existing iron and steel foundry, you shall meet either of the following requirements, or, as an alternative, you may meet the VOHAP emissions limit in sub. (1)(a)9.:

1. You shall install, operate and maintain a gas-fired preheater where the flame directly contacts the scrap charged.

2. You shall charge only material that is subject to and in compliance with the scrap certification requirement in par. (b).

(f) For each scrap preheater at a new iron and steel foundry, you shall charge only material that is subject to, and in compliance with, the scrap certification requirement in par. (b). As an alternative to this requirement, you may meet the VOHAP emissions limit in sub. (1)(a)9.

(3) WHAT ARE MY OPERATION AND MAINTENANCE REQUIREMENTS? (a) As required by s. NR 460.05(4)(a)1., you shall always operate and maintain your iron and steel foundry, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this subchapter.

(b) You shall prepare, and operate at all times according to, a written operation and maintenance plan for each capture and collection system and control device for an emissions source subject to an emissions limit in sub.

(1)(a). Your operation and maintenance plan shall also include procedures for igniting gases from mold vents in pouring areas and pouring stations that use a sand mold system. The operation and maintenance plan is subject to approval by the department and shall contain all of the following elements:

1. Monthly inspections of the equipment that is important to the performance of the total capture system, such as pressure sensors, dampers and damper switches. The inspections shall include observations of the physical appearance of the equipment, such as the presence of holes in the ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork and fan erosion. The operation and maintenance plan shall also include requirements to repair the defect or deficiency as soon as practicable.

2. Operating limits for each capture system for an emissions source subject to an emissions limit or standard for VOHAP or TEA in sub. (1)(a)8. to 11. You shall establish the operating limits according to all of the following requirements:

a. You shall select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a minimum, you shall use appropriate operating limit parameters that indicate the level of the ventilation draft and damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage or static pressure. Any parameter for damper position setting may be used that indicates the duct damper position related to the fully open setting.

b. For each operating limit parameter selected in subd. 2.a., you shall designate the value or setting for the parameter at which the capture system operates during the process operation. If your operation allows for more than one process to be operating simultaneously, you shall designate the value or setting for the parameter at which the capture system operates during each possible configuration that you may operate, for example the operating limits with one furnace melting or 2 melting, as applicable to your plant.

c. You shall include documentation in your plan to support your selection of the operating limits established for your capture system. This documentation shall include a description of the capture system design, a

description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why you chose the parameter, a description of the method used to monitor the parameter according to the requirements of s. NR 463.26(1)(a) and the data used to establish the value or setting for the parameter for each of your process configurations.

3. A preventive maintenance plan for each control device, including a preventive maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

4. A site-specific monitoring plan for each bag leak detection system. For each bag leak detection system that operates on the triboelectric effect, the monitoring plan shall be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document "Fabric Filter Bag Leak Detection Guidance", EPA-454/R-98-015, incorporated by reference in s. NR 484.06(4)(c). The owner or operator shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The baghouse monitoring plan is subject to approval by the department and shall address all of the following items:

a. Installation of the bag leak detection system.

b. Initial and periodic adjustment of the bag leak detection system, including how the alarm set-point will be established.

c. Operation of the bag leak detection system including quality assurance procedures.

d. How the bag leak detection system will be maintained, including a routine maintenance schedule and spare parts inventory list.

e. How the bag leak detection system output will be recorded and stored.

5. A corrective action plan for each baghouse. The plan shall include the requirement that, in the event a bag leak detection system alarm is triggered, you shall initiate corrective action to determine the cause of the alarm within one hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm and complete the corrective action as soon as practicable. Corrective actions taken may include any of the following:

a. Inspecting the baghouse for air leaks, torn or broken bags or filter media or any other condition that may cause an increase in emissions.



- b. Sealing off defective bags or filter media.
- c. Replacing defective bags or filter media or otherwise repairing the control device.
- d. Sealing off a defective baghouse compartment.
- e. Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.
- f. Making process changes.
- g. Shutting down the process producing the PM emissions.

6. Procedures for providing an ignition source to mold vents of sand mold systems in each pouring area and pouring station unless you determine the mold vent gases either are not ignitable, ignite automatically or cannot be ignited due to accessibility or safety issues. You shall document and maintain records of the determination of ignitability, accessibility and safety. The determination may encompass multiple casting patterns provided the castings utilize similar sand-to-metal ratios, binder formulations and coating materials. The determination of ignitability shall be based on observations of the mold vents within 5 minutes of pouring, and the flame shall be present for at least 15 seconds for the mold vent to be considered ignited. For the purpose of the determination made under this subdivision, both of the following apply:

a. Mold vents that ignite more than 75% of the time without the presence of an auxiliary ignition source are considered to ignite automatically.

b. Mold vents that do not ignite automatically and cannot be ignited in the presence of an auxiliary ignition source more than 25% of the time are considered to be not ignitable.

**NR 463.24 General compliance requirements.** (1) WHAT ARE MY GENERAL REQUIREMENTS FOR COMPLYING WITH THIS SUBCHAPTER? (a) You shall be in compliance with the emissions limitations, work practice standards and operation and maintenance requirements in this subchapter at all times, except during periods of startup, shutdown or malfunction.

(b) During the period between the compliance date specified for your iron and steel foundry in s. NR 463.21(4) and the date when applicable operating limits have been established during the initial performance test, you shall maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) You shall develop a written startup, shutdown and malfunction plan according to the provisions in s. NR 460.05(4)(c). The startup, shutdown and malfunction plan shall also specify what constitutes a shutdown of a cupola and how to determine that operating conditions are normal following startup of a cupola.

(2) WHAT PARTS OF THE GENERAL PROVISIONS APPLY TO ME? You shall comply with the applicable general provisions requirements in ch. NR 460. Appendix EEEEE in ch. NR 460 shows which parts of the general provisions in ch. NR 460 apply to you.

**NR 463.25 Initial compliance requirements.** (1) BY WHAT DATE MUST I CONDUCT INITIAL PERFORMANCE TESTS OR OTHER INITIAL COMPLIANCE DEMONSTRATIONS? (a) As required by s. NR 460.06(1)(b), you shall conduct a performance test no later than 180 calendar days after the compliance date that is specified in s. NR 463.21(4) for your iron and steel foundry to demonstrate initial compliance with each emission limitation in s. NR 463.23(1) that applies to you.

(b) For each work practice standard in s. NR 463.23(2) and each operation and maintenance requirement in s. NR 463.23(3) that applies to you where initial compliance is not demonstrated using a performance test, you shall demonstrate initial compliance no later than 30 calendar days after the compliance date that is specified for your iron and steel foundry in s. NR 463.21(4).

(c) If you commenced construction or reconstruction between December 23, 2002 and April 22, 2004, you shall demonstrate initial compliance with either the proposed emissions limit or the promulgated emissions limit no later than October 19, 2004 or no later than 180 calendar days after startup of the source, whichever is later, according to s. NR 460.06(1)(c).

(d) If you commenced construction or reconstruction between December 23, 2002 and April 22, 2004, and you chose to comply with the proposed emissions limit when demonstrating initial compliance, you shall conduct a second performance test to demonstrate compliance with the promulgated emissions limit by October 19, 2007 or after startup of the source, whichever is later, according to s. NR 460.06(1)(c).

(2) WHEN MUST I CONDUCT SUBSEQUENT PERFORMANCE TESTS? (a) You shall conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP, VOHAP and

TEA emissions limitations in s. NR 463.23(1) for your iron and steel foundry no less frequently than every 5 years. The requirement to conduct performance tests every 5 years does not apply to an emissions source for which a continuous emissions monitoring system (CEMS) is used to demonstrate continuous compliance.

(b) You shall conduct subsequent performance tests to demonstrate compliance with the opacity limit in s. NR 463.23(1) (a)7. for your iron and steel foundry no less frequently than once every 6 months.

