

## Chapter NR 463

# NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR METALS TREATING AND PROCESSING

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### Subchapter I — Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks

**NR 463.01 Applicability and designation of sources; purpose.** (1) **APPLICABILITY.** This subchapter applies to the owners and operators of hard chromium electroplating tanks, decorative chromium electroplating tanks and chromium anodizing tanks.

(a) The affected source to which this subchapter applies is each chromium electroplating or chromium anodizing tank at facilities performing hard chromium electroplating, decorative chromium electroplating or chromium anodizing.

(b) Owners or operators of affected sources subject to this subchapter are also subject to the requirements of ch. NR 460, according to the applicability of ch. NR 460 to these sources as identified in ch. NR 460 Appendix N.

(c) Process tanks associated with a chromium electroplating or chromium anodizing process, but in which neither chromium electroplating nor chromium anodizing takes place, are not subject to this subchapter. Examples of these tanks include, but are not limited to, rinse tanks, etching tanks and cleaning tanks. Likewise, tanks that contain a chromium solution, but in which no electrolytic process occurs, are not subject to this subchapter. An example of such a tank is a chrome conversion coating tank where no electrical current is applied.

(d) Affected sources in which research and laboratory operations are performed are exempt from this subchapter when these operations are taking place.

(e) An owner or operator of any affected source subject to this subchapter which is not exempt under s. NR 407.03 (1) (km) is subject to part 70 permit requirements under ch. NR 407.

(2) **PURPOSE.** This subchapter is adopted under ss. 285.11, 285.13, 285.27 (2) and 285.65, Stats., to establish emission standards for hard chromium electroplating tanks, decorative

chromium electroplating tanks, and chromium anodizing tanks in order to protect air quality.

**Note:** This subchapter is based on the federal regulations contained in 40 CFR part 63 Subpart N, created January 25, 1995, as last revised on June 3, 1996.

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 04-023: am. Register December 2008 No. 636, eff. 1-1-09; correction in (1) (b) made under s. 35.17, Stats., Register June 2015 No. 714.

**NR 463.02 Definitions.** For terms not defined in this section, the definitions contained in chs. NR 400 and 460 apply to the terms used in this subchapter, with definitions in ch. NR 460 taking priority over definitions in ch. NR 400. In addition, the definitions in this section apply to the terms used in this subchapter. 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 rather than the definition in ch. NR 400 or 460. In this subchapter:

(1) “Add-on air pollution control device” means equipment installed in the ventilation system of chromium electroplating and anodizing tanks for the purposes of collecting and containing chromium emissions from the tanks.

(2) “Air pollution control technique” means any method, such as an add-on air pollution control device or a chemical fume suppressant, that is used to reduce chromium emissions from chromium electroplating and chromium anodizing tanks.

(3) “Base metal” means the metal or metal alloy that comprises the workpiece.

(4) “Bath component” means the trade, brand or chemical name of each component in trivalent chromium plating baths.

**Note:** Since for trivalent chromium baths, the bath composition is proprietary in most cases, the trade or brand name for each component may be used. However, ss. NR 463.103 (2) (n) and 463.106 (9) (a) 3. require identification by chemical name of the wetting agent contained in that component.

(5) “Chemical fume suppressant” means any chemical agent that reduces or suppresses fumes or mists at the surface of an electroplating or anodizing bath.

**Note:** Another term for fume suppressant is mist suppressant.

(6) “Chromic acid” means the common name for chromium anhydride (CrO<sub>3</sub>).

(7) "Chromium anodizing" means the electrolytic process by which an oxide layer is produced on the surface of a base metal for functional purposes, such as corrosion resistance or electrical insulation, using a chromic acid solution. In chromium anodizing, the part to be anodized acts as the anode in the electrical circuit, and the chromic acid solution, with a concentration typically ranging from 50 to 100 grams per liter (g/L), serves as the electrolyte.

(8) "Chromium anodizing tank" means the receptacle or container along with the following accompanying internal and external components needed for chromium anodizing: rectifiers fitted with controls to allow for voltage adjustments, heat exchanger equipment, circulation pumps and air agitation systems.

(8m) "Chromium electroplating tank" means the receptacle or container along with the following accompanying internal and external components needed for chromium electroplating: rectifiers, anodes, heat exchanger equipment, circulation pumps and air agitation systems.

(9) "Composite mesh-pad system" means an add-on air pollution control device typically consisting of several mesh-pad stages. The purpose of the first stage is to remove large particles. Smaller particles are removed in the second stage, which consists of the composite mesh pad. A final stage may remove any reentrained particles not collected by the composite mesh pad.

(10) "Decorative chromium electroplating" means the process by which a thin layer of chromium (typically 0.003 to 2.5  $\mu\text{m}$ ) is electrodeposited on a base metal, plastic or undercoating to provide a bright surface with wear and tarnish resistance. In this process, the part serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. Typical current density applied during this process ranges from 540 to 2,400 amperes per square meter ( $\text{A}/\text{m}^2$ ) for total plating times ranging between 0.5 to 5 minutes.

(11) "Electroplating or anodizing bath" means the electrolytic solution used as the conducting medium in which the flow of current is accompanied by movement of metal ions for the purposes of electroplating metal out of the solution onto a workpiece or for oxidizing the base material.

(12) "Emission limitation" means the concentration of total chromium allowed to be emitted expressed in milligrams per dry standard cubic meter ( $\text{mg}/\text{dscm}$ ), or the allowable surface tension expressed in dynes per centimeter ( $\text{dynes}/\text{cm}$ ).

(12m) "Enclosed hard chromium electroplating tank" means a chromium electroplating tank that is equipped with an enclosing hood and ventilated at half the rate or less than that of an open surface tank of the same surface area.

(13) "Existing" means any hard chromium electroplating tank, decorative chromium electroplating tank or chromium anodizing tank the construction or reconstruction of which was commenced on or before December 16, 1993.

(14) "Facility" means the major or area source at which chromium electroplating or chromium anodizing is performed.

(15) "Fiber-bed mist eliminator" means an add-on air pollution control device that removes contaminants from a gas stream through the mechanisms of inertial impaction and Brownian diffusion. These devices are typically installed downstream of another control device, which serves to prevent plugging, and consist of one or more fiber beds. Each bed consists of a hollow cylinder formed from 2 concentric screens; the fiber between the screens may be fabricated from glass, ceramic plastic or metal.

(16) "Foam blanket" means the type of chemical fume suppressant that generates a layer of foam across the surface of a solution when current is applied to that solution.

(17) "Fresh water" means water, such as tap water, that has not been previously used in a process operation or, if the water has been recycled from a process operation, it has been treated and meets the effluent guidelines for chromium wastewater.

(18) "Hard chromium electroplating" or "industrial chromium electroplating" means a process by which a thick layer of chromium (typically 1.3 to 760  $\mu\text{m}$ ) is electrodeposited on a base material to provide a surface with functional properties such as wear resistance, a low coefficient of friction, hardness and corrosion resistance. In this process, the part serves as the cathode in the electrolytic cell and the solution serves as the electrolyte. The hard chromium electroplating process is performed at current densities typically ranging from 1,600 to 6,500  $\text{A}/\text{m}^2$  for total plating times ranging from 20 minutes to 36 hours depending upon the desired plate thickness.

(19) "Hexavalent chromium" means the form of chromium in a valence state of +6.

(20) "Large, hard chromium electroplating facility" means a facility that performs hard chromium electroplating and has a maximum cumulative potential rectifier capacity greater than or equal to 60 million ampere-hours per year ( $\text{A-hr}/\text{yr}$ ).

(21) "Maximum cumulative potential rectifier capacity" means the summation of the total installed rectifier capacity associated with the hard chromium electroplating tanks at a facility, expressed in amperes, multiplied by the maximum potential operating schedule of 8,400 hours per year and 0.7, which assumes that electrodes are energized 70% of the total operating time. The maximum potential operating schedule is based on operating 24 hours per day, 7 days per week, 50 weeks per year.

(22) "New source" or "new tank" means any hard chromium electroplating, decorative chromium electroplating or chromium anodizing source or tank the construction or reconstruction of which is commenced after December 16, 1993.

(22m) "Open surface hard chromium electroplating tank" means a chromium electroplating tank that is ventilated at a rate consistent with good ventilation practices for open tanks.

(23) "Operating parameter value" means a minimum or maximum value established for a control device or process parameter which, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator is in continual compliance with the applicable emission limitation or standard.

(24) "Packed-bed scrubber" means an add-on air pollution control device consisting of a single or double packed bed that contains packing media on which the chromic acid droplets impinge. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

(25) "Research or laboratory operation" means an operation whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and that is not involved in the manufacture of products for commercial sale, except in a de minimis manner.

(26) "Small, hard chromium electroplating facility" means a facility that performs hard chromium electroplating and has a maximum cumulative potential rectifier capacity less than 60 million  $\text{A-hr}/\text{yr}$ .

(27) "Stalagmometer" means an instrument used to measure the surface tension of a solution by determining the mass of a drop of liquid by weighing a known number of drops or by counting the number of drops obtained from a given volume of liquid.

(28) “Surface tension” means the property, due to molecular forces, that exists in the surface film of all liquids and tends to prevent liquid from spreading.

(29) “Tank operation” means the use of a tank for chromium electroplating or a chromium anodizing through the application of current or voltage. Tank operation ceases when the current or voltage is turned off.

(30) “Tensiometer” means an instrument used to measure the surface tension of a solution by determining the amount of force needed to pull a ring from the liquid surface. The amount of force is proportional to the surface tension.

(31) “Trivalent chromium” means the form of chromium in a valence state of +3.

(32) “Trivalent chromium process” means the process used for electrodeposition of a thin layer of chromium onto a base material using a trivalent chromium solution instead of a chromic acid solution.

(33) “Wetting agent” means the type of chemical fume suppressant that reduces the surface tension of a liquid.

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 05-039: am. (intro.), (8), (27) and (30), cr. (8m), (12m) and (22m) Register February 2006 No. 602, eff. 3-1-06.

### NR 463.03 Nomenclature, units and abbreviations.

The definitions contained in s. NR 400.03 apply to the abbreviations and symbols of units of measure used in this subchapter. In addition, the nomenclature used in this subchapter has the following meaning:

(1) AMR is the allowable mass emission rate from each type of affected source subject to the same emission limitation in milligrams per hour (mg/hr).

(2)  $AMR_{sys}$  is the allowable mass emission rate from affected sources controlled by an add-on air pollution control device controlling emissions from multiple sources in mg/hr.

(3) CMP is composite mesh-pad, a control technique.

(4) EL is the applicable emission limitation from s. NR 463.04 in milligrams per dry standard cubic meter (mg/dscm).

(5)  $IA_{total}$  is the sum of all inlet duct areas from both affected sources and sources not affected by this subchapter in meters squared.

(6)  $IDA_i$  is the total inlet area for all ducts associated with affected sources in meters squared.

(7)  $IDA_{i,a}$  is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation in meters squared.

(8)  $lb_f$  is pound-force, the unit of force in the English system.

(9) PBS is packed-bed scrubber, a control technique.

(10) VR is the total of ventilation rates for each type of affected source subject to the same emission limitation in dry standard cubic meters per minute (dscm/min).

(11)  $VR_{inlet}$  is the total ventilation rate from all inlet ducts associated with affected sources in dscm/min.

(12)  $VR_{inlet,a}$  is the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation in dscm/min.

(13)  $VR_{tot}$  is the average total ventilation rate for the 3 test runs as determined at the outlet by testing using Method 306 of Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04, in dscm/min.

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 04-023: am. (intro.) and (5) Register December 2008 No. 636, eff. 1-1-09.

**NR 463.04 Emission limits.** (1) MACT REQUIREMENTS. Each owner or operator of an affected source subject to the provisions of this subchapter shall comply with these requirements on and after the compliance dates specified in s. NR 463.06 (1). All affected sources are regulated by applying maximum achievable control technology.

(2) APPLICABILITY OF EMISSION LIMITS. (a) The emission limitations in this section apply during tank operation as well as during periods of startup and shutdown as these are routine occurrences for affected sources subject to this subchapter. The emission limitations do not apply during periods of malfunction. However, the work practice standards that address operation and maintenance and that are required by s. NR 463.05 shall be followed during malfunctions.

(b) If an owner or operator is controlling a group of tanks with a common add-on air pollution control device, the emission limitations of subs. (3), (4) and (5) apply whenever any one affected source is operated. The emission limitation that applies to the group of affected sources is as follows:

1. The emission limitation identified in subs. (3), (4) and (5) if the affected sources are performing the same type of operation, such as hard chromium electroplating, are subject to the same emission limitation, and are not controlled by an add-on air pollution control device also controlling sources not affected by this subchapter.

2. The emission limitation calculated according to s. NR 463.09 (5) (c) if affected sources are performing the same type of operation, are subject to the same emission limitation, and are controlled with an add-on air pollution control device that is also controlling sources not affected by this subchapter.

3. The emission limitation calculated according to s. NR 463.09 (5) (d) if affected sources are performing different types of operations, or affected sources are performing the same operations but subject to different emission limitations, and are controlled with an add-on air pollution control device that may also be controlling emissions from sources not affected by this subchapter.

(3) STANDARDS FOR HARD CHROMIUM ELECTROPLATING. (a) *Open surface tanks.* During tank operation, each owner or operator of an existing, new or reconstructed affected source shall control chromium emissions discharged to the atmosphere from that affected source by doing any of the following:

1. Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.015 milligrams of total chromium per dry standard cubic meter (mg/dscm) of ventilation air ( $6.6 \times 10^{-6}$  grains per dry standard cubic foot (gr/dscf)) for all open surface hard chromium electroplating tanks that are affected sources other than those that are existing affected sources located at small hard chromium electroplating facilities.

2. Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.03 mg/dscm ( $1.3 \times 10^{-5}$  gr/dscf) if the open surface hard chromium electroplating tank is an existing affected source and is located at a small, hard chromium electroplating facility.

3. If a chemical fume suppressant containing a wetting agent is used, not allowing the surface tension of the electroplating or anodizing bath contained within the affected tank to exceed 45 dynes per centimeter (dynes/cm) ( $3.1 \times 10^{-3}$  pound-force per foot ( $lb_f/ft$ )) as measured by a stalagmometer or 35 dynes/cm ( $2.4 \times 10^{-3}$   $lb_f/ft$ ) as measured by a tensiometer at any time during tank operation.

(b) *Enclosed tanks.* During tank operation, each owner or operator of an existing, new or reconstructed affected source shall



control chromium emissions discharged to the atmosphere from that affected source by doing any of the following:

1. Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.015 mg/dscm ( $6.6 \times 10^{-6}$  gr/dscf) for all enclosed hard chromium electroplating tanks that are affected sources other than those that are existing affected sources at small, hard chromium electroplating facilities.

2. Not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.03 mg/dscm ( $1.3 \times 10^{-5}$  gr/dscf) if the enclosed hard chromium electroplating tank is an existing affected source and is located at a small, hard chromium electroplating facility.

3. If a chemical fume suppressant containing a wetting agent is used, not allowing the surface tension of the electroplating or anodizing bath contained within the affect tank to exceed 45 dynes/cm ( $3.1 \times 10^{-3}$  lb<sub>f</sub>/ft) as measured by a stalagmometer or 35 dynes/cm ( $2.4 \times 10^{-3}$  lb<sub>f</sub>/ft) as measured by a tensiometer at any time during tank operation.

4. Not allowing the mass rate of total chromium in the exhaust gas stream discharged to the atmosphere to exceed the maximum allowable mass emission rate determined by using the calculation procedure in s. NR 463.09 (6) (b) for all enclosed hard electroplating tanks that are affected sources other than those that are existing affected sources located at small, hard chromium electroplating facilities.

5. Not allowing the mass rate of total chromium in the exhaust gas stream discharged to the atmosphere to exceed the maximum allowable mass emission rate determined by using the calculation procedure in s. NR 463.09 (6) (d) if the enclosed hard chromium electroplating tank is an existing affected source and is located at a small, hard chromium electroplating facility.

(c) *Facility size.* 1. An owner or operator may demonstrate the size of a hard chromium electroplating facility by meeting the criteria of s. NR 463.02 (20) or (26). Alternatively, an owner or operator of a facility with a maximum cumulative potential rectifier capacity of 60 million A-hr/yr or more may be considered small if the actual cumulative rectifier capacity is less than 60 million A-hr/yr as demonstrated using one of the following procedures:

a. If records show that the facility's previous annual actual rectifier capacity was less than 60 million A-hr/yr, by using non-resettable ampere-hour meters and keeping monthly records of actual ampere-hour usage for each 12-month rolling period following the compliance date in accordance with s. NR 463.103 (2) (L). The actual cumulative rectifier capacity for the previous 12-month rolling period shall be tabulated monthly by adding the capacity for the current month to the capacities for the previous 11 months.

b. By accepting a federally-enforceable limit on the maximum cumulative potential rectifier capacity of a hard chromium electroplating facility and by maintaining monthly records in accordance with s. NR 463.103 (2) (L) to demonstrate that the limit has not been exceeded. The actual cumulative rectifier capacity for the previous 12-month rolling period shall be tabulated monthly by adding the capacity for the current month to the capacities for the previous 11 months.

2. Once the monthly records required to be kept by s. NR 463.103 (2) (L) and by this paragraph show that the actual cumulative rectifier capacity over the previous 12-month rolling period corresponds to the large designation, the owner or operator is subject to the emission limitation identified in par. (a) 1. or 3. or (b) 1., 3. or 4., in accordance with the compliance schedule of s. NR 463.06 (1) (e).

(4) STANDARDS FOR DECORATIVE CHROMIUM ELECTROPLATING TANKS USING A CHROMIC ACID BATH AND CHROMIUM ANODIZING TANKS. During tank operation, each owner or operator of an existing, new or reconstructed decorative chromium electroplating tank using a chromic acid bath or chromium anodizing tank shall control chromium emissions discharged to the atmosphere from that affected source by one of the following:

(a) By not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.01 mg/dscm ( $4.4 \times 10^{-6}$  gr/dscf).

(b) If a chemical fume suppressant containing a wetting agent is used, by not allowing the surface tension of the electroplating or anodizing bath contained within the affected tank to exceed 45 dynes per centimeter (dynes/cm) ( $3.1 \times 10^{-3}$  pound-force per foot (lb<sub>f</sub>/ft) as measured by a stalagmometer or 35 dynes/cm ( $2.4 \times 10^{-3}$  lb<sub>f</sub>/ft) as measured by a tensiometer at any time during operation of the tank.

(5) STANDARDS FOR DECORATIVE CHROMIUM ELECTROPLATING TANKS USING A TRIVALENT CHROMIUM BATH. (a) Each owner or operator of an existing, new or reconstructed decorative chromium electroplating tank that uses a trivalent chromium bath that incorporates a wetting agent as a bath ingredient is subject to the recordkeeping and reporting requirements of ss. NR 463.103 (2) (n) and 463.106 (9), but is not subject to the work practice requirements of s. NR 463.05, or the continuous compliance monitoring requirements in s. NR 463.07. The wetting agent shall be an ingredient in the trivalent chromium bath components purchased from vendors.

(b) Each owner or operator of an existing, new or reconstructed decorative chromium electroplating tank that uses a trivalent chromium bath that does not incorporate a wetting agent as a bath ingredient is subject to the standards of sub. (4).

(c) Each owner or operator of existing, new or reconstructed decorative chromium electroplating tank that had been using a trivalent chromium bath that incorporates a wetting agent and ceases using this type of bath shall fulfill the reporting requirements of s. NR 463.106 (9) (c) and comply with the applicable emission limitation within the timeframe specified in s. NR 463.06 (1) (f).

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 05-039: am. (3) (a), (4) (b), (5) (a) and (c), cr. (3) (a) 3. and (b), renum. (3) (b) to be (3) (c) and am. (3) (c) 1. a., b. and 2. Register February 2006 No. 602, eff. 3-1-06; CR 04-023: am. (1), (2) (a) and (b) 1. to 3. Register December 2008 No. 636, eff. 1-1-09.