(3) WHAT TEST METHODS AND OTHER PROCEDURES MUST I USE TO DEMONSTRATE INITIAL COMPLIANCE WITH THE EMISSION LIMITATIONS? You shall conduct each performance test that applies to your iron and steel foundry according to the requirements in s. NR 460.06(4)(a) and the following conditions, as applicable:

(a) *Particulate matter.* To determine compliance with the applicable emission limit for PM in s. NR 463.23(1)(a)1. to 6. for a metal melting furnace, scrap preheater, pouring station or pouring area, you shall use the following test methods and procedures:

1. Determine the concentration of PM according to the test methods in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(13), that are specified in subd. 1.a. to e.:

a. Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites shall be located at the outlet of the control device, or at the outlet of the emission source if no control device is present, prior to any releases to the atmosphere.

b. Method 2, 2A, 2C, 2D, 2F or 2G to determine the volumetric flow rate of the stack gas.

c. Method 3, 3A or 3B to determine the dry molecular weight of the stack gas.

d. Method 4 to determine the moisture content of the stack gas.

e. Method 5, 5B, 5D, 5F or 5I, as applicable, to determine the PM concentration. The PM concentration is determined using only the front-half, probe rinse and filter, of the PM catch.

2. Collect a minimum sample volume of 60 dscf of gas during each PM sampling run. A minimum of 3 valid test runs are needed to comprise a performance test.

3. For cupola metal melting furnaces, sample only during times when the cupola is on blast.

4. For electric arc and electric induction metal melting furnaces, sample only when metal is being melted.

5. For scrap preheaters, sample only when scrap is being preheated.

(b) *Total metal HAP*. To determine compliance with the applicable emission limit for total metal HAP in s. NR 463.23(1)(a)1. to 6. for a metal melting furnace, scrap preheater, pouring station, or pouring area, you shall use the following test methods and procedures:

1. Determine the concentration of total metal HAP according to the test methods in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(13), that are specified in subd. 1.a. to e.:

a. Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites shall be located at the outlet of the control device, or at the outlet of the emissions source if no control device is present, prior to any releases to the atmosphere.

b. Method 2, 2A, 2C, 2D, 2F or 2G to determine the volumetric flow rate of the stack gas.

c. Method 3, 3A or 3B to determine the dry molecular weight of the stack gas.

d. Method 4 to determine the moisture content of the stack gas.

e. Method 29 to determine the total metal HAP concentration.

2. Collect a minimum sample volume of 60 dscf of gas during each total metal HAP sampling run. A minimum of 3 valid test runs are needed to comprise a performance test.

3. For cupola metal melting furnaces, sample only during times when the cupola is on blast.

4. For electric arc and electric induction metal melting furnaces, sample only when metal is being melted.

5. For scrap preheaters, sample only when scrap is being preheated.

(c) *Fugitive emissions*. To determine compliance with the opacity limit in s. NR 463.23(1)(a)7. for fugitive emissions from buildings or structures housing any emissions source at the iron and steel foundry, you shall use the following test method and procedures:

1. Using a certified observer, conduct each opacity test according to the requirements in EPA Method 9 in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(13) and the requirements in s. NR 460.05(6)(d).

2. Conduct each test such that the opacity observations overlap with the PM performance tests.

(d) *Volatile organic HAP emissions from cupola furnaces and scrap preheaters.* To determine compliance with the applicable VOHAP emissions limit in s. NR 463.23(1)(a)8. for a cupola metal melting furnace or in s. NR 463.23(1)(a)9. for a scrap preheater, you shall use the following test methods and procedures:

1. Determine the VOHAP concentration for each test run according to the test methods in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(13), that are specified in subd. 1.a. to e.:

a. Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites shall be located at the outlet of the control device, or at the outlet of the emissions source if no control device is present, prior to any releases to the atmosphere.

b. Method 2, 2A, 2C, 2D, 2F or 2G to determine the volumetric flow rate of the stack gas.

c. Method 3, 3A or 3B to determine the dry molecular weight of the stack gas.

d. Method 4 to determine the moisture content of the stack gas.

e. Method 18 to determine the VOHAP concentration. Alternatively, you may use Method 25 to determine the concentration of total gaseous nonmethane organics (TGNMO) or Method 25A to determine the concentration of total organic compounds (TOC), using hexane as the calibration gas.

2. Determine the average VOHAP, TGNMO or TOC concentration using a minimum of 3 valid test runs. Each test run shall include a minimum of 60 continuous operating minutes.

3. For a cupola metal melting furnace, correct the measured concentration of VOHAP, TGNMO or TOC for oxygen content in the gas stream using Equation 1:

$$C_{\text{VOHAP},10\%O_2} = C_{\text{VOHAP}} \left( \frac{10.9\%}{20.9\% - \%O_2} \right) \quad \text{Equation 1}$$

where:

$C_{\text{VOHAP}}$  is the concentration of VOHAP in ppmv as measured by Method 18 in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(16) or the concentration of TGNMO or TOC in ppmv as hexane as measured by Method 25 or 25A in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(19) or

(20)

$\%O_2$  is the oxygen concentration in gas stream, percent by volume (dry basis)

4. For a cupola metal melting furnace, measure the combustion zone temperature of the combustion device with the CPMS required in s. NR 463.26(1)(d) during each sampling run in 15-minute intervals. Determine and record the 15-minute average of the 3 runs.

(e) *Volatile organic HAP emissions from automated pallet cooling lines or automated shakeout lines.* To determine compliance with the VOHAP emissions limit in s. NR 463.23(1)(a)10. for automated pallet cooling lines or automated shakeout lines you shall use either the procedures in subds. 1. and 3. or subds. 2. and 3.

1. To demonstrate compliance by direct measurement of total hydrocarbons, a surrogate for VOHAP, use all of the following procedures:

a. Using the VOC CEMS required in s. NR 463.26(1)(g), measure and record the concentration of total hydrocarbons, as hexane, for 180 continuous operating minutes. You shall measure emissions at the outlet of the control device, or at the outlet of the emissions source if no control device is present, prior to any releases to the atmosphere.

b. Reduce the monitoring data to hourly averages as specified in s. NR 460.07(7)(b).

c. Compute and record the 3-hour average of the monitoring data.

2. To demonstrate compliance by establishing a site-specific TOC emissions limit that is correlated to the VOHAP emissions limit, use the following procedures:

a. Determine the VOHAP concentration for each test run according to the test methods in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(13), that are specified in this subdivision.

1) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites shall be located at the outlet of the control device, or at the outlet of the emissions source if no control device is present, prior to any releases to the atmosphere.

2) Method 2, 2A, 2C, 2D, 2F or 2G to determine the volumetric flow rate of the stack gas.

3) Method 3, 3A or 3B to determine the dry molecular weight of the stack gas.

4) Method 4 to determine the moisture content of the stack gas.

5) Method 18 to determine the VOHAP concentration. Alternatively, you may use Method 25 to determine the concentration of TGNMO using hexane as the calibration gas.

b. Using the CEMS required in s. NR 463.26(1)(g), measure and record the concentration of total hydrocarbons, as hexane, during each of the Method 18 or Method 25 sampling runs. You shall measure emissions at the outlet of the control device, or at the outlet of the emissions source if no control device is present, prior to any releases to the atmosphere.

c. Calculate the average VOHAP or TGNMO concentration for the source test as the arithmetic average of the concentrations measured for the individual test runs and determine the average concentration of total hydrocarbon, as hexane, as measured by the CEMS during all test runs.

d. Calculate the site-specific VOC emissions limit using Equation 2:

$$\text{VOC}_{\text{limit}} = 20 \times \frac{C_{\text{VOHAP,avg}}}{C_{\text{CEM}}} \quad \text{Equation 2}$$

where:

$C_{\text{VOHAP,avg}}$  is the average concentration of VOHAP for the source test in ppmv as measured by Method 18 in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(16), or the average concentration of TGNMO for the source test in ppmv as hexane as measured by Method 25 in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(19)

$C_{\text{CEM}}$  is the average concentration of total hydrocarbons in ppmv as hexane as measured using the CEMS during the source test

3. For 2 or more exhaust streams from one or more automated conveyor and pallet cooling lines or automated shakeout lines, compute the flow-weighted average concentration of VOHAP emissions for each combination of exhaust streams using Equation 3:

$$C_w = \frac{\sum_{i=1}^n C_i Q_i}{\sum_{i=1}^n Q_i} \quad \text{Equation 3}$$

where:

$C_w$  is the flow-weighted concentration of VOHAP or VOC, ppmv, as hexane

$C_i$  is the concentration of VOHAP or VOC from exhaust stream  $i$ , ppmv, as hexane

$n$  is the number of exhaust streams sampled

$Q_i$  is the volumetric flow rate of effluent gas from exhaust stream  $i$  in dscfm

(f) *Triethylamine emissions*. To determine compliance with the emissions limit or standard in s. NR 463.23(1)(a)11. for a TEA cold box mold or core making line, you shall use the following test methods and procedures:

1. Determine the TEA concentration for each test run according to the test methods in 40 CFR part 60, appendix A, incorporated by reference in s. NR 484.04(13), that are specified in subd. 1.a. to e.

a. Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. If you elect to meet the 99% reduction standard, sampling sites shall be located both at the inlet to the control device and at the outlet of the control device prior to any releases to the atmosphere. If you elect to meet the concentration limit, the sampling site shall be located at the outlet of the control device, or at the outlet of the emissions source if no control device is present, prior to any releases to the atmosphere.

b. Method 2, 2A, 2C, 2D, 2F or 2G to determine the volumetric flow rate of the stack gas.

c. Method 3, 3A or 3B to determine the dry molecular weight of the stack gas.

d. Method 4 to determine the moisture content of the stack gas.

e. Method 18 to determine the TEA concentration. The Method 18 sampling time shall be sufficiently long such that either the TEA concentration in the field sample is at least 5 times the limit of detection for the analytical method or the test results calculated using the laboratory's reported analytical detection limit for the specific field samples are less than 1/5 of the applicable emissions limit. The adsorbent tube approach, as described in Method 18, may be required to achieve the necessary analytical detection limits. The sampling time shall be at least one hour in all cases.

2. Conduct the test as soon as practicable after adding fresh acid solution and the system has reached normal operating conditions.

3. If you use a wet acid scrubber that is subject to the operating limit in s. NR 463.23(1)(b)5.b. for pH level, determine the pH of the scrubber blowdown using one of the following procedures:



a. Measure the pH of the scrubber blowdown with the CPMS required in s. NR 423.26(1)(f)2. during each TEA sampling run in intervals of no more than 15 minutes. Determine and record the 3-hour average.

b. Measure and record the pH level using the probe and meter required in s. NR 423.26(1)(f)2. once each sampling run. Determine and record the average pH level for the 3 runs.

4. If you are subject to the 99% reduction standard, calculate the mass emissions reduction using Equation 4:

$$\% \text{ reduction} = \frac{E_i - E_o}{E_i} \times 100\% \quad \text{Equation 4}$$

where:

$E_i$  is the mass emissions rate of TEA at control device inlet, kg/hr

$E_o$  is the mass emissions rate of TEA at control device outlet, kg/hr

(g) *Combined emission sources.* To determine compliance with the PM or total metal HAP emission limits in s. NR 463.23(1)(a)1. to 6. when one or more regulated emissions sources are combined with either another regulated emissions source subject to a different emissions limit or other non-regulated emissions sources, you may demonstrate compliance using one of the following procedures:

1. You shall meet the most stringent applicable emission limit for the regulated emission sources included in the combined emissions stream for the combined emissions stream.

2. You shall do all of the following:

a. Determine the volumetric flow rate of the individual regulated streams for which emissions limits apply.

b. Calculate the flow-weighted average emissions limit, considering only the regulated streams, using Equation 3 in par. (e)3., except  $C_w$  is the flow-weighted average emissions limit for PM or total metal HAP in the exhaust stream, gr/dscf; and  $C_i$  is the concentration of PM or total metal HAP in exhaust stream  $i$ , gr/dscf.

c. Meet the calculated flow-weighted average emissions limit for the regulated emissions sources included in the combined emissions stream for the combined emissions stream.

3. You shall do all of the following:

a. Determine the PM or total metal HAP concentration of each of the regulated streams prior to the combination with other exhaust streams or control device.

b. Measure the flow rate and PM or total metal HAP concentration of the combined exhaust stream both before and after the control device and calculate the mass removal efficiency of the control device using Equation 4 in par. (f)4., except  $E_i$  is the mass emissions rate of PM or total metal HAP at the control device inlet, lb/hr, and  $E_o$  is the mass emissions rate of PM or total metal HAP at the control device outlet, lb/hr.

c. Meet the applicable emissions limit based on the calculated PM or total metal HAP concentration for the regulated emissions source using Equation 5 of this section:

$$C_{\text{released}} = C_i \times \left( 1 - \frac{\% \text{ reduction}}{100} \right) \quad \text{Equation 5}$$

where:

$C_{\text{released}}$  is the calculated concentration of PM or total metal HAP predicted to be released to the atmosphere from the regulated emission source, in gr/dscf

$C_i$  is the concentration of PM or total metal HAP in the uncontrolled regulated exhaust stream, in gr/dscf

(4) WHAT PROCEDURES MUST I USE TO ESTABLISH OPERATING LIMITS? (a) For each capture system subject to operating limits in s. NR 463.23(1)(b)1.b., you shall establish site-specific operating limits in your operation and maintenance plan according to all of the following procedures:

1. Concurrent with applicable emissions and opacity tests, measure and record values for each of the operating limit parameters in your capture system operation and maintenance plan according to the monitoring requirements in s. NR 423.26(1)(a).

2. For any dampers that are manually set and remain at the same position at all times the capture system is operating visually check and record the damper position at the beginning and end of each run.

3. Review and record the monitoring data. Identify and explain any times the capture system operated outside the applicable operating limits.

(b) For each wet scrubber subject to the operating limits in s. NR 463.23(1)(b)2. for pressure drop and scrubber water flow rate, you shall establish site-specific operating limits according to both of the following procedures :

1. Using the CPMS required in s. NR 463.26(1)(c), measure and record the pressure drop and scrubber water flow rate in intervals of no more than 15 minutes during each PM test run.

2. Compute and record the 3-hour average pressure drop and average scrubber water flow rate for each sampling run in which the applicable emissions limit is met.

(c) For each combustion device applied to emissions from a scrap preheater or TEA cold box mold or core making line subject to the operating limit in s. NR 463.23(1)(b)4. for combustion zone temperature, you shall establish a site-specific operating limit according to both of the following procedures:

1. Using the CPMS required in s. NR 463.26(1)(e), measure and record the combustion zone temperature during each sampling run in intervals of no more than 15 minutes.

2. Compute and record the 3-hour average combustion zone temperature for each sampling run in which the applicable emissions limit is met.

(d) For each acid wet scrubber subject to the operating limit in s. NR 463.23(1)(b)5., you shall establish a site-specific operating limit for scrubbing liquid flow rate according to both of the following procedures:

1. Using the CPMS required in s. NR 463.26(1)(f), measure and record the scrubbing liquid flow rate during each TEA sampling run in intervals of no more than 15 minutes.

2. Compute and record the 3-hour average scrubbing liquid flow rate for each sampling run in which the applicable emissions limit is met.

(e) You may change the operating limits for a capture system, wet scrubber, acid wet scrubber or combustion device if you do all of the following:

1. Submit a written notification to the department of your request to conduct a new performance test to revise the operating limit.

2. Conduct a performance test to demonstrate compliance with the applicable emissions limitation in s. NR 463.23(1).

3. Establish revised operating limits according to the applicable procedures in pars. (a) to (d).

(f) You may use a previous performance test conducted since December 22, 2002 to establish an operating limit, provided the test meets the requirements of this subchapter.