#### NR 463.05 Operation and maintenance practices.

(1) WORK PRACTICE STANDARDS. All owners or operators subject to the standards in s. NR 463.04 (3) and (4) are subject to the following work practice standards:

(a) At all times, including periods of startup, shutdown and malfunction, owners or operators shall operate and maintain any affected source, including associated air pollution control devices and monitoring equipment, in a manner consistent with good air pollution control practices, consistent with the operation and maintenance plan required by sub. (2).

(b) Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the operation and maintenance plan required by sub. (2).

(c) Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the department, which may include, but is not limited to, monitoring results; review of the operation and maintenance plan, procedures and records; and inspection of the source.

(d) Based on the results of a determination made under par. (c), the department may require that an owner or operator of an affected source make changes to the operation and maintenance

plan required by sub. (2) for that source. Revisions may be required if the department finds that the plan does any of the following:

1. Does not address a malfunction that has occurred.
2. Fails to provide for the proper operation of the affected source, the air pollution control techniques, or the control system and process monitoring equipment during a malfunction in a manner consistent with good air pollution control practices.
3. Does not provide adequate procedures for correcting malfunctioning process equipment, air pollution control techniques or monitoring equipment as quickly as practicable.

**Table 1**

**Summary of Work Practice Standards**

<b>Control technique</b>	<b>Work practice standards</b>	<b>Frequency</b>
Composite mesh-pad (CMP) system	<ol style="list-style-type: none"> <li>1. Visually inspect device to ensure there is proper drainage, no chronic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the device.</li> <li>2. Visually inspect back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist.</li> <li>3. Visually inspect ductwork from tank to the control device to ensure there are no leaks.</li> <li>4. Perform washdown of the composite mesh-pads in accordance with manufacturer's recommendations.</li> </ol>	<ol style="list-style-type: none"> <li>1. 1/quarter.</li> <li>2. 1/quarter.</li> <li>3. 1/quarter.</li> <li>4. Per manufacturer .</li> </ol>
Packed-bed scrubber (PBS)	<ol style="list-style-type: none"> <li>1. Visually inspect device to ensure there is proper drainage, no chronic acid buildup on the packed beds, and no evidence of chemical attack on the structural integrity of the device.</li> <li>2. Visually inspect back portion of the chevron blade mist eliminator to ensure that it is dry and there is no breakthrough of chromic acid mist.</li> <li>3. Same as number 3 for CMP system.</li> <li>4. Add fresh makeup water to the top of the packed bed<sup>a,b</sup>.</li> </ol>	<ol style="list-style-type: none"> <li>1. 1/quarter.</li> <li>2. 1/quarter.</li> <li>3. 1/quarter.</li> <li>4. Whenever makeup is added.</li> </ol>

<b>Control technique</b>	<b>Work practice standards</b>	<b>Frequency</b>
PBS/CMP system	<ol style="list-style-type: none"> <li>1. Same as for CMP system.</li> <li>2. Same as for CMP.</li> <li>3. Same as for CMP system.</li> <li>4. Same as for CMP system.</li> </ol>	<ol style="list-style-type: none"> <li>1. 1/quarter.</li> <li>2. 1/quarter.</li> <li>3. 1/quarter.</li> <li>4. Per manufacturer .</li> </ol>
Fiber-bed mist eliminator <sup>c</sup>	<ol style="list-style-type: none"> <li>1. Visually inspect fiber-bed unit and pre-filtering device to ensure there is proper drainage, no chromic acid buildup in the units, and no evidence of chemical attack on the structural integrity of the devices.</li> <li>2. Visually inspect ductwork from tank or tanks to the control device to ensure there are no leaks.</li> <li>3. Perform washdown of fiber elements in accordance with manufacturer's recommendations.</li> </ol>	<ol style="list-style-type: none"> <li>1. 1/quarter.</li> <li>2. 1/quarter.</li> <li>3. Per manufacturer</li> </ol>
Air pollution control device not listed in rule	To be proposed by the source for approval by the department.	To be proposed by the source for approval by the department.
<b>Monitoring Equipment</b>		
Pitot tube	Backflush with water, or remove from the duct and rinse with fresh water. Replace in the duct and rotate 180 degrees to ensure that the same zero reading is obtained. Check pitot tube ends for damage. Replace pitot tube if cracked or fatigued.	1/quarter.
Stalagmometer	Follow manufacturer's recommendations.	

<sup>a</sup> If greater than 50% of the scrubber water is drained, for purposes such as maintenance, makeup water may be added to the scrubber basin.

<sup>b</sup> For horizontal-flow scrubbers, top is defined as the section of the unit directly above the packing media such that the makeup water would flow perpendicular to the air flow through the packing. For vertical-flow units, the top is defined as the area downstream of the packing material such that the makeup water would flow countercurrent to the air flow through the unit.

<sup>c</sup> Work practice standards for the control device installed upstream of the fiber-bed mist eliminator to prevent plugging do not apply as long as the work practice standards for the fiber-bed unit are followed.

**(2) OPERATION AND MAINTENANCE PLAN.** (a) The owner or operator of an affected source subject to the work practices of this section shall prepare an operation and maintenance plan to be implemented no later than the compliance date. The plan shall be incorporated by reference into the source's part 70 permit, if and

when a part 70 permit is required under ch. NR 407. The plan shall include all the following elements:

1. The plan shall specify the operation and maintenance criteria for the affected source, the add-on air pollution control device, if such a device is used to comply with the emission limits, and the process and control system monitoring equipment, and shall include a standardized checklist to document the operation and maintenance of this equipment.

2. For sources using an add-on air pollution control device or monitoring equipment to comply with this subchapter, the plan shall incorporate the work practice standards for that device or monitoring equipment, as identified in Table 1 of this subchapter, if the specific equipment used is identified in Table 1.

3. If the specific equipment used is not identified in Table 1 of this subchapter, the plan shall incorporate proposed work practice standards. These proposed work practice standards shall be submitted to the department for approval as part of the submittal required under s. NR 463.08.

4. The plan shall specify procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions do not occur.

5. The plan shall include a systematic procedure for identifying malfunctions of process equipment, add-on air pollution control devices, and process and control system monitoring equipment and for implementing corrective actions to address the malfunctions.

(b) If the operation and maintenance plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the operation and maintenance plan within 45 days after the event occurs. The revised plan shall include procedures for operating and maintaining the process equipment, add-on air pollution control device, or monitoring equipment during similar malfunction events, and a program for corrective action for the events.

(c) Recordkeeping associated with the operation and maintenance plan is identified in s. NR 463.103 (2). Reporting associated with the operation and maintenance plan is identified in s. NR 463.106 (7) and (8) and par. (d).

(d) If actions taken by the owner or operator during periods of malfunction are inconsistent with the procedures specified in the operation and maintenance plan required by par. (a), the owner or operator shall record the actions taken for that event and shall report by phone the actions within 2 working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within 7 working days after the end of the event, unless the owner or operator makes alternative reporting arrangements, in advance, with the department.

(e) Each owner or operator shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the department for the life of the affected source or until the source is no longer subject to the provisions of this subchapter. In addition, if the operation and maintenance plan is revised, the owner or operator shall keep previous versions of the operation and maintenance plan on record to be made available for inspection, upon request, by the department for a period of 5 years after each revision to the plan.

(f) To satisfy the requirements of this subsection, the owner or operator may use applicable standard operating procedure manuals, OSHA plans or other existing plans, provided the alternative plans meet the requirements of this subchapter.

**(3) CHROMIC ACID BATH STANDARDS NOT MET BY USING REDUCING AGENT.** The standards in s. NR 463.04 and this section that apply to chromic acid baths may not be met by using a reduc-

ing agent to change the form of chromium from hexavalent to trivalent.

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 05-039: am. (1) (d) 2., (2) (a) 2., 3. and (c) Register February 2006 No. 602, eff. 3-1-06; CR 04-023: am. (2) (e) and (f) Register November 2008 No. 636, eff. 1-1-09.

**NR 463.06 Compliance provisions. (1) COMPLIANCE DATES.** (a) The owner or operator of an existing affected source shall comply with the emission limitations in ss. NR 463.04 and 463.05 as follows:

1. No later than October 1, 1998, if the affected source is a decorative chromium electroplating tank.

2. No later October 1, 1999, if the affected source is a hard chromium electroplating tank or a chromium anodizing tank.

(b) The owner or operator of a new or reconstructed affected source that has an initial startup after October 1, 1997, shall comply immediately upon startup of the source. The owner or operator of a new or reconstructed affected source that has an initial startup after December 16, 1993, but before October 1, 1997, shall follow the compliance schedule of s. NR 460.05 (2) (a).

(c) The owner or operator of an existing area source that increases actual or potential emissions of hazardous air pollutants such that the area source becomes a major source shall comply with the provisions for existing major sources, including the reporting provisions of s. NR 463.106 (7), immediately upon becoming a major source.

(d) The owner or operator of a new area source that increases actual or potential emissions of hazardous air pollutants such that the area source becomes a major source shall comply with the provisions for new major sources immediately upon becoming a major source.

(e) An owner or operator of an existing hard chromium electroplating tank or tanks located at a small, hard chromium electroplating facility that increases its maximum cumulative potential rectifier capacity, or its actual cumulative rectifier capacity, such that the facility becomes a large, hard chromium electroplating facility shall comply with the requirements of s. NR 463.04 (3) (a) 1. for all hard chromium electroplating tanks at the facility no later than one year after the month in which monthly records required by ss. NR 463.04 (3) (c) and 463.103 (2) (L) show that the large designation is met, or by the compliance date specified in par. (a) 2., whichever is later.

(f) An owner or operator of a decorative chromium electroplating tank that uses a trivalent chromium bath that incorporates a wetting agent, and that ceases using the trivalent chromium process, shall comply with the emission limitation thereafter applicable to the tank within one year of switching from the bath operation.

**(2) REQUEST FOR A COMPLIANCE DATE EXTENSION.** An owner or operator of an affected source or sources that requests a compliance date extension shall do so in accordance with this subsection and the applicable paragraphs of s. NR 460.05 (7). When the owner or operator is requesting the extension for more than one affected source located at the facility, then only one request may be submitted for all affected sources at the facility.

(a) The owner or operator of an existing affected source who is unable to comply with a relevant standard under this subchapter may request that the department grant an extension allowing the owner or operator up to one additional year to comply with the standard for the affected source. The owner or operator of an affected source who has requested a compliance date extension under this subsection and is otherwise required to obtain a part 70 permit for the source shall apply for the permit or apply to have the part 70 permit revised to incorporate the conditions of the compliance date extension. The conditions of a compliance date

extension granted under this subsection will be incorporated into the owner or operator's part 70 permit for the affected source according to 40 CFR part 70 or part 71, whichever is applicable.

(b) Any request under this subsection for an extension of compliance with a relevant standard shall be submitted in writing to the department not later than 6 months before the affected source's compliance date as specified in this section.

**(3) METHODS TO DEMONSTRATE INITIAL COMPLIANCE.** (a) Except as provided in pars. (b) and (c), an owner or operator of an affected source subject to the requirements of this subchapter is required to conduct an initial performance test as required under s. NR 460.06, using the procedures and test methods listed in ss. NR 460.06 (2) and (5) and 463.09.

(b) If the owner or operator of an affected source meets all of the following criteria, an initial performance test is not required to be conducted under this subchapter:

1. The affected source is a hard chromium electroplating tank, a decorative chromium electroplating tank or a chromium anodizing tank.

2. A wetting agent is used in the plating or anodizing bath to inhibit chromium emissions from the affected source.

3. The owner or operator complies with the applicable surface tension limit of s. NR 463.04 (3) (a) 3. or (b) 3. or (4) (b) as demonstrated through the continuous compliance monitoring required by s. NR 463.07 (5) (b).

(c) If the affected source is a decorative chromium electroplating tank using a trivalent chromium bath, and the owner or operator is subject to the provisions of s. NR 463.04 (5), an initial performance test is not required to be conducted under this subchapter.

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 05-039: am. (1) (c), (e), (3) (b) 1. and 3. Register February 2006 No. 602, eff. 3-1-06; CR 04-023: am. (2) (a), (3) (a), (b) (intro.) and (c) Register December 2008 No. 636, eff. 1-1-09.

**NR 463.07 Monitoring to demonstrate continuous compliance.** The owner or operator of an affected source subject to the emission limitations of this subchapter shall conduct monitoring according to the type of air pollution control technique that is used to comply with the emission limitation. The monitoring required to demonstrate continuous compliance with the emission limitations is identified in this section for the air pollution control techniques expected to be used by the owners or operators of affected sources.

**(1) COMPOSITE MESH-PAD SYSTEMS.** (a) During the initial performance test, the owner or operator of an affected source, or a group of affected sources under common control, complying with the emission limitations in s. NR 463.04 through the use of a composite mesh-pad system shall determine the outlet chromium concentration using the test methods and procedures in s. NR 463.09 (3), and shall establish as a site-specific operating parameter the pressure drop across the system, setting the value that corresponds to compliance with the applicable emission limitation, using the procedures in s. NR 463.09 (4) (e). An owner or operator may conduct multiple performance tests to establish a range of compliant pressure drop values, or may set as the compliant value the average pressure drop measured over the 3 test runs of one performance test and accept  $\pm 2$  inches of water column from this value as the compliant range.

(b) On and after the date on which the initial performance test is required to be completed under s. NR 460.06, the owner or operator of an affected source, or group of affected sources under common control, shall monitor and record the pressure drop across the composite mesh-pad system once each day that any affected source is operating. To be in compliance with the standards in s. NR 463.04, the composite mesh-pad system shall be

operated within  $\pm 2$  inches of water column of the pressure drop value established during the initial performance test, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.

(c) The owner or operator of an affected source complying with the emission limitation of s. NR 463.04 through the use of a composite mesh-pad system may repeat the performance test and establish as a new site-specific operating parameter the pressure drop across the composite mesh-pad system according to the requirements in par. (a) or (b). To establish a new site-specific operating parameter for pressure drop, the owner or operator shall satisfy all of the following requirements:

1. Determine the outlet chromium concentration using the test methods and procedures in s. NR 463.09 (3).

2. Establish the site-specific operating parameter value using the procedures in s. NR 463.09 (4).

3. Satisfy the recordkeeping requirements in s. NR 463.103.

4. Satisfy the reporting requirements in s. NR 463.106.

(d) The requirement to operate a composite mesh-pad system within the range of pressure drop values established under pars. (a) to (c) does not apply during the automatic-washdown cycles of the composite-mesh pad system.

**(2) PACKED-BED SCRUBBER SYSTEMS.** (a) During the initial performance test, the owner or operator of an affected source, or group of affected sources under common control, complying with the emission limitations in s. NR 463.04 through the use of a packed-bed scrubber system shall determine the outlet chromium concentration using the procedures in s. NR 463.09 (3), and shall establish as site-specific operating parameters the pressure drop across the system and the velocity pressure at the common inlet of the control device, setting the value that corresponds to compliance with the applicable emission limitation using the procedures in s. NR 463.09 (4) (d) and (e). An owner or operator may conduct multiple performance tests to establish a range of compliant operating parameter values. Alternatively, the owner or operator may set as the compliant value the average pressure drop and inlet velocity pressure measured over the 3 test runs of one performance test, and accept  $\pm 1$  inch of water column from the pressure drop value and  $\pm 10\%$  from the velocity pressure value as the compliant range.

(b) On and after the date on which the initial performance test is required to be completed under s. NR 460.06, the owner or operator of an affected source, or group of affected sources under common control, shall monitor and record the velocity pressure at the inlet to the packed-bed scrubber and the pressure drop across the scrubber system once each day that any affected source is operating. To be in compliance with the standards in s. NR 463.04, the scrubber system shall be operated within  $\pm 10\%$  of the velocity pressure value established during the initial performance test, and within  $\pm 1$  inch of water column of the pressure drop value established during the initial performance test, or within the range of compliant operating parameter values established during multiple performance tests.

**(3) PACKED-BED SCRUBBER/COMPOSITE MESH-PAD SYSTEM.** The owner or operator of an affected source, or group of affected sources under common control, that uses a packed-bed scrubber in conjunction with a composite mesh-pad system to meet the emission limitations of s. NR 463.04 shall comply with the monitoring requirements for composite mesh-pad systems as identified in sub. (1).

**(4) FIBER-BED MIST ELIMINATOR.** (a) During the initial performance test, the owner or operator of an affected source, or group of affected sources under common control, complying with the emission limitations in s. NR 463.04 through the use of a



fiber-bed mist eliminator shall determine the outlet chromium concentration using the procedures in s. NR 463.09 (3), and shall establish as a site-specific operating parameter the pressure drop across the fiber-bed mist eliminator and the pressure drop across the control device installed upstream of the fiber bed to prevent plugging, setting the value that corresponds to compliance with the applicable emission limitation using the procedures in s. NR 463.09 (4) (e). An owner or operator may conduct multiple performance tests to establish a range of compliant pressure drop values, or may set as the compliant value the average pressure drop measured over the 3 test runs of one performance test and accept  $\pm 1$  inch of water column from this value as the compliant range.

(b) On and after the date on which the initial performance test is required to be completed under s. NR 460.06, the owner or operator of an affected source, or group of affected sources under common control, shall monitor and record the pressure drop across the fiber-bed mist eliminator, and the control device installed upstream of the fiber bed to prevent plugging, once each day that any affected source is operating. To be in compliance with the standards in s. NR 463.04, the fiber-bed mist eliminator and the upstream control device shall be operated within  $\pm 1$  inch of water column of the pressure drop value established during the initial performance test, or shall be operated within the range of compliant values for pressure drop established during multiple performance tests.

**(5) WETTING AGENT-TYPE OR COMBINATION WETTING AGENT-TYPE/FOAM BLANKET FUME SUPPRESSANTS.** (a) During the initial performance test, the owner or operator of an affected source complying with the emission limitations in s. NR 463.04 through the use of a wetting agent in the electroplating or anodizing bath shall determine the outlet chromium concentration using the procedures in s. NR 463.09 (3). The owner or operator shall establish as the site-specific operating parameter the surface tension of the bath using Method 306B in Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04 (25), setting the maximum value that corresponds to compliance with the applicable emission limitation. In lieu of establishing the maximum surface tension during the performance test, the owner or operator may accept 45 dynes/cm ( $3.1 \times 10^{-3}$  pound-force per foot ( $\text{lb}_f/\text{ft}$ )) as measured by a stalagmometer or 35 dynes/cm ( $2.4 \times 10^{-3} \text{ lb}_f/\text{ft}$ ) as measured by a tensiometer as the maximum surface tension value that corresponds to compliance with the applicable emission limitation. However, the owner or operator is exempt from conducting a performance test only if the criteria of s. NR 463.06 (3) (b) are met.

(b) On and after the date on which the initial performance test is required to be completed under s. NR 460.06, the owner or operator of an affected source shall monitor the surface tension of the electroplating or anodizing bath. Operation of the affected source at a surface tension greater than the value established during the performance test or greater than 45 dynes/cm ( $3.1 \times 10^{-3} \text{ lb}_f/\text{ft}$ ) as measured by a stalagmometer or 35 dynes/cm ( $2.4 \times 10^{-3} \text{ lb}_f/\text{ft}$ ) as measured by a tensiometer if the owner or operator is using this value in accordance with par. (a), shall constitute noncompliance with the standards in s. NR 463.04. The surface tension shall be monitored according to the following schedule:

1. The surface tension shall be measured once every 4 hours during operation of the tank with a stalagmometer or a tensiometer as specified in Method 306B in Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04.

2. The time between monitoring may be increased if there have been no exceedances. The surface tension shall be measured once every 4 hours of tank operation for the first 40 hours

of tank operation after the compliance date. Once there are no exceedances during 40 hours of tank operation, surface tension measurement may be conducted once every 8 hours of tank operation. Once there are no exceedances during 40 more hours of tank operation, surface tension measurement may be conducted once every 40 hours of tank operation on an ongoing basis, until an exceedance occurs. The minimum frequency of monitoring allowed by this subchapter is once every 40 hours of tank operation.