(5) HOW DO I DEMONSTRATE INITIAL COMPLIANCE WITH THE EMISSION LIMITATIONS THAT APPLY TO ME? (a) You have demonstrated initial compliance with the emissions limits in s. NR 463.23(1)(a) if you do the following, as applicable:

1. For each electric arc metal melting furnace, electric induction metal melting furnace, or scrap preheater at an existing iron and steel foundry you demonstrate one of the following:

a. The average PM concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(a), did not exceed 0.005 gr/dscf.

b. The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(b), did not exceed 0.0004 gr/dscf.

2. For each cupola metal melting furnace at an existing iron and steel foundry you demonstrate one of the following:

a. The average PM concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(a), did not exceed 0.006 gr/dscf.

b. The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(b), did not exceed 0.0005 gr/dscf.

3. For each cupola metal melting furnace or electric arc metal melting furnace at a new iron and steel foundry you demonstrate one of the following:

a. The average PM concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(a), did not exceed 0.002 gr/dscf.

b. The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(b), did not exceed 0.0002 gr/dscf.

4. For each electric induction metal melting furnace or scrap preheater at a new iron and steel foundry you demonstrate one of the following:

a. The average PM concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(a), did not exceed 0.001 gr/dscf.

b. The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(b), did not exceed 0.00008 gr/dscf.

5. For each pouring station at an existing iron and steel foundry you demonstrate one of the following:

a. The average PM concentration in the exhaust stream, measured according to the performance test procedures in sub. (3)(a), did not exceed 0.010 gr/dscf.

b. The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(b), did not exceed 0.0008 gr/dscf.

6. For each pouring area or pouring station at a new iron and steel foundry you demonstrate one of the following:

a. The average PM concentration in the exhaust stream, measured according to the performance test procedures in sub. (3)(a), did not exceed 0.002 gr/dscf.

b. The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in sub. (3)(b), did not exceed 0.0002 gr/dscf.

7. For each building or structure housing any emission source at the iron and steel foundry, the opacity of fugitive emissions discharged to the atmosphere, determined according to the performance test procedures in sub. (3)(c), did not exceed 20% averaged over 6-minutes, except for one 6-minute average per hour that did not exceed 27% opacity.

8. For each cupola metal melting furnace at a new or existing iron and steel foundry, the average VOHAP concentration, determined according to the performance test procedures in sub. (3)(d), did not exceed 20 ppmv corrected to 10% oxygen.

9. For each scrap preheater at an existing iron and steel foundry that does not meet the work practice standards in s. NR 463.23(2)(e)1. or 2., and for each scrap preheater at a new iron and steel foundry that does not meet the work practice standard in s. NR 463.23(2)(f), the average VOHAP concentration determined according to the performance test procedures in sub. (3)(d), did not exceed 20 ppmv.

10. For one or more automated conveyor and pallet cooling lines that use a sand mold system or automated shakeout lines that use a sand mold system at a new foundry you demonstrate both of the following:

a. You have reduced the data from the CEMS to 3-hour averages according to the performance test procedures in sub. (3)(e).

b. The 3-hour flow-weighted average VOHAP concentration, measured according to the performance test procedures in sub. (3)(e), did not exceed 20 ppmv.

11. For each TEA cold box mold or core making line in a new or existing iron and steel foundry, the average TEA concentration, determined according to the performance test procedures in sub. (3)(f) did not exceed 1 ppmv or was reduced by 99%.

(b) You have demonstrated initial compliance with the operating limits in s. NR 463.23(1)(b) if you do the following, as applicable:

1. For each capture system subject to the operating limit in s. NR 463.23(1)(b)1.a., you have established appropriate site-specific operating limits in your operation and maintenance plan according to the requirements in s. NR 463.23(3)(b) and have a record of the operating parameter data measured during the performance test in accordance with sub. (4)(a).

2. For each wet scrubber subject to the operating limits in s. NR 436.23(1)(b)2. for pressure drop and scrubber water flow rate, you have established appropriate site-specific operating limits and have a record of the pressure drop and scrubber water flow rate measured during the performance test in accordance with sub. (4)(b).

3. For each combustion device subject to the operating limit in s. NR 463.23(1)(b)3. for combustion zone temperature, you have a record of the combustion zone temperature measured during the performance test in accordance with sub. (3)(e)4.

4. For each combustion device subject to the operating limit in s. NR 463.23(1)(b)4. for combustion zone temperature, you have established appropriate site-specific operating limits and have a record of the combustion zone temperature measured during the performance test in accordance with sub. (4)(c).

5. For each acid wet scrubber subject to the operating limits in s. NR 463.23(1)(b)5. for scrubbing liquid flow rate and scrubber blowdown pH, you satisfy both of the following:

a. You have established appropriate site-specific operating limits for the scrubbing liquid flow rate and have a record of the scrubbing liquid flow rate measured during the performance test in accordance with sub. (4)(d).

b. You have a record of the pH of the scrubbing liquid blowdown measured during the performance test in accordance with sub. (3)(g)3.

(6) HOW DO I DEMONSTRATE INITIAL COMPLIANCE WITH THE WORK PRACTICE STANDARDS THAT APPLY TO ME? (a) For each iron and steel foundry subject to the certification requirement in s. NR 463.23(2)(b), you have demonstrated initial compliance if you have certified in your notification of compliance status that: “At all times, your foundry will purchase and use only metal ingots, pig iron, slitter or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, mercury switches, plastics or free organic liquids.”

(b) For each iron and steel foundry subject to the requirements in s. NR 463.23(2)(c) for a scrap inspection and selection plan, you have demonstrated initial compliance if you have certified both of the following in your notification of compliance status:

1. That you have submitted a written plan to the department for approval according to the requirements in s. NR 463.23(2)(c).

2. That you will operate at all times according to the plan requirements.

(c) For each furan warm box mold or core making line in a new or existing foundry subject to the work practice standard in s. NR 463.23(2)(d), you have demonstrated initial compliance if you have certified both of the following in your notification of compliance status:

1. That you will meet the no methanol requirement for the catalyst portion of each binder chemical formulation.

2. That you have records documenting your certification of compliance, such as a material safety data sheet, provided that it contains appropriate information, a certified product data sheet or a manufacturer's hazardous air pollutant data sheet, onsite and available for inspection.

(d) For each scrap preheater at an existing iron and steel foundry subject to the work practice standard in s. NR 463.23(2)(e)1. or 2., you have demonstrated initial compliance if you have certified one of the following in your notification of compliance status:

1. That you have installed a gas-fired preheater where the flame directly contacts the scrap charged, you will operate and maintain each gas-fired scrap preheater so that the flame directly contacts the scrap charged and you have records documenting your certification of compliance that are onsite and available for inspection.

2. That you will charge only material that is subject to and in compliance with the scrap certification requirements in s. NR 463.23(2)(b) and you have records documenting your certification of compliance that are onsite and available for inspection.

(e) For each scrap preheater at a new iron and steel foundry subject to the work practice standard in s. NR 463.23(2)(f), you have demonstrated initial compliance if you have certified in your notification of compliance status that you will charge only material that is subject to and in compliance with the scrap certification requirements in s. NR 463.23(2)(b) and you have records documenting your certification of compliance that are onsite and available for inspection.

(7) HOW DO I DEMONSTRATE INITIAL COMPLIANCE WITH THE OPERATION AND MAINTENANCE REQUIREMENTS THAT APPLY TO ME? (a) For each capture system subject to an operating limit in s. NR 463.23(1)(b), you have demonstrated initial compliance if you have done both of the following:

1. Certified both of the following in your notification of compliance status:

a. That you have submitted the capture system operation and maintenance plan to the department for approval according to the requirements of s. NR 463.23(3)(b).

b. That you will inspect, operate and maintain each capture system according to the procedures in the plan.

2. Certified in your performance test report that the system operated during the test at the operating limits established in your operation and maintenance plan.

(b) For each control device subject to an operating limit in s. NR 463.23(1)(b), you have demonstrated initial compliance if you have certified both of the following in your notification of compliance status:



1. That you have submitted the control device operation and maintenance plan to the department for approval according to the requirements of s. NR 463.23(3)(b).

2. That you will inspect, operate and maintain each control device according to the procedures in the plan.

(c) For each bag leak detection system, you have demonstrated initial compliance if you have certified all of the following in your notification of compliance status:

1. That you have submitted the bag leak detection system monitoring plan to the department for approval according to the requirements of s. NR 463.23(3)(b).

2. That you will inspect, operate and maintain each bag leak detection system according to the procedures in the plan.

3. That you will follow the corrective action procedures for bag leak detection system alarms according to the requirements in the plan.

(d) For each pouring area and pouring station in a new or existing foundry, you have demonstrated initial compliance if you have certified both of the following in your notification of compliance status report:

1. That you have submitted the mold vent ignition plan to the department for approval according to the requirements in s. NR 463.23(3)(b).

2. That you will follow the procedures for igniting mold vent gases according to the requirements in the plan.

**NR 463.26 Continuous compliance requirements.** (1) WHAT ARE MY MONITORING REQUIREMENTS? (a) For each capture system subject to an operating limit in s. NR 463.23(1)(b)1., you shall install, operate and maintain a CPMS according to the requirements in sub. (2)(a) and both of the following requirements, as applicable:

1. If you use a flow measurement device to monitor the operating limit parameter, you shall at all times monitor the hourly average rate.

**Note:** For example, the hourly average actual volumetric flow rate through each separately ducted hood or the average hourly total volumetric flow rate at the inlet to the control device.

2. For dampers that are not manually set and remain in the same position, you shall make a visual check at least once every 24 hours to verify that each damper for the capture system is in the same position as during the initial performance test. Dampers that are manually set and remain in the same position are exempt from the requirement to install and operate a CPMS.

(b) For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subchapter, you shall at all times monitor the relative change in PM loadings using a bag leak detection system according to the requirements in sub. (2)(b) and do all of the following:

1. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.

2. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.

3. Check the compressed air supply for pulse-jet baghouses each day.

4. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.

5. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.

6. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked, kneed or bent, or lying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning, spring-loaded, devices.

7. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.

8. Inspect fans for wear, material buildup and corrosion through quarterly visual inspections, vibration detectors or equivalent means.

(c) For each wet scrubber subject to the operating limits in s. NR 463.23(1)(b)2., you shall at all times monitor the 3-hour average pressure drop and scrubber water flow rate using CPMS according to the requirements in sub. (2)(c).

(d) For each combustion device subject to the operating limit in s. NR 463.23(1)(b)3., you shall at all times monitor the 15-minute average combustion zone temperature using a CPMS according to the requirements of sub. (2)(d).

(e) For each combustion device subject to the operating limit in s. NR 463.23(1)(b)4., you shall at all times monitor the 3-hour average combustion zone temperature using CPMS according to the requirements in sub. (2)(d).

(f) For each wet acid scrubber subject to the operating limits in s. NR 463.23(1)(b)5., you shall do both of the following at all times:

1. Monitor the 3-hour average scrubbing liquid flow rate using CPMS according to the requirements of sub. (2)(e)1.

2. Monitor the 3-hour average pH of the scrubber blowdown using CPMS according to the requirements in sub. (2)(e)2., or measure and record the pH of the scrubber blowdown once per production cycle using a pH probe and meter according to the requirements in sub. (2)(e)3.

(g) For one or more automated conveyor and pallet cooling lines and automated shakeout lines at a new iron and steel foundry subject to the VOHAP emissions limit in s. NR 463.23(1)(a)10., you shall at all times monitor the 3-hour average VOHAP concentration using a CEMS according to the requirements of sub. (2)(g).

(2) WHAT ARE THE INSTALLATION, OPERATION AND MAINTENANCE REQUIREMENTS FOR MY MONITORS? (a) For each capture system subject to an operating limit in s. NR 463.23(1)(b)1., you shall install, operate and maintain each CPMS according to the following requirements, as applicable:

1. If you use a flow measurement device to monitor an operating limit parameter for a capture system, you shall do all of the following:

a. Locate the flow sensor and other necessary equipment, such as straightening vanes, in a position that provides a representative flow and that reduces swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

b. Use a flow sensor with a minimum measurement sensitivity of 2% of the flow rate.

c. Conduct a flow sensor calibration check at least semiannually.

d. At least monthly, inspect all components for integrity, all electrical connections for continuity and all mechanical connections for leakage.

e. Record the results of each inspection, calibration and validation check required under this subdivision.

2. If you use a pressure measurement device to monitor the operating limit parameter for a capture system, you shall do all of the following:

a. Locate the pressure sensors in, or as close as possible, to a position that provides a representative measurement of the pressure and that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.

b. Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of one percent of the pressure range.

c. Check the pressure tap for blockage or plugging daily.

d. Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

e. Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

f. At least monthly, inspect all components for integrity, all electrical connections for continuity and all mechanical connections for leakage.

g. Record the results of each inspection, calibration and validation check required under this subdivision.

(b) You shall install, operate and maintain a bag leak detection system according to all of the following requirements:

1. The system shall be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

2. The bag leak detection system sensor shall provide output of relative particulate matter loadings, and the owner or operator shall continuously record the output from the bag leak detection system using electronic or other means such as a strip chart recorder or a data logger.

3. The system shall be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over the alarm set point established in the operation and maintenance plan. The alarm shall be located such that it can be heard by the appropriate plant personnel.

4. The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity or range and the averaging period of the device and establishing the alarm set points and the alarm delay time, if applicable.

5. Following the initial adjustment, the sensitivity or range, averaging period, alarm set point or alarm delay time may not be adjusted without approval from the department. Except, once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonal effects, including temperature and humidity, according to the procedures in the operation and maintenance plan required by s. NR 463.23(3)(b).

6. For negative pressure induced air baghouses and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector sensor shall be installed downstream of the baghouse and upstream of any wet scrubber.

7. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(c) For each wet scrubber subject to the operating limits in s. NR 463.23(1)(b)2., you shall install and maintain CPMS to measure and record the pressure drop and scrubber water flow rate according to the requirements in subds. 1. and 2.:

1. For each CPMS for pressure drop, you shall do all of the following:

a. Locate the pressure sensor in, or as close as possible to, a position that provides a representative measurement of the pressure drop and that minimizes or eliminates pulsating pressure, vibration and internal and external corrosion.

b. Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of one percent of the pressure range.

c. Check the pressure tap for blockage or plugging daily.

d. Using a manometer, check gauge calibration quarterly and transducer calibration monthly.

e. Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range or install a new pressure sensor.

f. At least monthly, inspect all components for integrity, all electrical connections for continuity and all mechanical connections for leakage.

2. For each CPMS for scrubber liquid flow rate, you shall do all of the following:

a. Locate the flow sensor and other necessary equipment in a position that provides a representative flow and that reduces swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

b. Use a flow sensor with a minimum measurement sensitivity of 2% of the flow rate.

c. Conduct a flow sensor calibration check at least semiannually according to the manufacturer's instructions.

d. At least monthly, inspect all components for integrity, all electrical connections for continuity and all mechanical connections for leakage.

(d) For each combustion device subject to the operating limit in s. NR 463.23(1)(b)3. or 4., you shall install and maintain a CPMS to measure and record the combustion zone temperature according to the following requirements, as applicable:

1. Locate the temperature sensor in a position that provides a representative temperature.

2. For a non-cryogenic temperature range, use a temperature sensor with a minimum tolerance of 2.2°C or 0.75% of the temperature value, whichever is larger.

3. For a cryogenic temperature range, use a temperature sensor with a minimum tolerance of 2.2°C or 2% of the temperature value, whichever is larger.

4. Shield the temperature sensor system from electromagnetic interference and chemical contaminants.

5. If you use a chart recorder, it shall have a sensitivity in the minor division of at least 20°F.

6. Perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual. Following the electronic calibration, conduct a temperature sensor validation check, in which a second or redundant temperature sensor placed nearby the process temperature sensor shall yield a reading within 16.7°C of the process temperature sensor's reading.

7. Conduct calibration and validation checks any time the sensor indicates a temperature that exceeds the manufacturer's specified maximum operating temperature range, or install a new temperature sensor.