3. Once an exceedance occurs as indicated through surface tension monitoring, the original monitoring schedule of once every 4 hours shall be resumed. A subsequent decrease in frequency shall follow the schedule laid out in subd. 2. For example, if an owner or operator had been monitoring an affected source once every 40 hours and an exceedance occurs, subsequent monitoring would take place once every 4 hours of tank operation. Once an exceedance does not occur for 40 hours of tank operation, monitoring may occur once every 8 hours of tank operation. Once an exceedance does not occur for 40 hours of tank operation on this schedule, monitoring may occur once every 40 hours of tank operation.

(c) Once a bath solution is drained from the affected tank and a new solution added, the original monitoring schedule of once every 4 hours shall be resumed, with a decrease in monitoring frequency allowed following the procedures of par. (b) 2. and 3.

**(6) FOAM BLANKET-TYPE FUME SUPPRESSANTS.** (a) During the initial performance test, the owner or operator of an affected source complying with the emission limitations in s. NR 463.04 through the use of a foam blanket in the electroplating or anodizing bath shall determine the outlet chromium concentration using the procedures in s. NR 463.09 (3), and shall establish as the site-specific operating parameter the thickness of the foam blanket, setting the minimum thickness that corresponds to compliance with the applicable emission limitation. In lieu of establishing the minimum foam blanket thickness during the performance test, the owner or operator may accept 2.54 centimeters (1 inch) as the minimum foam blanket thickness that corresponds to compliance with the applicable emission limitation. All foam blanket measurements shall be taken in close proximity to the workpiece or cathode area in the plating tank.

(b) On and after the date on which the initial performance test is required to be completed under s. NR 460.06, the owner or operator of an affected source shall monitor the foam blanket thickness of the electroplating or anodizing bath. Operation of the affected source at a foam blanket thickness less than the value established during the performance test, or less than 2.54 cm (1 inch) if the owner or operator is using this value in accordance with par. (a), constitutes noncompliance with the standards in s. NR 463.04. The foam blanket thickness shall be measured according to the following schedule:

1. The foam blanket thickness shall be measured once every hour of tank operation.

2. The time between monitoring may be increased if there have been no exceedances. The foam blanket thickness shall be measured once every hour of tank operation for the first 40 hours of tank operation after the compliance date. Once there are no exceedances for 40 hours of tank operation, foam blanket thickness measurement may be conducted once every 4 hours of tank operation. Once there are no exceedances during 40 more hours of tank operation, foam blanket thickness measurement may be conducted once every 8 hours of tank operation on an ongoing basis, until an exceedance occurs. The minimum frequency of monitoring allowed by this subchapter is once per 8 hours of tank operation.



3. Once an exceedance occurs as indicated through foam blanket thickness monitoring, the original monitoring schedule of once every hour shall be resumed. A subsequent decrease in frequency shall follow the schedule laid out in subd. 2. For example, if an owner or operator had been monitoring an affected source once every 8 hours and an exceedance occurs, subsequent monitoring would take place once every hour of tank operation. Once an exceedance does not occur for 40 hours of tank operation, monitoring may occur once every 4 hours of tank operation. Once an exceedance does not occur for 40 hours of tank operation on this schedule, monitoring may occur once every 8 hours of tank operation.

(c) Once a bath solution is drained from the affected tank and a new solution added, the original monitoring schedule of once every hour shall be resumed, with a decrease in monitoring frequency allowed following the procedures of par. (b) 2. and 3.

**(7) FUME SUPPRESSANT/ADD-ON CONTROL DEVICE.** (a) If the owner or operator of an affected source uses both a fume suppressant and add-on control device and both are needed to comply with the applicable emission limit, monitoring requirements as identified in subs. (1) to (6), and the work practice standards of Table 1 of this subchapter, apply for each of the control techniques used.

(b) If the owner or operator of an affected source uses both a fume suppressant and add-on control device, but only one of these techniques is needed to comply with the applicable emission limit, monitoring requirements as identified in subs. (1) to (6), and work practice standards of Table 1 of this subchapter, apply only for the control technique used to achieve compliance.

**(8) USE OF AN ALTERNATIVE MONITORING METHOD.** (a) Requests and approvals of alternative monitoring methods shall be considered in accordance with s. NR 460.07 (6).

(b) After receipt and consideration of an application for an alternative monitoring method, the department may approve alternatives to any monitoring methods or procedures of this subchapter including, but not limited to, the following:

1. Alternative monitoring requirements when installation or use of monitoring devices specified in this subchapter would not provide accurate measurements due to interferences caused by substances within the effluent gases.

2. Alternative locations for installing monitoring devices when the owner or operator can demonstrate that installation at alternate locations will enable accurate and representative measurements.

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 05-039: am. (1) (a), (b), (5) (a), (b) (intro.) and (7) (b), cr. (1) (c) and (d) Register February 2006 No. 602, eff. 3-1-06; CR 04-023: am. (intro.), (5) (b) 2., (6) (b) 2., (7) (a), (8) (b) (intro.) and 1. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.08 Alternative control devices.** An owner or operator who uses an air pollution control device not listed in s. NR 463.07 shall submit a description of the device, test results collected in accordance with s. NR 463.09 (3) verifying the performance of the device for reducing chromium emissions to the atmosphere to the level required by this subchapter, a copy of the operation and maintenance plan referenced in s. NR 463.05 including proposed work practice standards, and appropriate operating parameters that will be monitored to establish continuous compliance with the standards in s. NR 463.04. The monitoring plan submitted identifying the continuous compliance monitoring is subject to the department's approval.

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 04-023: am. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.09 Performance test requirements and test methods.** **(1) PERFORMANCE TEST REQUIREMENTS.** Perfor-

mance tests shall be conducted using the test methods and procedures in this section and s. NR 460.06. The test plan to be followed shall be made available to the department prior to the testing, if requested. Performance test results shall be documented in complete test reports that contain all of the following information:

- (a) A brief process description.
- (b) Sampling location description.
- (c) A description of sampling and analytical procedures and any modifications to standard procedures.
- (d) Test results.
- (e) Quality assurance procedures and results.
- (f) Records of operating conditions during the test, preparation of calibration standards, and calibration procedures.
- (g) Raw data sheets for field sampling and field and laboratory analyses.
- (h) Documentation of calculations.
- (i) Any other information required by the test method.

**(2) USE OF OPERATION PERMIT PERFORMANCE TEST RESULTS FOR COMPLIANCE DEMONSTRATION.** (a) If the owner or operator of an affected source conducts performance testing at startup to obtain an operation permit under ch. NR 407, the results of the testing may be used to demonstrate compliance with this subchapter if all of the following conditions are met:

1. The test methods and procedures identified in sub. (3) were used during the performance test.
2. The performance test was conducted under representative operating conditions for the source.
3. The performance test report contains the elements required by sub. (1).
4. The owner or operator of the affected source for which the performance test was conducted has sufficient data to establish the operating parameter values that correspond to compliance with the standards in s. NR 463.04, as required for continuous compliance monitoring under s. NR 463.07.

(b) The results of tests conducted prior to December 1991 in which Method 306A in Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04, was used to demonstrate the performance of a control technique are not acceptable.

**(3) TEST METHODS.** Each owner or operator subject to the provisions of this subchapter and required by s. NR 463.06 (3) to conduct an initial performance test shall use the test methods identified in this section to demonstrate compliance with the standards in s. NR 463.04.

(a) Method 306 or Method 306A in Appendix A of 40 CFR part 63, both titled "Determination of Chromium Emissions From Decorative and Hard Chromium Electroplating and Anodizing Operations," which are incorporated by reference in s. NR 484.04, shall be used to determine the chromium concentration from hard or decorative chromium electroplating tanks or chromium anodizing tanks. The sampling time and sample volume for each run of Methods 306 and 306A shall be at least 120 minutes and 1.70 dscm (60 dscf), respectively. Methods 306 and 306A allow the measurement of either total chromium or hexavalent chromium emissions. For the purposes of this subchapter, sources using chromic acid baths may demonstrate compliance with the emission limits of s. NR 463.04 by measuring either total chromium or hexavalent chromium. The hexavalent chromium concentration measured by these methods is equal to the total chromium concentration for the affected operations.

(b) Method 306B in Appendix A of 40 CFR part 63, "Surface Tension Measurement and Recordkeeping for Tanks Used at Decorative Chromium Electroplating and Anodizing Facilities," in-

corporated by reference in s. NR 484.04, shall be used to measure the surface tension of electroplating and anodizing baths.

(c) Alternate test methods may also be used if the method has been validated using Method 301 in Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04, and if approved by the department. Procedures for requesting and obtaining approval are contained in s. NR 460.06 (5).

(4) ESTABLISHING SITE-SPECIFIC OPERATING PARAMETER VALUES. (a) Each owner or operator required to establish site-specific operating parameters shall follow the procedures in this subsection.

(b) All monitoring equipment shall be installed such that representative measurements of emissions or process parameters from the affected source are obtained. For monitoring equipment purchased from a vendor, verification of the operational status of the monitoring equipment shall include execution of the manufacturer's written specifications or recommendations for installation, operation and calibration of the system.

1. Specifications for differential pressure measurement devices used to measure velocity pressure shall be in accordance with section 2.2 of Method 2 in Appendix A of 40 CFR part 60, incorporated by reference in s. NR 484.04.

2. Specifications for differential pressure measurement devices used to measure pressure drop across a control system shall be in accordance with manufacturer's accuracy specifications.

(c) The surface tension of electroplating and anodizing baths shall be measured using Method 306B in Appendix A of 40 CFR part 63, "Surface Tension Measurement and Recordkeeping for Tanks Used at Decorative Chromium Electroplating and Anodizing Facilities," incorporated by reference in s. NR 484.04. This method shall also be followed when wetting agent type or combination wetting agent/foam blanket type fume suppressants are used to control chromium emissions from a hard chromium electroplating tank and surface tension measurement is conducted to demonstrate continuous compliance.

(d) The owner or operator of a source required to measure the velocity pressure at the inlet to an add-on air pollution control device in accordance with s. NR 463.07 (2), shall establish the site-specific velocity pressure as follows:

1. Locate a velocity traverse port in a section of straight duct that connects the hooding on the plating tank or tanks with the control device. The port shall be located as close to the control system as possible, and shall be placed a minimum of 2 duct diameters downstream and 0.5 diameter upstream of any flow disturbance such as a bend, expansion or contraction (see Method 1 in Appendix A of 40 CFR part 60, incorporated by reference in s. NR 484.04). If 2.5 diameters of straight duct work does not exist, locate the port 0.8 of the distance between flow disturbances downstream and 0.2 of the distance between flow disturbances upstream from the respective flow disturbances.

2. A 12-point velocity traverse of the duct to the control device shall be conducted along a single axis according to Method 2 in Appendix A of 40 CFR part 60, incorporated by reference in s. NR 484.04, using an S-type pitot tube; measurement of the barometric pressure and duct temperature at each traverse point is not required, but is suggested. Mark the S-type pitot tube as specified in Method 1 in Appendix A of 40 CFR part 60, incorporated by reference in s. NR 484.04, with 12 points. Measure the velocity pressure ( $\Delta p$ ) values for the velocity points and record. Determine the square root of the individual velocity point  $\Delta p$  values and average. The point with the square root value that comes closest to the average square root value is the point of average velocity. The  $\Delta p$  value measured for this point during the performance test shall be used as the reference for future monitoring.

(e) The owner or operator of a source required to measure the pressure drop across the add-on air pollution control device in accordance with s. NR 463.07 (1) to (4) may establish the pressure drop in accordance with the following guidelines:

1. Pressure taps shall be installed at any of the following locations:

a. At the inlet and outlet of the control system. In this case the inlet tap would be installed in the ductwork just prior to the control device and the corresponding outlet pressure tap would be installed on the outlet side of the control device prior to the blower or on the downstream side of the blower.

b. On each side of the packed bed within the control system or on each side of each mesh pad within the control system.

c. On the front side of the first mesh pad and back side of the last mesh pad within the control system.

2. Pressure taps shall be sited at locations that are:

a. As free from pluggage as possible and away from any flow disturbances such as cyclonic demisters.

b. Situated such that no air infiltration at the measurement site will occur that could bias the measurement.

3. Pressure taps shall be constructed of either polyethylene, polybutylene or other nonreactive materials.

4. Nonreactive plastic tubing shall be used to connect the pressure taps to the device used to measure pressure drop.

5. Any of the following pressure gauges may be used to monitor pressure drop: a magnehelic gauge, an inclined manometer or a "U" tube manometer.

6. Prior to connecting any pressure lines to the pressure gauges, each gauge shall be zeroed. No calibration of the pressure gauges is required.

(5) SPECIAL COMPLIANCE PROVISIONS FOR MULTIPLE SOURCES CONTROLLED BY A COMMON ADD-ON AIR POLLUTION CONTROL DEVICE. (a) This subsection identifies procedures for measuring the outlet chromium concentration from an add-on air pollution control device that is used to control multiple sources that may or may not include sources not affected by this subchapter.

(b) When multiple affected sources performing the same type of operation (for example, all are performing hard chromium electroplating), and subject to the same emission limitation, are controlled with an add-on air pollution control device that is not controlling emissions from any other type of affected operation or from any sources not affected by this subchapter, the applicable emission limitation identified in s. NR 463.04 shall be met at the outlet of the add-on air pollution control device.

(c) When multiple affected sources performing the same type of operation and subject to the same emission limitation are controlled with a common add-on air pollution control device that is also controlling emissions from sources not affected by this subchapter, the following procedures shall be followed to determine compliance with the applicable emission limitation in s. NR 463.04:

1. Calculate the cross-sectional area of each inlet duct (up-takes from each hood) including those not affected by this subchapter.

2. Determine the total sample time per test run by dividing the total inlet area from all tanks connected to the control system by the total inlet area for all ducts associated with affected sources, and then multiply this number by 2 hours. The calculated time is the minimum sample time required per test run.

3. Perform testing using Method 306 in Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04, and calculate an outlet mass emission rate.

4. Determine the total ventilation rate from the affected sources by using equation 1:

$$VR_{tot} \times \frac{IDA_i}{\sum IA_{total}} = VR_{inlet} \quad \text{Equation (1)}$$

where  $VR_{tot}$  is the average total ventilation rate in dscm/min for the 3 test runs as determined at the outlet by means of the Method 306 testing;  $IDA_i$  is the total inlet area for all ducts associated with affected sources;  $IA_{total}$  is the sum of all inlet duct areas from both affected sources and sources not affected by this subchapter; and  $VR_{inlet}$  is the total ventilation rate from all inlet ducts associated with affected sources.

5. Establish the allowable mass emission rate of the system ( $AMR_{sys}$ ) in milligrams of total chromium per hour (mg/hr) using equation 2:

$$\sum VR_{inlet} \times EL \times 60 \text{ minutes/hour} = AMR_{sys} \quad \text{Equation (2)}$$

where  $\sum VR_{inlet}$  is the total ventilation rate in dscm/min from the affected sources, and  $EL$  is the applicable emission limitation from s. NR 463.04 in mg/dscm. The allowable mass emission rate ( $AMR_{sys}$ ) calculated from equation 2 shall be equal to or more than the outlet 3-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standard.

(d) When multiple affected sources performing different types of operations (for example, hard chromium electroplating, decorative chromium electroplating or chromium anodizing) are controlled by a common add-on air pollution control device that may or may not also be controlling emissions from sources not affected by this subchapter, or if the affected sources controlled by the common add-on air pollution control device perform the same operation but are subject to different emission limitations (for example, because one is a new hard chromium plating tank and one is an existing small, hard chromium plating tank), the following procedures shall be followed to determine compliance with the applicable emission limitation in s. NR 463.04:

1. Follow the steps outlined in par. (c) 1. to 3.
2. Determine the total ventilation rate for each type of affected source using equation 3:

$$VR_{tot} \times \frac{IDA_{i,a}}{\sum IA_{total}} = VR_{inlet,a} \quad \text{Equation (3)}$$

where  $VR_{tot}$  is the average total ventilation rate in dscm/min for the 3 test runs as determined at the outlet by means of the Method 306 testing;  $IDA_{i,a}$  is the total inlet duct area for all ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation;  $IA_{total}$  is the sum of all duct areas from both affected sources and sources not affected by this subchapter; and  $VR_{inlet,a}$  is the total ventilation rate from all inlet ducts conveying chromic acid from each type of affected source performing the same operation, or each type of affected source subject to the same emission limitation.

3. Establish the allowable mass emission rate in mg/hr for each type of affected source that is controlled by the add-on air pollution control device using equation 4, 5, 6 or 7 as appropriate:

$$VR_{hc1} \times EL_{hc1} \times 60 \text{ minutes/hour} = AMR_{hc1} \quad \text{Equation (4)}$$

$$VR_{hc2} \times EL_{hc2} \times 60 \text{ minutes/hour} = AMR_{hc2} \quad \text{Equation (5)}$$

$$VR_{dc} \times EL_{dc} \times 60 \text{ minutes/hour} = AMR_{dc} \quad \text{Equation (6)}$$

$$VR_{ca} \times EL_{ca} \times 60 \text{ minutes/hour} = AMR_{ca} \quad \text{Equation (7)}$$

where “hc” applies to the total of ventilation rates for all hard chromium electroplating tanks subject to the same emission limitation, “dc” applies to the total of ventilation rates for the decorative chromium electroplating tanks, “ca” applies to the total of ventilation rates for the chromium anodizing tanks, and  $EL$  is the applicable emission limitation from s. NR 463.04 in mg/dscm. There are 2 equations for hard chromium electroplating tanks because different emission limitations may apply (for example, a new tank versus an existing, small tank).

4. Establish the allowable mass emission rate ( $AMR$ ) in mg/hr for the system using equation 8, including each type of affected source as appropriate:

$$AMR_{hc1} + AMR_{hc2} + AMR_{dc} + AMR_{ca} = AMR_{sys} \quad \text{Equation (8)}$$

The allowable mass emission rate calculated from equation 8 shall be equal to or more than the outlet 3-run average mass emission rate determined from Method 306 testing in order for the source to be in compliance with the standards in s. NR 463.04.

(e) Each owner or operator that uses the special compliance provisions of this subsection to demonstrate compliance with the emission limitations of s. NR 463.04 shall submit the measurements and calculations to support these compliance methods with the notification of compliance status required by s. NR 463.106 (5).

(f) Each owner or operator that uses the special compliance provisions of this subsection to demonstrate compliance with the emission limitations of s. NR 463.04 shall repeat these procedures if a tank is added or removed from the control system regardless of whether that tank is not an affected source. If neither the new tank nor the existing tank is an affected source and the new tank replaces an existing tank of the same size and is connected to the control system through the same size inlet duct, then this procedure does not have to be repeated.

**(6) COMPLIANCE PROVISIONS FOR MASS RATE EMISSION STANDARD FOR ENCLOSED HARD CHROMIUM ELECTROPLATING TANKS.** (a) This subsection identifies procedures for calculating the maximum allowable mass emission rate for owners or operators of affected sources who choose to meet the mass emission rate standard in s. NR 463.04 (3) (b) 4. or 5.

(b) The owner or operator of an enclosed hard chromium electroplating tank that is an affected source other than an existing affected source located at a small hard chromium electroplating facility who chooses to meet the mass emission rate standard in s. NR 463.04 (3) (b) 4. shall determine compliance by not allowing the mass rate of total chromium in the exhaust gas stream discharged to the atmosphere to exceed the maximum allowable mass emission rate calculated using equation 9:

$$MAMER = ETSA \times K \times 0.015 \text{ mg/dscm} \quad \text{Equation (9)}$$

where:

$MAMER$  is the alternative emission rate for enclosed hard chromium electroplating tanks in mg/hr

$ETSA$  is the hard chromium electroplating tank surface area in square feet ( $ft^2$ )

$K$  is the conversion factor, 425 dscm/( $ft^2 \times hr$ )

(c) Compliance with the alternative mass emission limit in s. NR 463.04 (3) (b) 4. is demonstrated if the 3-run average mass



emission rate determined from Method 306 in Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04 (25), testing is less than or equal to the maximum allowable mass emission rate calculated from equation 9 in par. (b).