8. At least monthly, inspect all components for integrity and all electrical connections for continuity, oxidation and galvanic corrosion.

(e) For each wet acid scrubber subject to the operating limits in s. NR 463.23(1)(b)5., you shall install and maintain CPMS to measure and record the scrubbing liquid flow rate according to the requirements in par. (c)2. and do either of the following:

1. Install and maintain CPMS to measure and record the pH of the scrubber blowdown according to all of the following requirements:

a. Locate the pH sensor in a position that provides a representative measurement of the pH and that minimizes or eliminates internal and external corrosion.

b. Use a gauge with a minimum measurement sensitivity of 0.1 pH unit or a transducer with a minimum measurement sensitivity of 5% of the pH range.

c. Check gauge calibration quarterly or transducer calibration monthly using a manual pH gauge.

d. At least monthly, inspect all components for integrity, all electrical connections for continuity and all mechanical connections for leakage.

2. Extract a sample for analysis by a pH meter that has all of the following:

a. A range of at least 1 to 5 pH units or more.

b. An accuracy of 0.1 pH unit.

c. A resolution of at least 0.1 pH unit.

(f) You shall operate each CPMS used to meet the requirements of this subchapter according to all of the following requirements:

1. Each CPMS shall complete a minimum of one cycle of operation for each successive 15-minute period.

You shall have a minimum of 3 of the required 4 data points to constitute a valid hour of data.

2. Each CPMS shall have valid hourly data for 100% of every averaging period.

3. Each CPMS shall calculate and record the hourly average of all recorded readings and the 3-hour average of all recorded readings.

(g) For each automated conveyor and pallet cooling line and automated shakeout line at a new iron and steel foundry subject to the VOHAP emission limit in s. NR 463.23(1)(a)10., you shall install, operate and maintain a CEMS to measure and record the concentration of VOHAP emissions according to all of the following requirements:

1. You shall install, operate and maintain each CEMS according to performance specification 8 in 40 CFR part 60, appendix B, incorporated by reference in s. NR 484.04(21).

2. You shall conduct a performance evaluation of each CEMS according to the requirements of s. NR 460.07 and performance specification 8 in 40 CFR part 60, appendix B.

3. As specified in s. NR 460.07(3)(d)2., each CEMS shall complete a minimum of one cycle of operation, which includes sampling, analyzing and data recording, for each successive 15-minute period.

4. You shall reduce CEMS data as specified in s. NR 460.07(7)(b).

5. Each CEMS shall calculate and record the 3-hour average emissions using all the hourly averages collected for periods during which the CEMS is not out-of-control.

6. You shall record the results of each inspection, calibration and validation check required under this paragraph.

(3) HOW DO I MONITOR AND COLLECT DATA TO DEMONSTRATE CONTINUOUS COMPLIANCE? (a) Except for monitoring malfunctions, associated repairs and required quality assurance or control activities, including, as applicable, calibration checks and required zero and span adjustments, you shall monitor continuously or collect data at all required intervals any time a source of emissions is operating.

(b) You may not use data recorded during monitoring malfunctions, associated repairs and required quality assurance or control activities in data averages and calculations used to report emissions or operating levels or to fulfill a minimum data availability requirement, if applicable. You shall use all the data collected during all other periods in assessing compliance.



(4) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE EMISSION LIMITATIONS THAT APPLY TO ME? (a) You shall demonstrate continuous compliance by meeting the following requirements, as applicable:

1. For each electric arc metal melting furnace, electric induction metal melting furnace or scrap preheater at an existing iron and steel foundry, you shall do one of the following:

- a. Maintain the average PM concentration in the exhaust stream at or below 0.005 gr/dscf.
- b. Maintain the average total metal HAP concentration in the exhaust stream at or below 0.0004 gr/dscf.

2. For each cupola metal melting furnace at an existing iron and steel foundry, you shall do one of the following:

- a. Maintain the average PM concentration in the exhaust stream at or below 0.006 gr/dscf.
- b. Maintain the average total metal HAP concentration in the exhaust stream at or below 0.0005 gr/dscf.

3. For each cupola metal melting furnace or electric arc metal melting furnace at new iron and steel foundry, you shall do one of the following:

- a. Maintain the average PM concentration in the exhaust stream at or below 0.002 gr/dscf.
- b. Maintain the average total metal HAP concentration in the exhaust stream at or below 0.0002 gr/dscf.

4. For each electric induction metal melting furnace or scrap preheater at a new iron and steel foundry, you shall do one of the following:

- a. Maintain the average PM concentration in the exhaust stream at or below 0.001 gr/dscf.
- b. Maintain the average total metal HAP concentration in the exhaust stream at or below 0.00008 gr/dscf.

5. For each pouring station at an existing iron and steel foundry, you shall do one of the following:

- a. Maintain the average PM concentration in the exhaust stream at or below 0.010 gr/dscf.
- b. Maintain the average total metal HAP concentration in the exhaust stream at or below 0.0008 gr/dscf.

6. For each pouring area or pouring station at a new iron and steel foundry, you shall do one of the following:

- a. Maintain the average PM concentration in the exhaust stream at or below 0.002 gr/dscf.
- b. Maintain the average total metal HAP concentration in the exhaust stream at or below 0.0002 gr/dscf.

7. For each building or structure housing any emission source at the iron and steel foundry, you shall maintain the opacity of any fugitive emissions discharged to the atmosphere at or below 20% opacity (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity.

8. For each cupola metal melting furnace at a new or existing iron and steel foundry, you shall maintain the average VOHAP concentration in the exhaust stream at or below 20 ppmv corrected to 10% oxygen.

9. For each scrap preheater at an existing iron and steel foundry that does not comply with the work practice standard in s. NR 463.23(2)(e)1. or 2. and for each scrap preheater at a new iron and steel foundry that does not comply with the work practice standard in s. NR 463.23(2)(f), you shall maintain the average VOHAP concentration in the exhaust stream at or below 20 ppmv.

10. For one or more automated conveyor and pallet cooling lines or automated shakeout lines that use a sand mold system at a new iron and steel foundry, you shall do all of the following:

a. Maintain the 3-hour flow-weighted average VOHAP concentration in the exhaust stream at or below 20 ppmv.

b. Inspect and maintain each CEMS according to the requirements of sub. (2)(g) and record all information needed to document conformance with these requirements.

c. Collect and reduce monitoring data according to the requirements of sub. (2)(g) and record all information needed to document conformance with these requirements.

11. For each TEA cold box mold or core making line at a new or existing iron and steel foundry, you shall maintain a 99% reduction in the VOHAP concentration in the exhaust stream or maintain the average VOHAP concentration in the exhaust stream at or below 1 ppmv.

12. You shall conduct subsequent performance tests at least every 5 years for each emission source subject to an emission limit for PM, total metal HAP, VOHAP or TEA in s. NR 463.23(1)(a) and subsequent performance tests at least every 6 months for each building or structure subject to the opacity limit in s. NR 463.23(1)(a)7.

(b) You shall demonstrate continuous compliance for each capture system subject to an operating limit in s. NR 463.23(1)(b)1. by doing both of the following:

1. Operate the capture system at or above the lowest values or settings established for the operating limits in your operation and maintenance plan.

2. Monitor the capture system according to the requirements in sub. (1)(a) and collect, reduce and record the monitoring data for each of the operating limit parameters according to the applicable requirements in this subchapter.

(c) You shall demonstrate continuous compliance for each baghouse equipped with a bag leak detection system doing both of the following:

1. Maintain records of the times the bag leak detection system alarm sounded, and for each valid alarm, the time you initiated corrective action, the corrective action taken and the date on which corrective action was completed.

2. Inspect and maintain each baghouse according to the requirements of sub. (1)(b)1. to 8., and record all information needed to document conformance with these requirements.

(d) You shall demonstrate continuous compliance for each wet scrubber that is subject to the operating limits in s. NR 463.23(1)(b)2., by doing all of the following:

1. Maintaining the 3-hour average pressure drop and 3-hour average scrubber water flow rate at levels no lower than those established during the initial or subsequent performance test.