(d) The owner or operator of an enclosed hard chromium electroplating tank that is an existing affected source located at a small hard chromium electroplating facility who chooses to meet the mass emission rate standard in s. NR 463.04 (3) (b) 5. shall determine compliance by not allowing the mass rate of total chromium in the exhaust gas stream discharged to the atmosphere to exceed the maximum allowable mass emission rate calculated using equation 10:

$$\text{MAMER} = \text{ETSA} \times K \times 0.03 \text{ mg/dscm} \quad \text{Equation (10)}$$

where:

MAMER is the alternative emission rate for enclosed hard chromium electroplating tanks in mg/hr

ETSA is the hard chromium electroplating tank surface area in square feet (ft<sup>2</sup>)

K is the conversion factor, 425 dscm/(ft<sup>2</sup> x hr)

(e) Compliance with the alternative mass emission limit in s. NR 463.04 (3) (b) 5. is demonstrated if the 3-run average mass emission rate determined from Method 306 in Appendix A of 40 CFR part 63, incorporated by reference in s. NR 484.04 (25), testing is less than or equal to the maximum allowable mass emission rate calculated from equation 10 in par. (d).

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 05-039: am. (5) (e), cr. (6) Register February 2006 No. 602, eff. 3-1-06; CR 04-023: am. (2) (a) (intro.), (3) (intro.), (a), (5) (a), (b), (c) (intro.), 1., 4., (d) (intro.) and 2. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.10 Preconstruction review requirements for new and reconstructed sources. (1) NEW OR RECONSTRUCTED AFFECTED SOURCES.** The owner or operator of a new or reconstructed affected source which is exempt from the permit requirements of chs. NR 406 and 407 is subject to this section.

(a) No person may construct a new affected source or reconstruct an affected source subject to this subchapter, or reconstruct a source such that it becomes an affected source subject to this subchapter, without either meeting the permit application and approval requirements under ch. NR 406 or 407, if applicable, or submitting a notification of construction or reconstruction to the department under this section. Notification under this section shall contain the information identified in pars. (b) and (c), as appropriate.

(b) The notification of construction or reconstruction required under this subsection shall include all of the following:

1. The owner or operator's name, title and address.
2. The address or proposed address where the affected source would be located, if different from the owner's or operator's.
3. A notification of intention to construct a new affected source or make any physical or operational changes to an affected source that may meet or has been determined to meet the criteria for a reconstruction as defined in s. NR 460.02 (32).
4. An identification of this subchapter as the basis for the notification.
5. The expected commencement and completion dates of the construction or reconstruction.
6. The anticipated date of initial startup of the affected source.
7. The type of process operation to be performed, hard or decorative chromium electroplating or chromium anodizing.

8. A description of the air pollution control technique to be used to control emissions from the affected source, such as preliminary design drawings and design capacity if an add-on air pollution control device is used.

9. An estimate of emissions from the source based on engineering calculations and vendor information on control device efficiency, expressed in units consistent with the emission limits of this subchapter. Calculations of emission estimates shall be in sufficient detail to permit assessment of the validity of the calculations.

(c) If a reconstruction is to occur, the notification required under this subsection shall include the following in addition to the information required in par. (b):

1. A brief description of the affected source and the components to be replaced.
2. A brief description of the present and proposed emission control technique, including the information required by par. (b) 8. and 9.
3. An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new source.
4. The estimated life of the affected source after the replacements.
5. A discussion of any economic or technical limitations the source may have in complying with relevant standards or other requirements after the proposed replacements. The discussion shall be sufficiently detailed to demonstrate to the department's satisfaction that the technical or economic limitations affect the source's ability to comply with the relevant standard and how they do so.

6. If in the notification of reconstruction, the owner or operator designates the affected source as a reconstructed source and declares that there are no economic or technical limitations to prevent the source from complying with all relevant standards or requirements, the owner or operator need not submit the information required in subs. 3. to 5.

(d) The owner or operator of a new or reconstructed affected source that submits a notification under this subsection is not subject to approval by the department under this subchapter. Construction or reconstruction is subject only to notification and may begin upon submission of a complete notification. This paragraph applies only to affected sources which are exempt from permit requirements under chs. NR 406 and 407.

**(2) SUBMITTAL TIMEFRAMES.** After October 1, 1997, an owner or operator of a new or reconstructed affected source shall submit the notification of construction or reconstruction required by sub. (1) according to the following schedule:

(a) If construction or reconstruction commences after October 1, 1997, the notification shall be submitted as soon as practicable before the construction or reconstruction is planned to commence.

(b) If the construction or reconstruction had commenced and initial startup had not occurred before October 1, 1997, the notification shall be submitted as soon as practicable before startup but no later than 60 days after October 1, 1997.

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 04-023: am. (1) (a), (b) 4., 9. and (d) Register December 2008 No. 636, eff. 1-1-09.

**NR 463.103 Recordkeeping requirements. (1)** The owner or operator of each affected source subject to this subchapter shall fulfill all recordkeeping requirements outlined in this section and in the general provisions of ch. NR 460, according to the applicability of ch. NR 460 as identified in ch. NR 460 Appendix N.



(2) The owner or operator of an affected source subject to this subchapter shall maintain all of the following records for the source:

(a) Inspection records for the add-on air pollution control device, if such a device is used, and monitoring equipment, to document that the inspection and maintenance required by the work practice standards of s. NR 463.05 and Table 1 of this subchapter have taken place. The record may take the form of a checklist and shall identify the device inspected, the date of inspection, a brief description of the working condition of the device during the inspection, and any actions taken to correct deficiencies found during the inspection.

(b) Records of all maintenance performed on the affected source, the add-on air pollution control device and monitoring equipment.

(c) Records of the occurrence, duration and cause, if known, of each malfunction of process, add-on air pollution control and monitoring equipment.

(d) Records of actions taken during periods of malfunction when the actions are inconsistent with the operation and maintenance plan.

(e) Other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the operation and maintenance plan required by s. NR 463.05 (2).

(f) Test reports documenting results of all performance tests.

(g) All measurements as may be necessary to determine the conditions of performance tests, including measurements necessary to determine compliance with the special compliance procedures of s. NR 463.09 (5).

(h) Records of monitoring data required by s. NR 463.07 that are used to demonstrate compliance with the standard including the date and time the data are collected.

(i) The specific identification, including date and times, of each period of excess emissions, as indicated by monitoring data, that occurs during malfunction of the process, add-on air pollution control or monitoring equipment.

(j) The specific identification, including date and times, of each period of excess emissions, as indicated by monitoring data, that occurs during periods other than malfunction of the process, add-on air pollution control or monitoring equipment.

(k) The total process operating time of the affected source during the reporting period.

(L) Records of the actual cumulative rectifier capacity of hard chromium electroplating tanks at a facility expended during each month of the reporting period, and the total capacity expended to date for a reporting period, if the owner or operator is using the actual cumulative rectifier capacity to determine facility size in accordance with s. NR 463.04 (3) (b).

(m) For sources using fume suppressants to comply with the standards in s. NR 463.04, records of the date and time that fume suppressants are added to the electroplating or anodizing bath.

(n) For sources complying with s. NR 463.04 (5), records of the bath components purchased, with the wetting agent clearly identified by its chemical name as a bath constituent contained in one of the components.

(o) Any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements, if the source has been granted a waiver under s. NR 460.09 (6).

(p) All documentation supporting the notifications and reports required by ss. NR 460.08, 460.09 and 463.106.

(3) All records shall be maintained for a period of 5 years in accordance with s. NR 460.09 (2) (a).

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; CR 05-039: renun. from NR 463.11 and am. (2) (p) Register February 2006 No. 602, eff. 3-1-06; CR 04-023: am. (1), (2) (intro.) and (a) Register December 2008 No. 636, eff. 1-1-09; correction in (1) made under s. 35.17, Stats., Register June 2015 No. 714.

**NR 463.106 Reporting requirements.** The owner or operator of each affected source subject to this subchapter shall fulfill all reporting requirements outlined in this section and in the general provisions of ch. NR 460, according to the applicability of ch. NR 460 as identified in ch. NR 460 Appendix N. Owners or operators complying with the provisions of s. NR 463.04 (5) shall meet the requirements of sub. (9) rather than the requirements of subs. (1) to (8).

(1) **REPORT SUBMITTALS.** Reports under this section shall be made to the department as follows:

(a) Reports required by ch. NR 460 and this section may be sent by U.S. mail, fax or by another courier.

1. Submittals sent by U.S. mail shall be postmarked on or before the specified date.

2. Submittals sent by other methods shall be received by the department on or before the specified date.

(b) If acceptable to both the department and the owner or operator of an affected source, reports may be submitted on electronic media.

**Note:** Submittals sent by U.S. mail should be addressed to the Department of Natural Resources, Bureau of Air Management, PO Box 7921, Madison WI 53707. Submittals by another courier should be delivered to department's Bureau of Air Management, 7th floor, 101 South Webster Street, Madison WI 53703. Submittals by fax should be directed to (608) 267-0560.

(2) **TIMING OF APPLICABILITY.** The reporting requirements of this section apply to the owner or operator of an affected source when the source becomes subject to the provisions of this subchapter.

(3) **INITIAL NOTIFICATIONS.** The owner or operator of a new or reconstructed affected source that has an initial startup after October 1, 1997, shall comply with par. (a) or (b), as applicable.

(a) If no permit application is required under s. NR 406.03 or 407.04 (1) (b) 3., the owner or operator shall submit an initial notification report to the department, in addition to the notification of construction or reconstruction required by s. NR 463.10 (1), as follows:

1. A notification of the date when construction or reconstruction was commenced shall be submitted simultaneously with the notification of construction or reconstruction, if construction or reconstruction was commenced on or before October 1, 1997.

2. A notification of the date when construction or reconstruction was commenced shall be submitted no later than 30 calendar days after that date, if construction or reconstruction was commenced after October 1, 1997.

3. A notification of the actual date of startup of the source shall be submitted within 30 calendar days after that date.

(b) If a permit application is required under s. NR 406.03 or 407.04 (1) (b) 3. prior to construction or reconstruction, submittal of a completed permit application and compliance with the conditions in any permit subsequently issued shall be deemed to meet the notification requirements of par. (a).

(4) **NOTIFICATION OF PERFORMANCE TEST.** (a) The owner or operator of an affected source shall notify the department in writing of the owner or operator's intention to conduct a performance test at least 60 calendar days before the test is scheduled to begin to allow the department to have an observer present during the

test. Observation of the performance test by the department is optional.

(b) In the event the owner or operator is unable to conduct the performance test as scheduled, the provisions of s. NR 439.07 (4) apply.

(5) NOTIFICATION OF COMPLIANCE STATUS. (a) A notification of compliance status is required each time that an affected source becomes subject to the requirements of this subchapter.

(b) Each time a notification of compliance status is required under this subsection, the owner or operator of an affected source shall submit to the department a notification of compliance status, signed by the responsible official, as defined in s. NR 400.02 (136), who shall certify its accuracy, attesting to whether the affected source has complied with this subchapter. The notification shall list for each affected source the following:

1. The applicable emission limitation and the methods that were used to determine compliance with this limitation.

2. If a performance test is required by this subchapter, the test report documenting the results of the performance test, which contains the elements required by s. NR 463.09 (1), including measurements and calculations to support the special compliance provisions of s. NR 463.09 (5) if these are being followed.

3. The type and quantity of hazardous air pollutants emitted by the source reported in mg/dscm or mg/hr if the source is using the special provisions of s. NR 463.09 (5) to comply with the standards in s. NR 463.04. If the owner or operator is subject to the construction and reconstruction provisions of s. NR 463.10 and had previously submitted emission estimates, the owner or operator shall state that this report corrects or verifies the previous estimates. For sources not required to conduct a performance test in accordance with s. NR 463.06 (3), the surface tension measurement may fulfill this requirement.

4. For each monitored parameter for which a compliant value is to be established under s. NR 463.07, the specific operating parameter value, or range of values, that corresponds to compliance with the applicable emission limit.

5. The methods that will be used to determine continuous compliance, including a description of monitoring and reporting requirements, if methods differ from those identified in this subchapter.

6. A description of the air pollution control technique for each emission point.

7. A statement that the owner or operator has completed and has on file the operation and maintenance plan as required by the work practice standards in s. NR 463.05.

8. If the owner or operator is determining facility size based on actual cumulative rectifier capacity in accordance with s. NR 463.04 (3) (b), records to support that the facility is small. For existing sources, records from any 12-month period preceding the compliance date shall be used or a description of how operations will change to meet a small designation shall be provided. For new sources, records of projected rectifier capacity for the first 12-month period of tank operation shall be used.

9. A statement by the owner or operator of the affected source as to whether the source has complied with the provisions of this subchapter.

(c) For sources required to conduct a performance test by s. NR 463.06 (3), the notification of compliance status shall be submitted to the department no later than 90 calendar days following completion of the compliance demonstration required by ss. NR 460.06 and 463.06 (3).

(d) For sources that are not required to complete a performance test in accordance with s. NR 463.06 (3), the notification

of compliance status shall be submitted to the department no later than 30 days after the compliance date specified in s. NR 463.06 (1).

(6) REPORTS OF PERFORMANCE TEST RESULTS. (a) The owner or operator shall report to the department the results of any performance test conducted as required by s. NR 460.06 or 463.06 (3).

(b) Reports of performance test results shall be submitted no later than 90 days following the completion of the performance test, and shall be submitted as part of the notification of compliance status required by sub. (5).

(7) ONGOING COMPLIANCE STATUS REPORTS FOR MAJOR SOURCES. (a) *Documentation requirements.* The owner or operator of an affected source that is located at a major source site shall submit a summary report to the department to document the ongoing compliance status of the affected source. The report shall contain the information identified in par. (c), and shall be submitted semiannually except under one of the following conditions:

1. The department determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source.

2. The monitoring data collected by the owner or operator of the affected source in accordance with s. NR 463.07 show that the emission limit has been exceeded, in which case quarterly reports shall be submitted. Once an owner or operator of an affected source reports an exceedance, ongoing compliance status reports shall be submitted quarterly until a request to reduce reporting frequency under par. (b) is approved.

(b) *Request to reduce frequency of ongoing compliance status reports.* 1. An owner or operator who is required to submit ongoing compliance status reports on a quarterly or more frequent basis may reduce the frequency of reporting to semiannual if all of the following conditions are met:

a. For one full year, the ongoing compliance status reports, which may, for example, be quarterly or monthly, demonstrate that the affected source is in compliance with the relevant emission limit.

b. The owner or operator continues to comply with all applicable recordkeeping and monitoring requirements of ch. NR 460 and this subchapter.

c. The department does not object to a reduced reporting frequency for the affected source, as provided in subds. 2. and 3.

2. The frequency of submitting ongoing compliance status reports may be reduced only after the owner or operator notifies the department in writing of the owner or operator's intention to make such a change, and the department does not object to the intended change. In deciding whether to approve a reduced reporting frequency, the department may review information concerning the source's entire previous performance history during the 5-year recordkeeping period prior to the intended change, or the recordkeeping period since the source's compliance date, whichever is shorter. Records subject to review may include performance test results, monitoring data and evaluations of an owner or operator's conformance with emission limitations and work practice standards. The information may be used by the department to make a judgment about the source's potential for non-compliance in the future. If the department disapproves the owner or operator's request to reduce reporting frequency, the department shall notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the department to the owner or operator will specify the grounds on which the disapproval is based. In the

absence of a notice of disapproval within 45 days, approval is automatically granted.

3. As soon as the monitoring data required by s. NR 463.07 show that the source is not in compliance with the relevant emission limit, the frequency of reporting shall revert to quarterly, and the owner shall state this exceedance in the ongoing compliance status report for the next reporting period. After demonstrating ongoing compliance with the relevant emission limit for another full year, the owner or operator may again request approval from the department to reduce the reporting frequency as allowed by this paragraph.

(c) *Contents of ongoing compliance status reports.* The owner or operator of an affected source for which compliance monitoring is required in accordance with s. NR 463.07 shall prepare a summary report to document the ongoing compliance status of the source. The report shall contain all of the following information:

1. The company name and address of the affected source.
2. An identification of the operating parameter that is monitored for compliance determination, as required by s. NR 463.07.
3. The relevant emission limitation for the affected source, and the operating parameter value, or range of values, that correspond to compliance with this emission limitation as specified in the notification of compliance status required by sub. (5).
4. The beginning and ending dates of the reporting period.
5. A description of the type of process performed in the affected source.
6. The total operating time of the affected source during the reporting period.
7. If the affected source is a hard chromium electroplating tank and the owner or operator is limiting the maximum cumulative rectifier capacity in accordance with s. NR 463.04 (3) (b), the actual cumulative rectifier capacity expended during the reporting period, on a month-by-month basis.
8. A summary of operating parameter values, including the total duration of excess emissions during the reporting period as indicated by those values, the total duration of excess emissions expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to process upsets, control equipment malfunctions, other known causes and unknown causes.
9. A certification by a responsible official that the work practice standards in s. NR 463.05 were followed in accordance with the operation and maintenance plan for the source.
10. If the operation and maintenance plan required by s. NR 463.05 (2) was not followed, an explanation of the reasons for not following the provisions, an assessment of whether any excess emission or parameter monitoring exceedances are believed to have occurred, and a copy of the report or reports required by s. NR 463.05 (2) (d) documenting that the operation and maintenance plan was not followed.
11. A description of any changes in monitoring, processes or controls since the last reporting period.
12. The name, title and signature of the responsible official who is certifying the accuracy of the report.
13. The date of the report.

(d) *Reporting for multiple monitoring devices.* When more than one monitoring device is used to comply with the continuous compliance monitoring required by s. NR 463.07, the owner or operator shall report the results as required for each monitoring device. However, when one monitoring device is used as a backup for the primary monitoring device, the owner or operator

shall only report the results from the monitoring device used to meet the monitoring requirements of this subchapter. If both devices are used to meet these requirements, then the owner or operator shall report the results from each monitoring device for the relevant compliance period.

(8) *ONGOING COMPLIANCE STATUS REPORTS FOR AREA SOURCES.* The requirements of this subsection do not alleviate affected area sources from complying with the requirements of state or federal operating permit programs under 40 CFR part 71.

(a) *Annual summary report.* The owner or operator of an affected source that is located at an area source site shall prepare a summary report to document the ongoing compliance status of the affected source. The report shall contain the information identified in sub. (7) (c) and shall be retained on site and made available to the department upon request. The report shall be completed annually except as provided in par. (b).

(b) *Reports of exceedances.* 1. If both of the following conditions are met, semiannual reports shall be prepared and submitted to the department:

a. The total duration of excess emissions, as indicated by the monitoring data collected by the owner or operator of the affected source in accordance with s. NR 463.07, is 1% or greater of the total operating time for the reporting period.

b. The total duration of malfunctions of the add-on air pollution control device and monitoring equipment is 5% or greater of the total operating time.

2. Once an owner or operator of an affected source reports an exceedance as defined in subd. 1., ongoing compliance status reports shall be submitted semiannually until a request to reduce reporting frequency under par. (c) is approved.

3. The department may determine on a case-by-case basis that the summary report shall be completed more frequently and submitted, or that the annual report shall be submitted instead of being retained on site, if these measures are necessary to accurately assess the compliance status of the source.

(c) *Request to reduce frequency of ongoing compliance status reports.* 1. An owner or operator who is required to submit ongoing compliance status reports on a semiannual or more frequent basis, or is required to submit its annual report instead of retaining it on site, may reduce the frequency of reporting to annual or be allowed to maintain the annual report onsite if all of the following conditions are met:

a. For one full year (for 2 semiannual or 4 quarterly reporting periods, for example), the ongoing compliance status reports demonstrate that the affected source is in compliance with the relevant emission limit.

b. The owner or operator continues to comply with all applicable recordkeeping and monitoring requirements of ch. NR 460 and this subchapter.

c. The department does not object to a reduced reporting frequency for the affected source, as provided in subds. 2. and 3.

2. The frequency of submitting ongoing compliance status reports may be reduced only after the owner or operator notifies the department in writing of the owner or operator's intention to make such a change, and the department does not object to the intended change. In deciding whether to approve a reduced reporting frequency, the department may review information concerning the source's previous performance history during the 5-year recordkeeping period prior to the intended change, or the recordkeeping period since the source's compliance date, whichever is shorter. Records subject to review may include performance test results, monitoring data, and evaluations of an owner or operator's conformance with emission limitations and work practice standards. The information may be used by the department to



make a judgement about the source's potential for noncompliance in the future. If the department disapproves the owner or operator's request to reduce reporting frequency, the department shall notify the owner or operator in writing within 45 days after receiving notice of the owner or operator's intention. The notification from the department to the owner or operator will specify the grounds on which the disapproval is based. In the absence of a notice of disapproval within 45 days, approval is automatically granted.

3. As soon as the monitoring data required by s. NR 463.07 show that the source is not in compliance with the relevant emission limit, the frequency of reporting shall revert to semiannual, and the owner shall state this exceedance in the ongoing compliance status report for the next reporting period. After demonstrating ongoing compliance with the relevant emission limit for another full year, the owner or operator may again request approval from the department to reduce the reporting frequency as allowed by this paragraph.

**(9) REPORTS ASSOCIATED WITH TRIVALENT CHROMIUM BATHS.** The requirements of this subsection do not alleviate affected sources from complying with the requirements of state or federal operating permit programs under ch. NR 407 or 40 CFR part 70. Owners or operators complying with the provisions of s. NR 463.04 (5) are not subject to subs. (1) to (8), but shall instead submit the following reports:

(a) Within 180 days after October 1, 1997, submit an initial notification that includes all of the following:

1. The same information as is required by 40 CFR 63.347 (c) (1) (i) to (v).

2. A statement that a trivalent chromium process that incorporates a wetting agent will be used to comply with s. NR 463.04 (5).

3. The list of bath components that comprise the trivalent chromium bath, with the wetting agent clearly identified by its chemical name.

(b) Within 30 days after the compliance date specified in s. NR 463.06 (1), a notification of compliance status that contains an update of the information submitted in accordance with par. (a) or a statement that the information is still accurate.

(c) Within 30 days after a change to the trivalent chromium electroplating process, a report that includes all of the following:

1. A description of the manner in which the process has been changed and the emission limitation, if any, now applicable to the affected source.

2. If a different emission limitation applies, the applicable information required by sub. (3) (a).

3. The notification and reporting as required by subs. (4) to (8), which shall be submitted in accordance with the schedules identified in those subsections.

**History:** Cr. Register, September, 1997, No. 501, eff. 10-1-97; am. (5) (b) (intro.), Register, November, 1999, No. 527, eff. 12-1-99; correction in (9) (a) 1. made under s. 13.93 (2m) (b) 7., Stats., Register, November, 1999, No. 527; CR 05-039: renun. from NR 463.12 Register February 2006 No. 602, eff. 3-1-06; CR 04-023: am. (intro.), (2), (5) (a), (b) (intro.), 2., 5., 9., (7) (b) 1. b., (d) and (8) (c) 1. b. Register December 2008 No. 636, eff. 1-1-09; correction in (intro.) made under s. 35.17, Stats., Register June 2015 No. 714.

## Subchapter II — Secondary Aluminum Production

**NR 463.11 Applicability.** (1) The requirements of this subchapter apply to the owner or operator of each secondary aluminum production facility.

**Note:** This subchapter is based on the federal regulations contained in 40 CFR part 63 Subpart RRR, created March 23, 2000, as last revised on April 20, 2006.

(2) The requirements of this subchapter apply to the following affected sources, located at a secondary aluminum production

facility that is a major source of hazardous air pollutants (HAPs) as defined in s. NR 460.02 (22):

- (a) Each new and existing aluminum scrap shredder.
- (b) Each new and existing thermal chip dryer.
- (c) Each new and existing scrap dryer, delacquering kiln and decoating kiln.
- (d) Each new and existing group 2 furnace.
- (e) Each new and existing sweat furnace.
- (f) Each new and existing dross-only furnace.
- (g) Each new and existing rotary dross cooler.
- (h) Each new and existing secondary aluminum processing unit.

(3) The requirements of this subchapter pertaining to dioxin and furan emissions and associated operating, monitoring, reporting and recordkeeping requirements apply to the following affected sources, located at a secondary aluminum production facility that is an area source of HAPs as defined in s. NR 460.02 (5):

- (a) Each new and existing thermal chip dryer.
- (b) Each new and existing scrap dryer, delacquering kiln and decoating kiln.
- (c) Each new and existing sweat furnace.
- (d) Each new and existing secondary aluminum processing unit, containing one or more group 1 furnace emission units processing other than clean charge.

(4) The requirements of this subchapter do not apply to facilities and equipment used for research and development that are not used to produce a salable product.

(5) An aluminum die casting facility, aluminum foundry or aluminum extrusion facility shall be considered to be an area source if it does not emit, or have the potential to emit, considering controls, 10 tons per year or more of any single listed HAP or 25 tons per year of any combination of listed HAP from all emission sources which are located in a contiguous area and under common control, without regard to whether or not the sources are regulated under this subchapter or any other subchapter. In the case of an aluminum die casting facility, aluminum foundry or aluminum extrusion facility which is an area source and is subject to regulation under this subchapter only because it operates a thermal chip dryer, no furnace operated by such a facility shall be deemed to be subject to the requirements of this subchapter if it melts only clean charge, internal scrap or customer returns.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.115 Dates.** (1) The owner or operator of an existing affected source shall comply with the requirements of this subchapter by March 24, 2003.

(2) Except as provided in sub. (3), the owner or operator of a new affected source that commences construction or reconstruction after February 11, 1999 shall comply with the requirements of this subchapter by March 24, 2000 or upon startup, whichever is later.

(3) The owner or operator of any affected source which is constructed or reconstructed at any existing aluminum die casting facility, aluminum foundry or aluminum extrusion facility which otherwise meets the applicability criteria in s. NR 463.11 shall comply with the requirements of this subchapter by March 24, 2003 or upon startup, whichever is later.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.12 Definitions.** 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 priority 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) “Add-on air pollution control device” means equipment installed on a process vent that reduces the quantity of a pollutant that is emitted to the air.

(2) “Afterburner” means an air pollution control device that uses controlled flame combustion to convert combustible materials to noncombustible gases; also known as an incinerator or a thermal oxidizer.

(3) “Aluminum scrap” means fragments of aluminum stock removed during manufacturing, manufactured aluminum articles or parts rejected or discarded and useful only as material for reprocessing, and waste and discarded material made of aluminum.

(4) “Aluminum scrap shredder” means a unit that crushes, grinds or breaks aluminum scrap into a more uniform size prior to processing or charging to a scrap dryer, delacquering kiln, decoating kiln or furnace. A bale breaker is not an aluminum scrap shredder.

(5) “Bag leak detection system” means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a baghouse in order to detect bag failures. A bag leak detection system may operate on triboelectric, light scattering, light transmittance or other effect to monitor relative particulate matter loadings.

(6) “Chips” means small, uniformly-sized, unpainted pieces of aluminum scrap, typically below 1¼ inches in any dimension, primarily generated by turning, milling, boring and machining of aluminum parts.

(7) “Clean charge” means furnace charge materials, including molten aluminum; T-bar; sow; ingot; billet; pig; alloying elements; aluminum scrap known by the owner or operator to be entirely free of paints, coatings and lubricants; uncoated and unpainted aluminum chips that have been thermally dried or treated by a centrifugal cleaner; aluminum scrap dried at 343 °C (650 °F) or higher; aluminum scrap delacquered and decoated at 482 °C (900 °F) or higher, and runaround scrap.

(8) “Cover flux” means salt added to the surface of molten aluminum in a group 1 or group 2 furnace, without agitation of the molten aluminum, for the purpose of preventing oxidation.

(9) “Customer returns” means any aluminum product which is returned by a customer to the aluminum company that originally manufactured the product prior to resale of the product or further distribution in commerce, and which contains no paint or other solid coatings.

(10) “Dioxins and furans” or “D&F” means tetra-, penta-, hexa- and octachlorinated dibenzo dioxins and furans.

(11) “Dross” means the slags and skimmings from aluminum melting and refining operations consisting of fluxing agents, impurities or oxidized and non-oxidized aluminum, from scrap aluminum charged into the furnace.

(12) “Dross-only furnace” means a furnace, typically of rotary barrel design, dedicated to the reclamation of aluminum from dross formed during melting, holding, fluxing or alloying operations carried out in other process units. Dross and salt flux are the sole feedstocks to this type of furnace.

(13) “Emission unit” means a group 1 furnace or in-line fluxer at a secondary aluminum production facility.

(14) “Fabric filter” means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media; also known as a baghouse.

(15) “Feed or charge” means, for a furnace or other process unit that operates in batch mode, the total weight of material, including molten aluminum, T-bar, sow, ingot, other material and

alloying agents that enter the furnace during an operating cycle. For a furnace or other process unit that operates continuously, feed or charge means the weight of material, including molten aluminum, T-bar, sow, ingot, other material and alloying agents that enter the process unit within a specified time period, such as a time period equal to the performance test period. The feed or charge for a dross-only furnace includes the total weight of dross and solid flux.

(16) “Fluxing” means refining of molten aluminum to improve product quality, achieve product specifications, or reduce material loss, including the addition of solvents to remove impurities and the injection of gases such as chlorine or chlorine mixtures to remove magnesium (demagging) or hydrogen bubbles (degassing). Fluxing may be performed in the furnace or outside the furnace by an in-line fluxer.

(17) “Furnace hearth” means the combustion zone of a furnace in which the molten metal is contained.

(18) “Group 1 furnace” means a furnace of any design that melts, holds or processes aluminum that contains paint, lubricants, coatings or other foreign materials with or without reactive fluxing or processes clean charge with reactive fluxing.

(19) “Group 2 furnace” means a furnace of any design that melts, holds or processes only clean charge and that performs no fluxing or performs fluxing using only nonreactive, non-HAP-containing, non-HAP-generating gases or agents.

(20) “HCl” means, for the purposes of this subchapter, emissions of hydrogen chloride that serve as a surrogate measure of the total emissions of the HAPs hydrogen chloride, hydrogen fluoride and chlorine.

(21) “In-line fluxer” means a device exterior to a furnace, located in a transfer line from a furnace, used in fluxing molten aluminum; also known as a flux box, degassing box or demagging box.

(22) “Internal scrap” means all aluminum scrap regardless of the level of contamination which originates from castings or extrusions produced by an aluminum die casting facility, aluminum foundry or aluminum extrusion facility, and which remains at all times within the control of the company that produced the castings or extrusions.

(23) “Lime” means calcium oxide or other alkaline reagent.

(24) “Lime-injection” means the continuous addition of lime upstream of a fabric filter.

(25) “Melting and holding furnace” means a group 1 furnace that processes only clean charge, performs melting, holding, and fluxing functions, and does not transfer molten aluminum to or from another furnace except for the purposes of alloy changes, off-specification product drains or maintenance activities.

(26) “Operating cycle” means for a batch process, the period beginning when the feed material is first charged to the operation and ending when all feed material charged to the operation has been processed. For a batch melting and holding furnace process, operating cycle means the period including the charging and melting of scrap aluminum and the fluxing, refining, alloying and tapping of molten aluminum.

(27) “PM” means, for the purposes of this subchapter, emissions of particulate matter that serve as a measure of total particulate emissions and as a surrogate for metal HAPs contained in the particulates, including antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel and selenium.

(28) “Pollution prevention” means source reduction as defined under the Pollution Prevention Act of 1990 (42 USC 13101 to 13109) including equipment or technology modifications,

process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control, and other practices that reduce or eliminate the creation of pollutants through increased efficiency in the use of raw materials, energy, water or other resources or protection of natural resources by conservation.

(29) "Reactive fluxing" means the use of any gas, liquid, or solid flux, other than cover flux, that results in a HAP emission. Argon and nitrogen are not reactive and do not produce HAPs.

(30) "Reconstruction" means the replacement of components of an affected source or emission unit such that the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable new affected source, and it is technologically and economically feasible for the reconstructed source to meet relevant standards established in this subchapter. Replacement of the refractory in a furnace is routine maintenance and is not a reconstruction. The repair and replacement of in-line fluxer components, such as rotors, shafts, burner tubes, refractory or warped steel, is considered to be routine maintenance and is not considered a reconstruction. In-line fluxers are typically removed to a maintenance or repair area and are replaced with repaired units. The replacement of an existing in-line fluxer with a repaired unit is not considered a reconstruction.

(31) "Residence time" means, for an afterburner, the duration of time required for gases to pass through the afterburner combustion zone. Residence time is calculated by dividing the afterburner combustion zone volume in cubic feet by the volumetric flow rate of the gas stream in actual cubic feet per second.

(32) "Rotary dross cooler" means a water-cooled rotary barrel device that accelerates cooling of dross.

(33) "Runaround scrap" means scrap materials generated on-site by aluminum casting, extruding, rolling, scalping, forging, forming, stamping, cutting and trimming operations and that do not contain paint or solid coatings. Uncoated and unpainted aluminum chips generated by turning, boring, milling and similar machining operations may be clean charge if they have been thermally dried or treated by a centrifugal cleaner, but are not considered to be runaround scrap.

(34) "Scrap dryer, delacquering kiln or decoating kiln" means a unit used primarily to remove various organic contaminants such as oil, paint, lacquer, ink, plastic or rubber from aluminum scrap, including used beverage containers, prior to melting.

(35) "Secondary aluminum processing unit" or "SAPU" means one of the following:

(a) An existing SAPU means all existing group 1 furnaces and all existing in-line fluxers within a secondary aluminum production facility. Each existing group 1 furnace or existing in-line fluxer is considered an emission unit within a secondary aluminum processing unit.

(b) A new SAPU means any combination of individual group 1 furnaces and in-line fluxers within a secondary aluminum processing facility which either were constructed or reconstructed after February 11, 1999, or have been permanently redesignated as new emission units pursuant to s. NR 463.13 (11). Each of the group 1 furnaces or in-line fluxers within a new SAPU is considered an emission unit within that secondary aluminum processing unit.

(36) "Secondary aluminum production facility" means any establishment using clean charge, aluminum scrap or dross from

aluminum production as the raw material and performing one or more of the following processes: scrap shredding, scrap drying, delacquering or decoating, thermal chip drying, recovery of aluminum from dross, in-line fluxing, dross cooling or furnace operations such as melting, holding, sweating, refining, fluxing or alloying. A secondary aluminum production facility may be independent or part of a primary aluminum production facility. For purposes of this subchapter, aluminum die casting facilities, aluminum foundries and aluminum extrusion facilities are not considered to be secondary aluminum production facilities if the only materials they melt are clean charge, customer returns or internal scrap, and if they do not operate sweat furnaces, thermal chip dryers, scrap dryers, delacquering kilns or decoating kilns. The determination of whether a facility is a secondary aluminum production facility is only for purposes of this subchapter and any regulatory requirements which are derived from the applicability of this subchapter, and is separate from any determination which may be made under other environmental laws and regulations, including whether the same facility is a "secondary metal production facility" as that term is used in 42 USC 7479(1) or a "secondary metal production plant" as that term is used in s. NR 405.02 (22) (a) 1.

(37) "Sidewell" means an open well adjacent to the hearth of a furnace with connecting arches between the hearth and the open well through which molten aluminum is circulated between the hearth, where heat is applied by burners, and the open well, which is used for charging scrap and solid flux or salt to the furnace, injecting fluxing agents and skimming dross.

(38) "Sweat furnace" means a furnace used exclusively to reclaim aluminum from scrap that contains substantial quantities of iron by using heat to separate the low-melting point aluminum from the scrap while the higher melting-point iron remains in solid form.

(39) "TEQ" means the international method of expressing toxicity equivalents for dioxins and furans as defined in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA-625/3-89-016), incorporated by reference in s. NR 484.05 (12).

(40) "THC" means total hydrocarbon emissions that also serve as a surrogate for the emissions of organic HAP compounds.

(41) "Thermal chip dryer" means a device that uses heat to evaporate oil or oil and water mixtures from unpainted or uncoated aluminum chips. Pre-heating boxes or other dryers which are used solely to remove water from aluminum scrap are not considered to be thermal chip dryers.

(42) "Three-day, 24-hour rolling average" means daily calculations of the average 24-hour emission rate in lb/ton of feed or charge over the 3 most recent consecutive 24-hour periods, for a secondary aluminum processing unit.

(43) "Total reactive chlorine flux injection rate" means the sum of the total weight of chlorine in the gaseous or liquid reactive flux and the total weight of chlorine in the solid reactive chloride flux, divided by the total weight of feed or charge, as determined by the procedure in s. NR 463.163 (16)

History: CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.13 Emission standards for affected sources and emission units. (1) SUMMARY.** The owner or operator of a new or existing affected source shall comply with each applicable limit in this section. The following table summarizes the emission standards for each type of source:

**Table 1**  
**Emission Standards for New and Existing Affected Sources**

Affected source/ Emission Unit	Pollutant	Limit	Units
All new and existing affected sources and emission units that are controlled with a PM add-on control device and that choose to monitor with a COM; and all new and existing aluminum scrap shredders that choose to monitor with a COM or to monitor visible emissions	Opacity	10	percent
New and existing aluminum scrap shredder	PM	0.01	gr/dscf
New and existing thermal chip dryer	THC	0.80	lb/ton of feed
	D&F <sup>a</sup>	2.50	µg TEQ/Mg of feed
New and existing scrap dryer, delacquering kiln, or decoating kiln	PM	0.08	lb/ton of feed
	HCl	0.80	lb/ton of feed
	THC	0.06	lb/ton of feed
	D&F <sup>a</sup>	0.25	µg TEQ/Mg of feed
OR			
Alternative limits if afterburner has a design residence time of at least 1 second and operates at a temperature of least 1400° F	PM	0.30	lb/ton of feed
	HCl	1.50	lb/ton of feed
	THC	0.20	lb/ton of feed
	D&F <sup>a</sup>	5.0	µg TEQ/Mg of feed
New and existing sweat furnace	D&F <sup>a</sup>	0.80	ng TEQ/dscm @ 11% O <sub>2</sub> <sup>b</sup>
New and existing dross-only furnace	PM	0.30	lb/ton of feed
New and existing in-line fluxer <sup>c</sup>	HCl	0.04	lb/ton of feed
	PM	0.01	lb/ton of feed
New and existing inline fluxer with no reactive fluxing		No Limit	Work practice: no reactive fluxing
New and existing rotary dross cooler	PM	0.04	gr/dscf
New and existing clean furnace (Group 2)		No Limit	Work practices: clean charge only and no reactive fluxing
New and existing group 1 melting and holding furnace (processing only clean charge) <sup>c</sup>	PM	0.80	lb/ton of feed
	HCl	0.40	lb/ton of feed
	or	10	percent of the HCl upstream of an add-on control device
New and existing group 1 furnace <sup>c</sup>	PM	0.40	lb/ton of feed
	HCl	0.40	lb/ton of feed
	or	10	percent of the HCl upstream of an add-on control device
	D&F <sup>a</sup>	15.0	µg TEQ/Mg of feed

**Table 1 (Continued)**  
**Emission Standards for New and Existing Affected Sources**

Affected source/ Emission Unit	Pollutant	Limit	Units
New and existing group 1 furnace <sup>c</sup> with clean charge only	PM	0.40	lb/ton of feed
	HCl	0.40	lb/ton of feed
	or	10	percent of the HCl upstream of an add-on control device
	D&F <sup>a</sup>	No Limit	Clean charge only
New and existing secondary aluminum processing unit <sup>a,d</sup> (consists of all existing group 1 furnaces and existing in-line flux boxes at the facility, or all simultaneously constructed new group 1 furnaces and new inline fluxers)	PM <sup>e</sup>	$L_{t_{PM}} = \frac{\sum_{i=1}^n (L_{i_{PM}} \times T_i)}{\sum_{i=1}^n (T_i)}$	
	HCl <sup>f</sup>	$L_{t_{HCl}} = \frac{\sum_{i=1}^n (L_{i_{HCl}} \times T_i)}{\sum_{i=1}^n (T_i)}$	
	D&F <sup>g</sup>	$L_{t_{D/F}} = \frac{\sum_{i=1}^n (L_{i_{D/F}} \times T_i)}{\sum_{i=1}^n (T_i)}$	

a D&F limit applies to a unit at a major or area source.

b Sweat furnaces equipped with afterburners meeting the specifications of s. NR 463.13 (6) are not required to conduct a performance test.

c These limits are also used to calculate the limits applicable to secondary aluminum processing units.

d Equation definitions:

$L_{i_{PM}}$  is the PM emission limit for individual emission unit i in the secondary aluminum processing unit [kg/Mg (lb/ton) of feed]

$T_i$  is the feed rate for individual emission unit i in the secondary aluminum processing unit

$L_{i_{PM}}$  is the overall PM emission limit for the secondary aluminum processing unit [kg/Mg (lb/ton) of feed]

$L_{i_{HCl}}$  is the HCl emission limit for individual emission unit i in the secondary aluminum processing unit [kg/Mg (lb/ton) of feed]

$L_{i_{HCl}}$  is the overall HCl emission limit for the secondary aluminum processing unit [kg/Mg (lb/ton) of feed]

$L_{i_{D&F}}$  is the D&F emission limit for individual emission unit i [μg TEQ/Mg (gr TEQ/ton) of feed]

$L_{t_{D&F}}$  is the overall D&F emission limit for the secondary aluminum processing unit [μg TEQ/Mg (gr TEQ/ton) of feed]

n is the number of units in the secondary aluminum processing unit

e In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the PM limit.

f In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the HCl limit.

g Clean charge furnaces cannot be included in this calculation since they are not subject to the D&F limit.