2. Inspecting and maintaining each CPMS according to the requirements of sub. (2)(c) and recording all information needed to document conformance with the requirements.

3. Collecting and reducing monitoring data for pressure drop and scrubber water flow rate according to the requirements of sub. (2)(f) and recording all information needed to document conformance with the requirements.

(e) You shall demonstrate continuous compliance for each combustion device that is subject to the operating limit in s. NR 463.23(1)(b)3., by doing all of the following:

1. Maintaining the 15-minute average combustion zone temperature at a level no lower than 1,300°F.

2. Inspecting and maintaining each CPMS according to the requirements of sub. (2)(d) and recording all information needed to document conformance with the requirements.

3. Collecting and reducing monitoring data for combustion zone temperature according to the requirements of sub. (2)(f) and recording all information needed to document conformance with the requirements.

(f) You shall demonstrate continuous compliance for each combustion device that is subject to the operating limit in s. NR 463.23(1)(b)4., by doing all of the following:

1. Maintaining the 3-hour average combustion zone temperature at a level no lower than that established during the initial or subsequent performance test.

2. Inspecting and maintaining each CPMS according to the requirements of sub. (2)(d) and recording all information needed to document conformance with these requirements.

3. Collecting and reducing monitoring data for combustion zone temperature according to the requirements of sub. (2)(f) and recording all information needed to document conformance with these requirements.

(g) You shall demonstrate continuous compliance for each acid wet scrubber subject to the operating limits in s. NR 463.23(1)(b)5., by doing all of the following:

1. Maintaining the 3-hour average scrubbing liquid flow rate at a level no lower than the level established during the initial or subsequent performance test.

2. Maintaining the 3-hour average pH of the scrubber blowdown at a level no higher than 4.5, if measured by a CPMS, or maintaining the pH level of the scrubber blowdown during each production shift no higher than 4.5.

3. Inspecting and maintaining each CPMS according to the requirements of sub. (2)(e) and recording all information needed to document conformance with the requirements.

4. Collecting and reducing monitoring data for scrubbing liquid flow rate and scrubber blowdown pH according to the requirements of sub. (2)(f) and recording all information needed to document conformance with the requirements. If the pH level of the scrubber blowdown is measured by a probe and meter, you shall demonstrate continuous compliance by maintaining records that document the date, time and results of each sample taken for each production shift.

(5) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE WORK PRACTICE STANDARDS THAT APPLY TO ME? (a) You shall maintain records that document continuous compliance with the certification requirements in s. NR 463.23(2)(b) or with the procedures in your scrap selection and inspection

plan required in s. NR 463.23(2)(c). Your records documenting compliance with the scrap selection and inspection plan shall include a copy kept onsite of the procedures used by the scrap supplier for either removing accessible mercury switches or for purchasing automobile bodies that have had mercury switches removed, as applicable.

(b) You shall keep records of the chemical composition of all catalyst binder formulations applied in each furan warm box mold or core making line at a new or existing iron and steel foundry to demonstrate continuous compliance with the requirements in s. NR 463.23(2)(d).

(c) For a scrap preheater at an existing iron and steel foundry, you shall operate and maintain each gas-fired preheater so that the flame directly contacts the scrap charged to demonstrate continuous compliance with the requirement s. NR 463.23(2)(e)1. If you choose to meet the work practice standard in s. NR 463.23(2)(e)2., you shall keep records to document that the scrap preheater charges only material that is subject to and in compliance with the scrap certification requirements in s. NR 463.23(2)(b).

(d) For a scrap preheater at a new iron and steel foundry, you shall keep records to document that each scrap preheater charges only material that is subject to and in compliance with the scrap certification requirements in s. NR 463.23(2)(b) to demonstrate continuous compliance with the requirement in s. NR 463.23(2)(f).

(6) HOW DO I DEMONSTRATE CONTINUOUS COMPLIANCE WITH THE OPERATION AND MAINTENANCE REQUIREMENTS THAT APPLY TO ME? (a) For each capture system and control device for an emission source subject to an emission limit in s. NR 463.23(1)(a), you shall demonstrate continuous compliance with the operation and maintenance requirements of s. NR 463.23(3) by doing all of the following:

1. Making monthly inspections of capture systems and initiating corrective action according to s. NR 463.23(3)(b)1., and recording all information needed to document conformance with the requirements.

2. Performing preventive maintenance for each control device according to the preventive maintenance plan required by s. NR 463.23(3)(b)3., and recording all information needed to document conformance with the requirements.

3. Operating and maintaining each bag leak detection system according to the site-specific monitoring plan required by s. NR 463.23(3)(b)4., and recording all information needed to demonstrate conformance with the requirements.

4. Initiating and completing corrective action for a bag leak detection system alarm according to the corrective action plan required by s. NR 463.23(3)(b)5., and recording all information needed to document conformance with the requirements.

5. Igniting gases from mold vents according to the procedures in the plan required by s. NR 463.23(3)(b)6.

(b) Any instance where you fail to follow the procedures in par. (a) is a deviation that shall be included in your semiannual compliance report.

(c) You shall maintain a current copy of the operation and maintenance plans required by s. NR 463.23(3)(b) onsite and available for inspection upon request. You shall keep the plans for the life of the iron and steel foundry or until the iron and steel foundry is no longer subject to the requirements of this subchapter.

(7) WHAT OTHER REQUIREMENTS MUST I MEET TO DEMONSTRATE CONTINUOUS COMPLIANCE? (a) *Deviations*. You shall report each instance in which you did not meet each emission limitation in s. NR 463.23(1), including each operating limit, that applies to you. This requirement includes periods of startup, shutdown and malfunction. You also shall report each instance in which you did not meet each work practice standard in s. NR 463.23(2) and each operation and maintenance requirement of s. NR 463.23(3) that applies to you. Failure to meet the requirements described in this paragraph are deviations from the emission limitations, work practice standards and operation and maintenance requirements in this subchapter and shall be reported according to the requirements of s. NR 463.27(2).

(b) *Startups, shutdowns and malfunctions*. 1. Consistent with the requirements of ss. NR 460.05(4) and 460.06(4)(a), deviations that occur during a period of startup, shutdown or malfunction are not violations if you demonstrate to the department's satisfaction that you were operating in accordance with s. NR 460.05(4)(a).

2. The department shall determine whether deviations that occur during a period of startup, shutdown or malfunction are violations according to the provisions in s. NR 460.05(4).

(8) HOW DO I APPLY FOR ALTERNATIVE MONITORING REQUIREMENTS FOR A CONTINUOUS EMISSIONS MONITORING SYSTEM? (a) You may submit a request to the administrator for an alternative monitoring method to demonstrate compliance with the VOHAP emission limits in s. NR 463.23(1)(a)10.

for automated pallet cooling lines or automated shakeout lines at a new iron and steel foundry according to the procedures in this section.

(b) You may request approval to use an alternative monitoring method in the notification of construction or for new sources, or at any time.

(c) You shall submit a monitoring plan to the administrator that includes a description of the control technique or pollution prevention technique, a description of the continuous monitoring system or method, including appropriate operating parameters that will be monitored, test results demonstrating compliance with the emission limit, operating limits, if applicable, determined according to the test results, and the frequency of measuring and recording to establish continuous compliance. If applicable, you shall also include operation and maintenance requirements for the monitors.

(d) The monitoring plan is subject to approval by the administrator. Use of the alternative monitoring method may not begin until approval is granted by the administrator.

**Note:** The Administrator of the US Environmental Protection Agency retains the authority to approve major alternatives to monitoring according to 40 CFR 63.7761(c)(3).

**NR 463.27 Notifications, reports and records.** (1) WHAT NOTIFICATIONS MUST I SUBMIT AND WHEN? (a) You shall submit all of the notifications to the department required by ss. NR 460.05(6)(c) and (d), 460.06(2), 460.07(5)(b) and (6)(c) and (e), and 460.08(2) to (8) that apply to you by the following specified dates:

(b) As specified in s. NR 460.08(2)(b), if you start up your iron and steel foundry before April 22, 2004, you shall submit your initial notification no later than August 20, 2004.