**(2) ALUMINUM SCRAP SHREDDER.** On and after the compliance date established by s. NR 463.115, the owner or operator of an aluminum scrap shredder at a secondary aluminum production facility that is a major source may not discharge or cause to be discharged to the atmosphere either of the following:

(a) Emissions in excess of 0.023 grams of PM per dry standard cubic meter (0.010 grain of PM per dry standard cubic foot).

(b) Visible emissions in excess of 10% opacity from any PM add-on air pollution control device if a continuous opacity monitor (COM) or visible emissions monitoring is chosen as the monitoring option.

**(3) THERMAL CHIP DRYER.** On and after the compliance date established by s. NR 463.115, the owner or operator of a thermal

chip dryer may not discharge or cause to be discharged to the atmosphere emissions in excess of either of the following:

(a) 0.40 kilogram (kg) of THC, as propane, per megagram (Mg) (0.80 lb of THC, as propane, per ton) of feed or charge from a thermal chip dryer at a secondary aluminum production facility that is a major source.

(b) 2.50 micrograms (μg) of D&F TEQ per Mg (3.5 x 10<sup>-5</sup> gr per ton) of feed or charge from a thermal chip dryer at a secondary aluminum production facility that is a major or area source.

**(4) SCRAP DRYER, DELACQUERING KILN, DECOATING KILN.** On and after the compliance date established by s. NR 463.115:



(a) The owner or operator of a scrap dryer, delacquering kiln or decoating kiln may not discharge or cause to be discharged to the atmosphere emissions in excess of any of the following:

1. 0.03 kg of THC, as propane, per Mg (0.06 lb of THC, as propane, per ton) of feed or charge from a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major source.

2. 0.04 kg of PM per Mg (0.08 lb per ton) of feed or charge from a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major source.

3. 0.25 µg of D&F TEQ per Mg ( $3.5 \times 10^{-6}$  gr of D&F TEQ per ton) of feed or charge from a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major or area source.

4. 0.40 kg of HCl per Mg (0.80 lb per ton) of feed or charge from a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major source.

(b) The owner or operator of a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major source may not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10% opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option.

**(5) SCRAP DRYER, DELACQUERING KILN AND DECOATING KILN: ALTERNATIVE LIMITS.** The owner or operator of a scrap dryer, delacquering kiln or decoating kiln may choose to comply with the emission limits in this subsection as an alternative to the limits in sub. (4) if the scrap dryer, delacquering kiln or decoating kiln is equipped with an afterburner having a design residence time of at least one second and the afterburner is operated at a temperature of at least 760 °C (1400 °F) at all times. On and after the compliance date established by s. NR 463.115:

(a) The owner or operator of a scrap dryer, delacquering kiln or decoating kiln may not discharge or cause to be discharged to the atmosphere emissions in excess of any of the following:

1. 0.10 kg of THC, as propane, per Mg (0.20 lb of THC, as propane, per ton) of feed or charge from a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major source.

2. 0.15 kg of PM per Mg (0.30 lb per ton) of feed or charge from a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major source.

3. 5.0 µg of D&F TEQ per Mg ( $7.0 \times 10^{-5}$  gr of D&F TEQ per ton) of feed or charge from a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major or area source.

4. 0.75 kg of HCl per Mg (1.50 lb per ton) of feed or charge from a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major source.

(b) The owner or operator of a scrap dryer, delacquering kiln or decoating kiln at a secondary aluminum production facility that is a major source may not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10% opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option.

**(6) SWEAT FURNACE.** On and after the compliance date established by s. NR 463.115, the owner or operator of a sweat furnace at a secondary aluminum production facility that is a major or area source may not discharge or cause to be discharged to the atmosphere emissions in excess of 0.80 nanogram (ng) of D&F TEQ per dscm ( $3.5 \times 10^{-10}$  gr per dscf) at 11% oxygen. A performance test is not required under s. NR 463.163 (6) to demonstrate compliance with this emission standard provided that the owner

or operator operates and maintains an afterburner with a design residence time of 0.8 seconds or greater and an operating temperature of 1600°F or greater.

**(7) DROSS-ONLY FURNACE.** On and after the compliance date established by s. NR 463.115, the owner or operator of a dross-only furnace at a secondary aluminum production facility that is a major source may not discharge or cause to be discharged to the atmosphere either of the following:

(a) Emissions in excess of 0.15 kg of PM per Mg (0.30 lb of PM per ton) of feed or charge.

(b) Visible emissions in excess of 10% opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option.

**(8) ROTARY DROSS COOLER.** On and after the compliance date established by s. NR 463.115, the owner or operator of a rotary dross cooler at a secondary aluminum production facility that is a major source may not discharge or cause to be discharged to the atmosphere either of the following:

(a) Emissions in excess of 0.09 g of PM per dscm (0.04 gr per dscf).

(b) Visible emissions in excess of 10% opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option.

**(9) GROUP 1 FURNACE.** The owner or operator of a group 1 furnace shall use the limits in this subsection to determine the emission standards for a SAPU under sub. (11).

(a) 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed or charge from a group 1 furnace, that is not a melting and holding furnace processing only clean charge, at a secondary aluminum production facility that is a major source.

(b) 0.40 kg of PM per Mg (0.80 lb of PM per ton) of feed or charge from a group 1 melting and holding furnace processing only clean charge at a secondary aluminum production facility that is a major source.

(c) 15 µg of D&F TEQ per Mg ( $2.1 \times 10^{-4}$  gr of D&F TEQ per ton) of feed or charge from a group 1 furnace at a secondary aluminum production facility that is a major or area source. This limit does not apply if the furnace processes only clean charge.

(d) 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed or charge or, if the furnace is equipped with an add-on air pollution control device, 10% of the uncontrolled HCl emissions, by weight, for a group 1 furnace at a secondary aluminum production facility that is a major source.

(e) The owner or operator of a group 1 furnace at a secondary aluminum production facility that is a major source may not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10% opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option.

(f) The owner or operator may determine the emission standards for a SAPU by applying the group 1 furnace limits on the basis of the aluminum production weight in each group 1 furnace, rather than on the basis of feed or charge.

(g) The owner or operator of a sidewall group 1 furnace that conducts reactive fluxing, except for cover flux, in the hearth, or that conducts reactive fluxing in the sidewall at times when the level of molten metal falls below the top of the passage between the sidewall and the hearth, shall comply with the emission limits of pars. (a) to (d) on the basis of the combined emissions from the sidewall and the hearth.

**(10) IN-LINE FLUXER.** Except as provided in par. (c) for an in-line fluxer using no reactive flux material, the owner or operator of an in-line fluxer shall use the limits in this subsection to determine the emission standards for a SAPU under sub. (11).

(a) 0.02 kg of HCl per Mg (0.04 lb of HCl per ton) of feed or charge.

(b) 0.005 kg of PM per Mg (0.01 lb of PM per ton) of feed or charge.

(c) The emission limits in pars. (a) and (b) do not apply to an in-line fluxer that uses no reactive flux materials.

(d) The owner or operator of an in-line fluxer at a secondary aluminum production facility that is a major source may not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10% opacity from any PM add-on air pollution control device used to control emissions from the in-line fluxer, if a COM is chosen as the monitoring option.

(e) The owner or operator may determine the emission standards for a SAPU by applying the in-line fluxer limits on the basis of the aluminum production weight in each in-line fluxer, rather than on the basis of feed or charge.

**(11) SECONDARY ALUMINUM PROCESSING UNIT.** On and after the compliance date established by s. NR 463.115, the owner or operator shall comply with the emission limits calculated using the equations for PM and HCl in pars. (a) and (b) for each secondary aluminum processing unit at a secondary aluminum production facility that is a major source. The owner or operator shall comply with the emission limit calculated using the equation for D&F in par. (c) for each secondary aluminum processing unit at a secondary aluminum production facility that is a major or area source.

(a) The owner or operator may not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of PM in excess of:

$$L_{c_{PM}} = \frac{\sum_{i=1}^n (L_{ti_{PM}} \times T_{ti})}{\sum_{i=1}^n (T_{ti})} \quad (\text{Equation 1})$$

where:

$L_{ti_{PM}}$  is the PM emission limit for individual emission unit  $i$  in sub. (9) (a) and (b) for a group 1 furnace or in sub. (10) (b) for an in-line fluxer

$T_{ti}$  is the feed or charge rate for individual emission unit  $i$

$L_{c_{PM}}$  is the PM emission limit for the secondary aluminum processing unit

**Note:** In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the PM limit.

(b) The owner or operator may not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of HCl in excess of:

$$L_{c_{HCl}} = \frac{\sum_{i=1}^n (L_{ti_{HCl}} \times T_{ti})}{\sum_{i=1}^n (T_{ti})} \quad (\text{Equation 2})$$

where:

$L_{ti_{HCl}}$  is the HCl emission limit for individual emission unit  $i$  in sub. (9) (d) for a group 1 furnace or in sub. (10) (a) for an in-line fluxer

$L_{c_{HCl}}$  is the HCl emission limit for the secondary aluminum processing unit

**Note:** In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the HCl limit.

(c) The owner or operator may not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of D&F in excess of:

$$L_{c_{D\&F}} = \frac{\sum_{i=1}^n (L_{ti_{D\&F}} \times T_{ti})}{\sum_{i=1}^n (T_{ti})} \quad (\text{Equation 3})$$

where:

$L_{ti_{D\&F}}$  is the D&F emission limit for individual emission unit  $i$  in sub. (9) (c) for a group 1 furnace

$L_{c_{D\&F}}$  is the D&F emission limit for the secondary aluminum processing unit

**Note:** Clean charge furnaces cannot be included in this calculation since they are not subject to the D&F limit.

(d) The owner or operator of a SAPU at a secondary aluminum production facility that is a major source may demonstrate compliance with the emission limits of pars. (a) to (c) by demonstrating that each emission unit within the SAPU is in compliance with the applicable emission limits of subs. (9) and (10).

(e) The owner or operator of a SAPU at a secondary aluminum production facility that is an area source may demonstrate compliance with the emission limits of par. (c) by demonstrating that each emission unit within the SAPU is in compliance with the emission limit of sub. (9) (c).

(f) With the prior approval of the department, an owner or operator may redesignate any existing group 1 furnace or in-line fluxer at a secondary aluminum production facility as a new emission unit. Any emission unit so redesignated may thereafter be included in a new SAPU at that facility. Any redesignation shall be solely for the purpose of this MACT standard and shall be irreversible.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09.

#### NR 463.14 Operating requirements. (1) SUMMARY.

(a) On and after the compliance date established by s. NR 463.115, the owner or operator shall operate all new and existing affected sources and control equipment according to the requirements in this section.

(b) The owner or operator of an existing sweat furnace that meets the specifications of s. NR 463.13 (6) shall operate the sweat furnace and control equipment according to the requirements of this section on and after the compliance date established by s. NR 463.115.

(c) The owner or operator of a new sweat furnace that meets the specifications of s. NR 463.13 (6) shall operate the sweat furnace and control equipment according to the requirements of this section by March 23, 2000 or upon startup, whichever is later.

(d) Operating requirements are summarized in the following table.

**Table 2**  
**Summary of Operating Requirements for New and Existing Affected Sources and Emission Units**

<b>Affected Source or Emission Unit</b>	<b>Monitor Type, Operation, Process</b>	<b>Operating Requirements</b>
All affected sources and emission units with an add-on air pollution control device	Emission capture and collection system	Design and install in accordance with Industrial Ventilation: A Manual of Recommended Practice, incorporated by reference in s. NR 484.11 (2) (d); operate in accordance with OM&M plan. <sup>b</sup>
All affected sources and emission units subject to production-based (lb/ton of feed) emission limits <sup>a</sup>	Charge or feed weight or production weight	Operate a device that records the weight of each charge; operate in accordance with OM&M plan. <sup>b</sup>
Group 1 furnace, group 2 furnace, in-line fluxer, scrap dryer, delacquering kiln or decoating kiln	Labeling	Identification, operating parameter ranges and operating requirements posted at affected sources and emission units; control device temperature and residence time requirements posted at scrap dryer, delacquering kiln or decoating kiln.
Aluminum scrap shredder with fabric filter	Bag leak detector or	Initiate corrective action within one hour of alarm and complete in accordance with OM&M plan <sup>b</sup> ; operate such that alarm does not sound more than 5% of operating time in 6-month period.
	Continuous opacity monitor or	Initiate corrective action within one hour of a 6-minute average opacity reading of 5% or more and complete in accordance with OM&M plan. <sup>b</sup>
	Visual emissions	Initiate corrective action within one hour of any observed visual emissions and complete in accordance with the OM&M plan. <sup>b</sup>
Thermal chip dryer with afterburner	Afterburner operating temperature	Maintain average temperature for each 3-hr period at or above average operating temperature during the performance test.
	Afterburner operation	Operate in accordance with OM&M plan. <sup>b</sup>
	Feed material	Operate using only unpainted aluminum chips
Scrap dryer, delacquering kiln, decoating kiln with afterburner and lime-injected fabric filter	Afterburner operating temperature	Maintain average temperature for each 3-hr period at or above average operating temperature during the performance test.
	Afterburner operation	Operate in accordance with OM&M plan. <sup>b</sup>
	Bag leak detector or	Initiate corrective action within one hour of alarm and complete in accordance with the OM&M plan <sup>b</sup> ; operate such that the alarm does not sound more than 5% of operating time in 6-month period.
	Continuous opacity monitor	Initiate corrective action within one hour of a 6-minute average opacity reading of 5% or more and complete in accordance with the OM&M plan. <sup>b</sup>
	Fabric filter inlet temperature	Maintain average fabric filter inlet temperature for each 3-hr period at or below average temperature during the performance test +14 °C (+25 °F).
	Lime injection rate	Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; maintain feeder setting at level established during the performance test for continuous injection systems.

**Table 2 (Continued)**  
**Summary of Operating Requirements for New and Existing Affected Sources and Emission Units**

Affected Source or Emission Unit	Monitor Type, Operation, Process	Operating Requirements
Sweat furnace with afterburner	Afterburner operating temperature	If a performance test was conducted, maintain average temperature for each 3-hr period at or above average operating temperature during the performance test; if a performance test was not conducted, and afterburner meets specifications of s. NR 463.13 (6), maintain average temperature for each 3-hr period at or above 1600 °F.
	Afterburner operation	Operate in accordance with OM&M plan. <sup>b</sup>
Dross-only furnace with fabric filter	Bag leak detector or	Initiate corrective action within one hour of alarm and complete in accordance with the OM&M plan; <sup>b</sup> operate such that alarm does not sound more than 5% of operating time in 6-month period.
	Continuous opacity monitor	Initiate corrective action within one hour of a 6-minutes average opacity reading of 5% or more and complete in accordance with the OM&M plan. <sup>b</sup>
	Feed or charge material	Operate using only dross as the feed material.
Rotary dross cooler with fabric filter	Bag leak detector or	Initiate corrective action within one hour of alarm and complete in accordance with the OM&M plan; <sup>b</sup> operate such that alarm does not sound more than 5% of operating time in 6-month period.
	Continuous opacity monitor	Initiate corrective action within one hour of a 6-minute average opacity reading of 5% or more and complete in accordance with the OM&M plan. <sup>b</sup>
In-line fluxer with lime-injected fabric filter, including those that are part of a secondary aluminum processing unit	Bag leak detector	Initiate corrective action within one hour of alarm and complete in accordance with OM&M plan; <sup>b</sup> operate such that alarm does not sound more than 5% of operating time in a 6-month period.
	Continuous opacity monitor	Initiate corrective action within one hour of 6-minute average opacity reading of 5% or more and complete in accordance with the OM&M plan. <sup>b</sup>
	Lime injection rate	Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; maintain feeder setting at level established during performance test for continuous injection systems.
	Reactive flux injection rate	Maintain reactive flux injection rate at or below rate used during the performance test for each operating cycle or time period used in the performance test.
In-line fluxer using no reactive flux	Flux material	Use no reactive flux



**Table 2 (Continued)**  
**Summary of Operating Requirements for New and Existing Affected Sources and Emission Units**

Affected Source or Emission Unit	Monitor Type, Operation, Process	Operating Requirements
Group 1 furnace with lime-injected fabric filter, including those that are part of a secondary aluminum processing unit	Bag leak detector or	Initiate corrective action within one hour of alarm; operate such that alarm does not sound more than 5% of operating time in 6-month period; complete corrective action in accordance with the OM&M plan. <sup>b</sup>
	Continuous opacity monitor	Initiate corrective action within one hour of a 6-minute average opacity reading of 5% or more; complete corrective action in accordance with the OM&M plan. <sup>b</sup>
	Fabric filter inlet temperature	Maintain average fabric filter inlet temperature for each 3-hour period at or below average temperature during the performance test +14°C (+25 °F)
	Reactive flux injection rate	Maintain reactive flux injection rate (lb/ton) at or below the rate used during the performance test for each furnace cycle.
	Lime injection rate	Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; maintain feeder setting at level established at performance test for continuous injection systems.
	Maintain molten aluminum level	Operate sidewall furnaces such that the level of molten metal is above the top of the passage between sidewall and hearth during reactive flux injection unless the hearth is also controlled.
Group 1 furnace without add-on controls, including those that are part of a secondary aluminum processing unit	Fluxing in sidewall furnace hearth	Add reactive flux only to the sidewall of the furnace unless the hearth is also controlled
	Reactive flux injection	Maintain reactive flux injection rate (lb/ton) at or below rate used during the performance test for each operating cycle or time period used in the performance test.
	Site-specific monitoring plan <sup>c</sup>	Operate furnace within the range of charge materials, contaminant levels, and parameter values established in the site-specific monitoring plan
Clean group 2 furnace	Feed material, melting and holding furnace	Use only clean charge
	Charge and flux materials	Use only clean charge. Use no reactive flux.

a Thermal chip dryers, scrap dryers, delacquering kilns, dross-only furnaces, in-line fluxers and group 1 furnaces including melting and holding furnaces.

b OM&M plan- Operation, maintenance, and monitoring plan.

c Site-specific monitoring plan. Owners and operators of group 1 furnaces without control devices shall include a section in their OM&M plan that documents work practices and pollution prevention measures, including procedures for scrap inspection, by which compliance is achieved with emission limits and process or feed parameter-based operating requirements. This plan and the testing to demonstrate adequacy of the monitoring plan shall be developed in coordination with and approved by the department.