(c) If you start up your new iron and steel foundry on or after April 22, 2004, you shall submit your initial notification no later than 120 calendar days after you become subject to this subchapter.

(d) If you are required to conduct a performance test, you shall submit a notification of intent to conduct a performance test at least 20 business days before the performance test is scheduled to begin, as required by s. NR 460.06(2).

(e) If you are required to conduct a performance test or other initial compliance demonstration, you shall submit a notification of compliance status according to the requirements of s. NR 460.08(8) and either of the following, as applicable:

1. For each initial compliance demonstration that does not include a performance test, you shall submit the notification of compliance status before the close of business on the 30th calendar day following completion of the initial compliance demonstration.

2. For each initial compliance demonstration that does include a performance test, you shall submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to the requirement specified in s. NR 460.09(4)(b).

(2) WHAT REPORTS MUST I SUBMIT AND WHEN? (a) *Compliance report due dates.* Unless the department has approved a different schedule, you shall submit a semiannual compliance report to the department according to the following requirements:

1. The first compliance report shall cover the period beginning on the compliance date that is specified for your iron and steel foundry in s. NR 463.21(4) and ending on June 30 or December 31, whichever date comes first after the compliance date that is specified for your iron and steel foundry.

2. The first compliance report shall be postmarked or delivered no later than July 31 or January 31, whichever date comes first after your first compliance report is due.

3. Each subsequent compliance report shall cover the semiannual reporting period from January 1 to June 30 or the semiannual reporting period from July 1 to December 31.

4. Each subsequent compliance report shall be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

5. For each iron and steel foundry that is subject to permitting regulations pursuant to ch. NR 407, and if the department has established dates for submitting semiannual reports pursuant to s. NR 407.09(1)(c)3.a., you may submit the first and subsequent compliance reports according to the dates the department has established instead of the dates specified in subds. 1. to 4.



(b) *Compliance report contents.* Each compliance report shall include the information specified in subds. 1. to 3. and, as applicable, subds. 4. to 8.

1. The company name and address.

2. A statement by a responsible official, with that official's name, title and signature, certifying the truth, accuracy and completeness of the content of the report.

3. The date of the report and the beginning and ending dates of the reporting period.

4. If you had a startup, shutdown or malfunction during the reporting period and you took action consistent with your startup, shutdown and malfunction plan, the information in s. NR 460.09(4)(e)1.

5. If there were no deviations from any emission limitation, operating limit, work practice standard or operation and maintenance requirement, a statement that there were no deviations from any emission limitation, work practice standard or operation and maintenance requirement during the reporting period.

6. If there were no periods during which a continuous monitoring system, including a CPMS or CEMS, was out-of-control as specified by s. NR 460.07(3)(g), a statement that there were no periods during which the CPMS or CEMS was out-of-control during the reporting period.

7. For each deviation from an emission limitation, including an operating limit, that occurs at an iron and steel foundry for which you are not using a continuous monitoring system, including a CPMS or CEMS, to comply with an emission limitation or work practice standard required in this subchapter, the information specified in subds. 1. to 4. and in this subdivision. This requirement applies to periods of startup, shutdown and malfunction.

a. The total operating time of each emissions source during the reporting period.

b. Information on the number, duration and cause of deviations, including unknown cause, as applicable, and the corrective action taken.

8. For each deviation from an emission limitation, including an operating limit, or work practice standard occurring at an iron and steel foundry where you are using a continuous monitoring system, including a CPMS or CEMS, to comply with the emission limitation or work practice standard in this subchapter, the information specified in subds. 1. to 4. and in this subdivision. This requirement applies to periods of startup, shutdown and malfunction.

- a. The date and time that each malfunction started and stopped.
- b. The date and time that each continuous monitoring system was inoperative, except for zero, low-level and high-level checks.
- c. The date, time and duration that each continuous monitoring system was out-of-control, including the information required in s. NR 460.07(3)(h).
- d. The date and time that each deviation started and stopped and whether each deviation occurred during a period of startup, shutdown or malfunction or during another period.
- e. A summary of the total duration of the deviations during the reporting period and the total duration as a percent of the total source operating time during that reporting period.
- f. A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes and unknown causes.
- g. A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.
- h. A brief description of the process units.
- i. A brief description of the continuous monitoring system.
- j. The date of the latest continuous monitoring system certification or audit.
- k. A description of any changes in continuous monitoring systems, processes or controls since the last reporting period.

(c) *Immediate startup, shutdown and malfunction report.* If you had a startup, shutdown or malfunction during the semiannual reporting period that was not consistent with your startup, shutdown and malfunction plan, you shall submit an immediate startup, shutdown and malfunction report according to the requirements of s. NR 460.09(4)(e)2.

(d) *Part 70 monitoring report.* If you have obtained a title V operating permit for an iron and steel foundry pursuant to ch. NR 407, you shall report all deviations as defined in this subchapter in the semiannual monitoring report required by s. NR 407.09(1)(c)3.a. If you submit a compliance report for an iron and steel foundry along

with, or as part of, the semiannual monitoring report required by s. NR 407.09(1)(c)3.a., and the compliance report includes all the required information concerning deviations from any emissions limitation or operation and maintenance requirement in this subchapter, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation you may have to report deviations from permit requirements for an iron and steel foundry to the department.

(3) WHAT RECORDS MUST I KEEP? (a) You shall keep all of the following records:

1. A copy of each notification and report that you submitted to comply with this subchapter, including all documentation supporting any initial notification or notification of compliance status that you submitted, according to the requirements of s. NR 460.09(2)(b)14.

2. The records specified in s. NR 460.05(4)(c)3. to 5. related to startup, shutdown and malfunction.

3. Records of performance tests and performance evaluations as required by s. NR 460.09(2)(b)8.

4. Records of the annual quantity of each chemical binder or coating material used to make molds and cores, the material data safety sheet or other documentation that provides the chemical composition of each component and the annual quantity of HAP used at the foundry.

(b) You shall keep all of the following records for each CEMS:

1. Records described in s. NR 460.09(2)(b)6. to 11.

2. If the performance evaluation plan is revised, previous versions of the performance evaluation plan as required in s. NR 460.07(4)(c).

3. Any request for alternatives to relative accuracy tests for CEMS, as allowed by s. NR 460.07(6)(e).

4. Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown or malfunction or during another period.

(c) You shall keep the records required by s. NR 463.26(4) to (6) to show continuous compliance with each emission limitation, work practice standard and operation and maintenance requirement that applies to you.

(4) IN WHAT FORM AND FOR HOW LONG MUST I KEEP MY RECORDS? (a) You shall keep your records in a form suitable and readily available for expeditious review, according to the requirements of s. NR 460.09(2)(a).

(b) As specified in s. NR 460.09(2)(a), you shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record.

(c) You shall keep each record onsite for at least 2 years immediately after the date of each occurrence, measurement, maintenance, corrective action, report or record according to the requirements in s. NR 460.09(2)(a). You may keep the records for the previous 3 years offsite.

SECTION 3. NR 484.06(4)(c)and (e) are amended to read:

**Table 4D**  
**U.S. Environmental Protection Agency Document Reference**

Document Number	Title	Incorporated by Reference For
NR 484.06 (4)(c) EPA-454/R-98-015, September 1997	Fabric Filter Bag Leak Detection Guidance	NR 462.05(6)(i) <u>NR 463.23(3)(b)4.</u>
(e) EPA, SW-846	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition, September 1986, as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), III (December 1996), IIIA (April 1998) and IIIB (November 2004)	NR 462 Table 6 <u>NR 463.22(16)</u>

SECTION 4. EFFECTIVE DATE. This rule shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22 (2) (intro.), Stats.

SECTION 5. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on February 28, 2007.

Dated at Madison, Wisconsin \_\_\_\_\_.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES

By \_\_\_\_\_  
Scott Hassett, Secretary

(SEAL)