**(2) LABELING.** The owner or operator shall provide and maintain easily visible labels posted at each group 1 furnace, group 2 furnace, in-line fluxer, scrap dryer, delacquering kiln and decoating kiln that identify the applicable emission limits and means of compliance, including all of the following:

(a) The type of affected source or emission unit, such as a scrap dryer, delacquering kiln or decoating kiln, group 1 furnace, group 2 furnace or in-line fluxer.

(b) The applicable operational standards and control methods, including work practice or control device. This includes the

type of charge to be used for a furnace, including clean scrap only, all scrap, or other, flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the operations maintenance and monitoring plan required by s. NR 463.15 (2).

(c) The afterburner operating temperature and design residence time for a scrap dryer, delacquering kiln or decoating kiln.

**(3) CAPTURE AND COLLECTION SYSTEMS.** For each affected source or emission unit equipped with an add-on air pollution control device, the owner or operator shall do all of the following:

(a) Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in chapters 3 and 5 of *Industrial Ventilation: A Manual of Recommended Practice*, incorporated by reference in s. NR 484.11 (2) (d).

(b) Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter.

(c) Operate each capture and collection system according to the procedures and requirements in the operation, maintenance and monitoring (OM&M) plan.

**(4) FEED OR CHARGE WEIGHT.** The owner or operator of each affected source or emission unit subject to an emission limit in kg/Mg (lb/ton) or µg/Mg (gr/ton) of feed or charge shall comply with both pars. (a) and (b).

(a) Except as provided in par. (c), install and operate a device that measures and records or otherwise determine the weight of feed or charge (or throughput) for each operating cycle or time period used in the performance test.

(b) Operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan.

(c) The owner or operator may choose to measure and record aluminum production weight from an affected source or emission unit rather than feed or charge weight to an affected source or emission unit, provided that both of the following conditions are met:

1. The aluminum production weight, rather than feed or charge weight is measured and recorded for all emission units within a SAPU.

2. All calculations to demonstrate compliance with the emission limits for SAPUs are based on aluminum production weight rather than feed or charge weight.

**(5) ALUMINUM SCRAP SHREDDER.** The owner or operator of a scrap shredder with emissions controlled by a fabric filter shall operate a bag leak detection system or a continuous opacity monitor or conduct visible emissions observations.

(a) If a bag leak detection system is used to meet the monitoring requirements in s. NR 463.15, the owner or operator shall do all of the following:

1. Initiate corrective action within one hour of a bag leak detection system alarm and complete the corrective action procedures in accordance with the OM&M plan.

2. Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5% of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time shall be counted. If corrective action is required, each alarm shall be counted as a minimum of one hour. If the owner or operator takes longer than one hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the owner or operator to initiate corrective action.

(b) If a continuous opacity monitoring system is used to meet the monitoring requirements in s. NR 463.15, the owner or operator shall initiate corrective action within one hour of any 6-minute average reading of 5% or more opacity and complete the corrective action procedures in accordance with the OM&M plan.

(c) If visible emission observations are used to meet the monitoring requirements in s. NR 463.15, the owner or operator shall initiate corrective action within one hour of any observation of

visible emissions during a daily visible emissions test and complete the corrective action procedures in accordance with the OM&M plan.

**(6) THERMAL CHIP DRYER.** The owner or operator of a thermal chip dryer with emissions controlled by an afterburner shall do all of the following:

(a) Maintain the 3-hour block average operating temperature of each afterburner at or above the average temperature established during the performance test.

(b) Operate each afterburner in accordance with the OM&M plan.

(c) Operate each thermal chip dryer using only unpainted aluminum chips as the feedstock.

**(7) SCRAP DRYER, DELACQUERING KILN OR DECOATING KILN.** The owner or operator of a scrap dryer, delacquering kiln or decoating kiln with emissions controlled by an afterburner and a lime-injected fabric filter shall meet pars. (a), (d) and (e) and either par. (b) or (c) as applicable:

(a) For each afterburner, do both of the following:

1. Maintain the 3-hour block average operating temperature of each afterburner at or above the average temperature established during the performance test.

2. Operate each afterburner in accordance with the OM&M plan.

(b) If a bag leak detection system is used to meet the fabric filter monitoring requirements in s. NR 463.15, do both of the following:

1. Initiate corrective action within one hour of a bag leak detection system alarm and complete any necessary corrective action procedures in accordance with the OM&M plan.

2. Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5% of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time shall be counted. If corrective action is required, each alarm shall be counted as a minimum of one hour. If the owner or operator takes longer than one hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the owner or operator to initiate corrective action.

(c) If a continuous opacity monitoring system is used to meet the monitoring requirements in s. NR 463.15, initiate corrective action within one hour of any 6-minute average reading of 5% or more opacity and complete the corrective action procedures in accordance with the OM&M plan.

(d) Maintain the 3-hour block average inlet temperature for each fabric filter at or below the sum of the average temperature established during the performance test, plus 14°C (25°F).

(e) For a continuous injection device, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test.

**(8) SWEAT FURNACE.** The owner or operator of a sweat furnace with emissions controlled by an afterburner shall do both of the following:

(a) Maintain the 3-hour block average operating temperature of each afterburner at or above one of the following, as appropriate:

1. The average temperature established during the performance test.

2. 871°C (1600°F) if a performance test was not conducted, and the afterburner meets the specifications of s. NR 463.13 (6).

(b) Operate each afterburner in accordance with the OM&M plan.

**(9) DROSS-ONLY FURNACE.** The owner or operator of a dross-only furnace with emissions controlled by a fabric filter shall meet par. (c) and either par. (a) or (b) as appropriate:

(a) If a bag leak detection system is used to meet the monitoring requirements in s. NR 463.15, do both of the following:

1. Initiate corrective action within one hour of a bag leak detection system alarm and complete the corrective action procedures in accordance with the OM&M plan.

2. Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5% of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time shall be counted. If corrective action is required, each alarm shall be counted as a minimum of one hour. If the owner or operator takes longer than one hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the owner or operator to initiate corrective action.

(b) If a continuous opacity monitoring system is used to meet the monitoring requirements in s. NR 463.15, initiate corrective action within one hour of any 6-minute average reading of 5% or more opacity and complete the corrective action procedures in accordance with the OM&M plan.

(c) Operate each furnace using dross and salt flux as the sole feedstock.

**(10) ROTARY DROSS COOLER.** The owner or operator of a rotary dross cooler with emissions controlled by a fabric filter shall do one of the following:

(a) If a bag leak detection system is used to meet the monitoring requirements in s. NR 463.15, do both of the following:

1. Initiate corrective action within one hour of a bag leak detection system alarm and complete the corrective action procedures in accordance with the OM&M plan.

2. Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5% of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time shall be counted. If corrective action is required, each alarm shall be counted as a minimum of one hour. If the owner or operator takes longer than one hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the owner or operator to initiate corrective action.

(b) If a continuous opacity monitoring system is used to meet the monitoring requirements in s. NR 463.15, initiate corrective action within one hour of any 6-minute average reading of 5% or more opacity and complete the corrective action procedures in accordance with the OM&M plan.

**(11) IN-LINE FLUXER.** The owner or operator of an in-line fluxer with emissions controlled by a lime-injected fabric filter shall meet pars. (c) and (d) and either par. (a) or (b) as applicable:

(a) If a bag leak detection system is used to meet the monitoring requirements in s. NR 463.15, do both of the following:

1. Initiate corrective action within one hour of a bag leak detection system alarm and complete the corrective action procedures in accordance with the OM&M plan.

2. Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5% of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time

shall be counted. If corrective action is required, each alarm shall be counted as a minimum of one hour. If the owner or operator takes longer than one hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the owner or operator to initiate corrective action.

(b) If a continuous opacity monitoring system is used to meet the monitoring requirements in s. NR 463.15, initiate corrective action within one hour of any 6-minute average reading of 5% or more opacity and complete the corrective action procedures in accordance with the OM&M plan.

(c) For a continuous injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test.

(d) Maintain the total reactive chlorine flux injection rate for each operating cycle or time period at or below the average rate established during the performance test for the operating cycle or time period.

**(12) IN-LINE FLUXER USING NO REACTIVE FLUX MATERIAL.** The owner or operator of a new or existing in-line fluxer using no reactive flux materials shall operate each in-line fluxer using no reactive flux materials.

**(13) GROUP 1 FURNACE WITH ADD-ON AIR POLLUTION CONTROL DEVICES.** The owner or operator of a group 1 furnace with emissions controlled by a lime-injected fabric filter shall meet pars. (c) to (f) and either par. (a) or (b) as applicable:

(a) If a bag leak detection system is used to meet the monitoring requirements in s. NR 463.15 do all of the following:

1. Initiate corrective action within one hour of a bag leak detection system alarm.

2. Complete the corrective action procedures in accordance with the OM&M plan.

3. Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5% of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time shall be counted. If corrective action is required, each alarm shall be counted as a minimum of one hour. If the owner or operator takes longer than one hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the owner or operator to initiate corrective action.

(b) If a continuous opacity monitoring system is used to meet the monitoring requirements in s. NR 463.15, do both of the following:

1. Initiate corrective action within one hour of any 6-minute average reading of 5% or more opacity.

2. Complete the corrective action procedures in accordance with the OM&M plan.

(c) Maintain the 3-hour block average inlet temperature for each fabric filter at or below the sum of the average temperature established during the performance test, plus 14°C (25°F).

(d) For a continuous lime injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test.

(e) Maintain the total reactive chlorine flux injection rate for each operating cycle or time period at or below the average rate established during the performance test for the operating cycle or time period.

(f) Operate each sidewall furnace such that both of the following are met:

1. The level of molten metal remains above the top of the passage between the sidewall and hearth during reactive flux injection, unless emissions from both the sidewall and the hearth are included in demonstrating compliance with all applicable emission limits.

2. Reactive flux is added only in the sidewall, unless emissions from both the sidewall and the hearth are included in demonstrating compliance with all applicable emission limits.

**(14) GROUP 1 FURNACE WITHOUT ADD-ON AIR POLLUTION CONTROL DEVICES.** The owner or operator of a group 1 furnace, including a group 1 furnace that is part of a secondary aluminum processing unit, without add-on air pollution control devices shall do all of the following:

(a) Maintain the total reactive chlorine flux injection rate for each operating cycle or time period at or below the average rate established during the performance test for the operating cycle or time period.

(b) Operate each furnace in accordance with the work practice and pollution prevention measures documented in the OM&M plan and within the parameter values or ranges established in the OM&M plan.

(c) Operate each group 1 melting and holding furnace subject to the emission standards in s. NR 463.13 (9) (b) using only clean charge as the feedstock.

**(15) GROUP 2 FURNACE.** The owner or operator of a new or existing group 2 furnace shall do both of the following:

(a) Operate each furnace using only clean charge as the feedstock.

(b) Operate each furnace using no reactive flux.

**(16) CORRECTIVE ACTION.** When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the owner or operator shall initiate corrective action. Corrective action shall restore operation of the affected source or emission unit, including the process or control device, to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken shall include follow-up actions necessary to return the process or control device parameter level to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09; corrections in (1) (b), (c), (d) and (8) (a) 2. made under s. 13.92 (4) (b) 7., Stats., Register December 2008 No. 636.

**NR 463.15 Monitoring requirements. (1) SUMMARY.** On and after the compliance date established by s. NR 463.115, the owner or operator of a new or existing affected source or emission unit shall monitor all control equipment and processes according to the requirements in this section. Monitoring requirements for each type of affected source and emission unit are summarized in the following table.

**Table 3**  
**Summary of Monitoring Requirements for New and Existing Affected Sources and Emission Units**

Affected Source and Emission Unit	Monitor Type, Operation, Process	Monitoring Requirements
All affected sources and emission units with an add-on air pollution control device	Emission capture and collection system	Annual inspection of all emission capture, collection, and transport systems to ensure that systems continue to operate in accordance with Industrial Ventilation: A Manual of Recommended Practice, incorporated by reference in s. NR 484.11 (2) (d).
All affected sources and emission units subject to production-based, lb/ton of feed or charge, emission limits. <sup>a</sup>	Feed charge weight	Record weight of each feed or charge, weight measurements device of other procedure accuracy of $\pm 1\%$ <sup>b</sup> ; calibrate according to manufacturers specifications, or at least once every 6 months
Group 1 furnace, group 2 furnace in-line fluxer, scrap dryer, delacquering kiln or decoating kiln	Labeling	Check monthly to confirm that labels are intact and legible
Aluminum scrap shredder with fabric filter	Bag leak detector or	Install and operate in accordance with "Fabric Filter Bag Leak Detection Guidance." <sup>c</sup> ; Record voltage output from bag leak detector.
	Continuous opacity monitor or	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Visual emissions	Conduct and record results of 30-minute daily test in accordance with Method 9 in Appendix A to 40 CFR part 60, incorporated by reference in s. NR 484.04 (13).



Affected Source and Emission Unit	Monitor Type, Operation, Process	Monitoring Requirements
Thermal Chip dryer with afterburner	Afterburner operating temperature	Continuous measurement device to meet specifications in s. NR 463.15 (7) (a); record average temperature for each 15-minute block; determine and record 3-hr block averages.
	Afterburner operation	Annual inspection of afterburner internal parts; complete repairs in accordance with the OM&M <sup>d</sup> plan.
	Feed or charge material	Record identity of each feed or charge; certify feed or charge materials ever 6 months
Scrap dryer, delacquering kiln or de-coating kiln with afterburner and lime injected fabric filter	Afterburner operating temperature	Continuous measurement device to meet specifications in s. NR 463.15 (7) (a); record temperature for each 15-minute block; determine and record 3-hr block averages.
	Afterburner operation	Annual inspection of afterburner internal parts; complete repairs in accordance with the OM&M <sup>d</sup> plan.
	Bag leak detector or	Install and operate in accordance with “Fabric Filter Bag Leak Detection Guidance” <sup>c</sup> ; record voltage output from bag leak detector.
	Continuous opacity monitor	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Lime injection rate	For continuous injection systems; inspect each feed hopper or silo every 8 hr to verify that lime is free-flowing; record results of each inspection. If blockage occurs, inspect every 4 hr for 3 days; return to 8-hr inspections if corrective action results in no further blockage during the 3-day period; record feeder setting daily.
	Fabric filter inlet temperature	Continuous measurement device to meet specifications in s. NR 463.15 (8) (b); record temperatures in 15-minute block averages; determine and record 3-hr blockage averages.
Sweat furnace with after burner	Afterburner operating temperature	Continuous measurement device to meet specifications in s. NR 463.15 (8) (a); record temperature in 15-minute block averages; determine and record 3-hr block average.
	Afterburner operation	Annual inspection of afterburner internal parts; complete repairs in accordance with the OM&M <sup>d</sup> plan.
Dross-only furnace with fabric filter	Bag leak detector or	Install and operate in accordance with “Fabric Filter Bag Leak Detection Guidance” <sup>c</sup> ; record output voltage from bag leak detector.
	Continuous opacity monitor	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Feed or charge material	Record identify of each feed or charge; certify charge materials every 6 months.
Rotary dross cooler with fabric filter	Bag leak detector or	Install and operate in accordance with “Fabric Filter Bag Leak Detection Guidance” <sup>c</sup> ; record output voltage from bag leak detector.
	Continuous opacity monitor	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.

Affected Source and Emission Unit	Monitor Type, Operation, Process	Monitoring Requirements
In-Line fluxer with lime-injected fabric filter	Flux materials	Record flux material; certify every 6 months for no reactive flux.
	Bag leak detector or	Install and operate in accordance with “Fabric Filter Bag Leak Detection Guidance” <sup>c</sup> ; record output voltage from bag leak detector.
	Continuous opacity monitor	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Reactive flux injection rate	Weight measurement device accuracy of $\pm 1\%$ ; calibrate according to manufacturers specifications or at least once every 6 months; record time, weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; calculate and record total reactive flux injection rate for each operating cycle or time period used in performance test; or Alternative flux injection rate determination procedure per s. NR 463.15 (10) (e).
	Lime injection rate	For continuous injection systems; inspect each feed hopper or silo every 8 hr to verify that lime is free-flowing; record results of each inspection. If blockage occurs, inspect every 4 hr for 3 days; return to 8-hr inspections if corrective action results in no further blockage during the 3-day period. <sup>e</sup>
In-line fluxer using no reactive flux	Flux materials	Record flux materials; certify every 6 months for no reactive flux.
Group 1 furnace with lime injected fabric filter	Bag leak detector or	Install and operate in accordance with “Fabric Filter Bag Leak Detection Guidance” <sup>c</sup> ; record output voltage from bag leak detector.
	Continuous opacity monitor	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Lime injection rate	For continuous injection systems; inspect each feed hopper or silo every 8 hr to verify that lime is free-flowing; record results of each inspection. If blockage occurs, inspect every 4 hr for 3 days; return to 8-hr inspections if corrective action results in no further blockage during the 3-day period; record feeder setting daily.
	Reactive flux injection rate	Weight measurement device accuracy of $\pm 1\%$ <sup>b</sup> , calibrate every 3 months; record weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; calculate and record total reactive flux injection rate for each operating cycle or time period used in performance test; or Alternative flux rate injection rate determination procedure per s. NR 463.15 (10) (e).

Affected Source and Emission Unit	Monitor Type, Operation, Process	Monitoring Requirements
Group 1 furnace with lime injected fabric filter (Continued)	Fabric filter inlet temperature	Continuous measurement device to meet specifications in s. NR 463.15 (8) (b); record temperatures in 15-minute block averages; determine and record 3-hour block averages
	Maintain molten aluminum level in sidewall furnace	Maintain aluminum level operating log; certify every 6 months.
Group 1 furnace without add-on controls	Fluxing molten aluminum level in sidewall furnace	Maintain flux addition operating log; certify every 6 months.
	Reactive flux injection rate	Weight measurement device accuracy of $\pm 1\%$ ; calibrate according to manufacturers specifications or at least once every 6 months; record time, weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; calculate and record total reactive flux injection rate for each operating cycle or time period used in performance test.
	OM&M <sup>d</sup> plan approved by the department	Demonstration of site-specific monitoring procedures to provide data and show correlation of emissions across the range of charge and flux materials and furnace operating parameters.
	Feed material - melting and holding furnace	Record type of permissible feed or charge material; certify charge materials every 6 months.
Clean group 2 furnace	Charge and flux materials	Record charge and flux materials; certify every 6 months for clean charge and no reactive flux.

a Thermal chip dryers, scrap dryers, delacquering kilns, dross-only furnaces, in-line fluxers and group 1 furnaces or melting and holding furnaces

b The department may approve measurement devices of alternative accuracy, for example in cases where flux rates are very low and costs of meters of specified accuracy are prohibitive; or where feed or charge weighing devices of specified accuracy are not practicable due to equipment layout or charging practices.

c Non-turboelectric bag leak detectors shall be installed and operated in accordance with manufacturers' specifications.

d OM&M plan- Operation, maintenance, and monitoring plan.

e The department may approve of other alternatives including load cells for lime hopper weight, sensors for carrier gas pressure, or HCl monitoring devices of fabric filter outlet.

## (2) OPERATION, MAINTENANCE, AND MONITORING PLAN.

The owner or operator shall prepare and implement for each new or existing affected source and emission unit, a written operation, maintenance and monitoring (OM&M) plan. The owner or operator of an existing affected source shall submit the OM&M plan to the department no later than the compliance date established by s. NR 463.115 (1). The owner or operator of any new MACT source subject to this subchapter shall submit the OM&M plan to the department within 90 days after a successful initial performance test under s. NR 463.16 (2) or within 90 days after the compliance date established by s. NR 463.115 (2) if no initial performance test is required. The plan shall be accompanied by a written certification by the owner or operator that the OM&M plan satisfies all requirements of this section and is otherwise consistent with the requirements of this subchapter. The owner or operator shall comply with all of the provisions of the OM&M plan as submitted to the department, unless and until the plan is revised in accordance with the following procedures. If the department determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of this subchapter, the owner or operator shall promptly make all necessary revisions and resubmit the revised plan. If the owner or operator determines that any other revisions of the OM&M plan are necessary, the revisions may not become effective

until the owner or operator submits a description of the changes and a revised plan incorporating them to the department. Each plan shall contain all of the following information:

(a) Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device.

(b) A monitoring schedule for each affected source and emission unit.

(c) Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in s. NR 463.13.

(d) Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including the following:

1. Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions.

2. Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in ch. NR 460.

(e) Procedures for monitoring process and control device parameters, including procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining

ing charge or feed or throughput weight if a measurement device is not used.

(f) Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in par. (a), including the following:

1. Procedures to determine and record the cause of a deviation or excursion, and the time the deviation or excursion began and ended.

2. Procedures for recording the corrective action taken, the time corrective action was initiated, and the time and date corrective action was completed.

(g) A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

(h) Documentation of the work practice and pollution prevention measures used to achieve compliance with the applicable emission limits and a site-specific monitoring plan as required in sub. (15) for each group 1 furnace not equipped with an add-on air pollution control device.

**(3) LABELING.** The owner or operator shall inspect the labels for each group 1 furnace, group 2 furnace, in-line fluxer, scrap dryer, delacquering kiln and decoating kiln at least once per calendar month to confirm that posted labels as required by the operational standard in s. NR 463.14 (2) are intact and legible.

**(4) CAPTURE AND COLLECTION SYSTEM.** The owner or operator shall do both of the following:

(a) Install, operate and maintain a capture and collection system for each affected source and emission unit equipped with an add-on air pollution control device.

(b) Inspect each capture and collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in s. NR 463.14 (3) and record the results of each inspection.

**(5) FEED OR CHARGE WEIGHT.** The owner or operator of an affected source or emission unit subject to an emission limit in kg/Mg (lb/ton) or  $\mu\text{g}/\text{Mg}$  (gr/ton) of feed or charge shall install, calibrate, operate and maintain a device to measure and record the total weight of feed or charge to, or the aluminum production from, the affected source or emission unit over the same operating cycle or time period used in the performance test. Feed or charge or aluminum production within SAPUs shall be measured and recorded on an emission unit-by-emission unit basis. As an alternative to a measurement device, the owner or operator may use a procedure acceptable to the department to determine the total weight of feed or charge or aluminum production to the affected source or emission unit.

(a) The weight measurement device or procedure shall have an accuracy of  $\pm 1\%$  of the weight being measured. The owner or operator may apply to the department for approval to use a device of alternative accuracy if the required accuracy cannot be achieved as a result of equipment layout or charging practices. A device of alternative accuracy may not be approved unless the owner or operator provides assurance through data and information that the affected source will meet the relevant emission standard.

(b) The owner or operator shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.

**(6) FABRIC FILTERS AND LIME-INJECTED FABRIC FILTERS.** The owner or operator of an affected source or emission unit using a fabric filter or lime-injected fabric filter to comply with the requirements of this subchapter shall install, calibrate, maintain

and continuously operate a bag leak detection system as required in par. (a) or a continuous opacity monitoring system as required in par. (b). The owner or operator of an aluminum scrap shredder shall install and operate a bag leak detection system as required in par. (a), install and operate a continuous opacity monitoring system as required in par. (b), or conduct visible emission observations as required in par. (c).

(a) The requirements of this paragraph apply to the owner or operator of a new or existing affected source or existing emission unit using a bag leak detection system.

1. The owner or operator shall install and operate a bag leak detection system for each exhaust stack of a fabric filter.

2. Each triboelectric bag leak detection system shall be installed, calibrated, operated and maintained according to the Fabric Filter Bag Leak Detection Guidance, EPA, OAQPS, September 1997, incorporated by reference in s. NR 484.05 (10). Other bag leak detection systems shall be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

3. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

4. The bag leak detection system sensor shall provide output of relative or absolute PM loadings.

5. The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor.

6. The bag leak detection system shall be equipped with an alarm system that shall sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel.

7. For positive pressure fabric filter systems, a bag leak detection system shall be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.

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

9. The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

10. Following initial adjustment of the system, the owner or operator may not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100% or decreased more than 50% over a 365-day period unless the adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition.

(b) The requirements of this paragraph apply to the owner or operator of a new or existing affected source or an existing emission unit using a continuous opacity monitoring system.

1. The owner or operator shall install, calibrate, maintain and operate a continuous opacity monitoring system to measure and record the opacity of emissions exiting each exhaust stack.

2. Each continuous opacity monitoring system shall meet the design and installation requirements of Performance Specification 1 in Appendix B to 40 CFR part 60, incorporated by reference in s. NR 484.04 (21).

(c) The requirements of this paragraph apply to the owner or operator of a new or existing aluminum scrap shredder who conducts visible emission observations. The owner or operator shall do both of the following:



1. Perform a visible emissions test for each aluminum scrap shredder using a certified observer at least once a day according to the requirements of Method 9 in Appendix A to 40 CFR part 60, incorporated by reference in s. NR 484.04 (13). Each Method 9 test shall consist of 5 6-minute observations in a 30-minute period.

2. Record the results of each test required under subd. 1.

**(7) AFTERBURNER.** The requirements of this subsection apply to the owner or operator of an affected source using an afterburner to comply with the requirements of this subchapter.

(a) The owner or operator shall install, calibrate, maintain, and operate a device to continuously monitor and record the operating temperature of the afterburner consistent with the requirements for continuous monitoring systems in s. NR 460.07 (3).

(b) The temperature monitoring device shall meet each of the following performance and equipment specifications:

1. The temperature monitoring device shall be installed at the exit of the combustion zone of each afterburner.

2. The monitoring system shall record the temperature in 15-minute block averages and determine and record the average temperature for each 3-hour block period.

3. The recorder response range shall include zero and 1.5 times the average temperature established according to the requirements in s. NR 463.163 (13).

4. The reference method shall be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the department.

(c) The owner or operator shall conduct an inspection of each afterburner at least once a year and record the results. At a minimum, an inspection and resulting steps shall include all of the following:

1. Inspection of all burners, pilot assemblies, and pilot sensing devices for proper operation and clean pilot sensor.

2. Inspection for proper adjustment of combustion air.

3. Inspection of internal structures, such as baffles, to ensure structural integrity.

4. Inspection of dampers, fans, and blowers for proper operation.

5. Inspection for proper sealing.

6. Inspection of motors for proper operation.

7. Inspection of combustion chamber refractory lining and cleaning and replacement of lining as necessary.

8. Inspection of afterburner shell for corrosion and hot spots.

9. Documentation, for the burn cycle that follows the inspection, that the afterburner is operating properly and any necessary adjustments have been made.

10. Verification that the equipment is maintained in good operating condition.

11. Following an equipment inspection, completion of all necessary repairs in accordance with the requirements of the OM&M plan.

**(8) FABRIC FILTER INLET TEMPERATURE.** The requirements of this subsection apply to the owner or operator of a scrap dryer, delacquering kiln or decoating kiln or a group 1 furnace using a lime-injected fabric filter to comply with the requirements of this subchapter.

(a) The owner or operator shall install, calibrate, maintain and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases consistent with the requirements for continuous monitoring systems in s. NR 460.07 (3).

(b) The temperature monitoring device shall meet each of the following performance and equipment specifications:

1. The monitoring system shall record the temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period.

2. The recorder response range shall include zero and 1.5 times the average temperature established according to the requirements in s. NR 463.163 (14).

3. The reference method shall be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the department.

**(9) LIME INJECTION.** The requirements of this subsection apply to the owner or operator of an affected source or emission unit using a lime-injected fabric filter to comply with the requirements of this subchapter.

(a) The owner or operator of a continuous lime injection system shall verify that lime is always free-flowing by one of the following methods:

1. Inspecting each feed hopper or silo at least once each 8-hour period and recording the results of each inspection. If lime is found not to be free-flowing during any of the 8-hour periods, the owner or operator shall increase the frequency of inspections to at least once every 4-hour period for the next 3 days. The owner or operator may return to inspections at least once every 8-hour period if corrective action results in no further blockages of lime during the 3-day period.

2. Subject to the approval of the department, installing, operating and maintaining a load cell, carrier gas or lime flow indicator, carrier gas pressure drop measurement system or other system to confirm that lime is free-flowing. If lime is found not to be free-flowing, the owner or operator shall promptly initiate and complete corrective action.

3. Subject to the approval of the department, installing, operating and maintaining a device to monitor the concentration of HCl at the outlet of the fabric filter. If an increase in the concentration of HCl indicates that the lime is not free-flowing, the owner or operator shall promptly initiate and complete corrective action.

(b) The owner or operator of a continuous lime injection system shall record the lime feeder setting once each day of operation.

(c) An owner or operator who intermittently adds lime to a lime coated fabric filter shall obtain approval from the department for a lime addition monitoring procedure. The department may not approve a monitoring procedure unless data and information are submitted establishing that the procedure is adequate to ensure that relevant emission standards will be met on a continuous basis.

**(10) TOTAL REACTIVE FLUX INJECTION RATE.** The requirements of this subsection apply to the owner or operator of a group 1 furnace or in-line fluxer. The owner or operator shall meet pars. (a) to (d) or apply for approval of an alternate method under par. (e):

(a) Install, calibrate, operate and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected to each affected source or emission unit.

1. The monitoring system shall record the weight for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test.

2. The weight measurement device shall be accurate to  $\pm 1\%$  of the weight of the reactive component of the flux being mea-

sured. The owner or operator may apply to the department for permission to use a weight measurement device of alternative accuracy in cases where the reactive flux flow rates are so low as to make the use of a weight measurement device of  $\pm 1\%$  impracticable. A device of alternative accuracy may not be approved unless the owner or operator provides assurance through data and information that the affected source will meet the relevant emission standards.

3. The owner or operator shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.

(b) Calculate and record the gaseous or liquid reactive flux injection rate (kg/Mg or lb/ton) for each operating cycle or time period used in the performance test using the procedure in s. NR 463.163 (15).

(c) Record, for each 15-minute block period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight and type of flux for each addition of the following:

1. Gaseous or liquid reactive flux other than chlorine.
2. Solid reactive flux.

(d) Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in s. NR 463.163 (15).

(e) At their discretion, apply to the department for approval of an alternative method for monitoring and recording the total reactive flux addition rate based on monitoring the weight or quantity of reactive flux per ton of feed or charge for each operating cycle or time period used in the performance test. An alternative monitoring method may not be approved unless the owner or operator provides assurance through data and information that the affected source will meet the relevant emission standards on a continuous basis.

**(11) THERMAL CHIP DRYER.** The requirements of this subsection apply to the owner or operator of a thermal chip dryer with emissions controlled by an afterburner. The owner or operator shall do both of the following:

(a) Record the type of materials charged to the unit for each operating cycle or time period used in the performance test.

(b) Submit a certification of compliance with the applicable operational standard for charge materials in s. NR 463.14 (6) (c) for each 6-month reporting period. Each certification shall contain the information in s. NR 463.18 (2) (b) 1.

**(12) DROSS-ONLY FURNACE.** The requirements of this subsection apply to the owner or operator of a dross-only furnace. The owner or operator shall do both of the following:

(a) Record the materials charged to each unit for each operating cycle or time period used in the performance test.

(b) Submit a certification of compliance with the applicable operational standard for charge materials in s. NR 463.14 (9) (c) for each 6-month reporting period. Each certification shall contain the information in s. NR 463.18 (2) (b) 2.

**(13) IN-LINE FLUXERS USING NO REACTIVE FLUX.** The owner or operator of an in-line fluxer that uses no reactive flux materials shall submit a certification of compliance with the operational standard for no reactive flux materials in s. NR 463.14 (12) for each 6-month reporting period. Each certification shall contain the information in s. NR 463.18 (2) (b) 6.

**(14) SIDEWELL GROUP 1 FURNACE WITH ADD-ON AIR POLLUTION CONTROL DEVICES.** The requirements of this subsection apply to the owner or operator of a sidewell group 1 furnace using

add-on air pollution control devices. The owner or operator shall do both of the following:

(a) Record in an operating log for each charge of a sidewell furnace that the level of molten metal was above the top of the passage between the sidewell and hearth during reactive flux injection, unless the furnace hearth was also equipped with an add-on control device.

(b) Submit a certification of compliance with the operational standards in s. NR 463.14 (13) (f) for each 6-month reporting period. Each certification shall contain the information in s. NR 463.18 (2) (b) 3.

**(15) GROUP 1 FURNACE WITHOUT ADD-ON AIR POLLUTION CONTROL DEVICES.** (a) The requirements of this paragraph apply to the owner or operator of a group 1 furnace that is not equipped with an add-on air pollution control device.

1. The owner or operator shall develop, in consultation with the department, a written site-specific monitoring plan. The site-specific monitoring plan shall be submitted to the department as part of the OM&M plan. The site-specific monitoring plan shall contain sufficient procedures to ensure continuing compliance with all applicable emission limits and shall demonstrate, based on documented test results, the relationship between emissions of PM, HCl and D&F and the proposed monitoring parameters for each pollutant. Test data shall establish the highest level of PM, HCl and D&F that will be emitted from the furnace. This emission level may be determined by conducting performance tests and monitoring operating parameters while charging the furnace with feed or charge materials containing the highest anticipated levels of oils and coatings and fluxing at the highest anticipated rate. If the department determines that any revisions of the site-specific monitoring plan are necessary to meet the requirements of this subchapter, the owner or operator shall promptly make all necessary revisions and resubmit the revised plan to the department.

2. The site-specific monitoring plan shall contain all of the following as applicable:

a. Each site-specific monitoring plan shall document each work practice, equipment and design practice, pollution prevention practice or other measure used to meet the applicable emission standards.

b. Each site-specific monitoring plan shall include provisions for unit labeling as required in sub. (3), feed or charge weight measurement, or production weight measurement, as required in sub. (5) and flux weight measurement as required in sub. (10).

c. Each site-specific monitoring plan for a melting and holding furnace subject to the clean charge emission standard in s. NR 463.13 (9) (c) shall include requirements that the owner or operator record the type of feed or charge, such as ingot, thermally dried chips, dried scrap, or other, for each operating cycle or time period used in the performance test, and that the owner or operator submit a certification of compliance with the applicable operational standard for clean charge materials in s. NR 463.14 (14) (c) for each 6-month reporting period. Each certification shall contain the information in s. NR 463.18 (2) (b) 4.

d. If a continuous emission monitoring system is included in a site-specific monitoring plan, the plan shall include provisions for the installation, operation and maintenance of the system to provide quality-assured measurements in accordance with all applicable requirements of the general provisions of ch. NR 460.

e. If a continuous opacity monitoring system is included in a site-specific monitoring plan, the plan shall include provisions for the installation, operation and maintenance of the system to

provide quality-assured measurements in accordance with all applicable requirements of this subchapter.

f. If a site-specific monitoring plan includes a scrap inspection program for monitoring the scrap contaminant level of furnace feed or charge materials, the plan shall include provisions for the demonstration and implementation of the program in accordance with all applicable requirements in sub. (16).

g. If a site-specific monitoring plan includes a calculation method for monitoring the scrap contaminant level of furnace feed or charge materials, the plan shall include provisions for the demonstration and implementation of the program in accordance with all applicable requirements in sub. (17).

3. The owner or operator of an existing affected source shall submit the site-specific monitoring plan to the department for review at least 6 months prior to the compliance date.

(b) The department shall review and approve or disapprove a proposed site-specific monitoring plan, or request changes to a plan, based on whether the plan contains sufficient provisions to ensure continuing compliance with applicable emission limits and demonstrates, based on documented test results, the relationship between emissions of PM, HCl and D&F and the proposed monitoring parameters for each pollutant. Test data shall establish the highest level of PM, HCl and D&F that will be emitted from the furnace. Subject to department approval of the OM&M plan, this may be determined by conducting performance tests and monitoring operating parameters while charging the furnace with feed or charge materials containing the highest anticipated levels of oils and coatings and fluxing at the highest anticipated rate.

**(16) SCRAP INSPECTION PROGRAM FOR GROUP 1 FURNACE WITHOUT ADD-ON AIR POLLUTION CONTROL DEVICES.** A scrap inspection program shall include all of the following:

(a) A proven method for collecting representative samples and measuring the oil and coatings content of scrap samples.

(b) A scrap inspector training program.

(c) An established correlation between visual inspection and physical measurement of oil and coatings content of scrap samples.

(d) Periodic physical measurements of oil and coatings content of randomly-selected scrap samples and comparison with visual inspection results.

(e) A system for assuring that only acceptable scrap is charged to an affected group 1 furnace.

(f) Recordkeeping requirements to document conformance with plan requirements.

**(17) MONITORING OF SCRAP CONTAMINATION LEVEL BY CALCULATION METHOD FOR GROUP 1 FURNACE WITHOUT ADD-ON AIR POLLUTION CONTROL DEVICES.** The owner or operator of a group 1 furnace dedicated to processing a distinct type of furnace feed or charge composed of scrap with a uniform composition, such as rejected product from a manufacturing process for which the coating-to-scrap ratio can be documented, may include a program in the site-specific monitoring plan for determining, monitoring and certifying the scrap contaminant level using a calculation method rather than a scrap inspection program. A scrap contaminant monitoring program using a calculation method shall include all of the following:

(a) Procedures for the characterization and documentation of the contaminant level of the scrap prior to the performance test.

(b) Limitations on the scrap in the furnace feed or charge to scrap of the same composition as that used in the performance test. If the performance test was conducted with a mixture of scrap and clean charge, limitations on the proportion of scrap in

the furnace feed or charge to no greater than the proportion used during the performance test.

(c) Operating, monitoring, recordkeeping and reporting requirements to ensure that no scrap with a contaminant level higher than that used in the performance test is charged to the furnace.

**(18) GROUP 2 FURNACE.** The requirements of this subsection apply to the owner or operator of a new or existing group 2 furnace. The owner or operator shall do both of the following:

(a) Record a description of the materials charged to each furnace, including any nonreactive, non-HAP-containing, non-HAP-generating fluxing materials or agents.

(b) Submit a certification of compliance with the applicable operational standard for charge materials in s. NR 463.14 (15) for each 6-month reporting period. Each certification shall contain the information in s. NR 463.18 (2) (b) 5.

**(19) SITE-SPECIFIC REQUIREMENTS FOR SECONDARY ALUMINUM PROCESSING UNITS.** (a) An owner or operator of a secondary aluminum processing unit at a facility shall include, within the OM&M plan prepared in accordance with sub. (2), all of the following information:

1. The identification of each emission unit in the secondary aluminum processing unit.

2. The specific control technology or pollution prevention measure to be used for each emission unit in the secondary aluminum processing unit and the date of its installation or application.

3. The emission limit calculated for each secondary aluminum processing unit and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limit.

4. Information and data demonstrating compliance for each emission unit with all applicable design, equipment, work practice or operational standards of this subchapter.

5. The monitoring requirements applicable to each emission unit in a secondary aluminum processing unit and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in sub. (20).

(b) The SAPU compliance procedures within the OM&M plan may not contain any of the following provisions:

1. Any averaging among emissions of differing pollutants.

2. The inclusion of any affected sources other than emission units in a secondary aluminum processing unit.

3. The inclusion of any emission unit while it is shut down.

4. The inclusion of any periods of startup, shutdown or malfunction in emission calculations.

(c) To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the owner or operator shall submit a request to the department containing the information required by par. (a) and obtain approval of the department prior to implementing any revisions.

**(20) SECONDARY ALUMINUM PROCESSING UNIT.** Except as provided in sub. (21), the owner or operator shall calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl and D&F for each secondary aluminum processing unit on a daily basis. To calculate the 3-day, 24-hour rolling average, the owner or operator shall do all of the following:

(a) Calculate and record the total weight of material charged to each emission unit in the secondary aluminum processing unit for each 24-hour day of operation using the feed or charge weight information required in sub. (5). If the owner or operator chooses to comply on the basis of weight of aluminum produced by the emission unit, rather than weight of material charged to the emis-

sion unit, all performance test emissions results and all calculations shall be conducted on the aluminum production weight basis.

(b) Multiply the total feed or charge weight to the emission unit, or the weight of aluminum produced by the emission unit, for each emission unit for the 24-hour period by the emission rate, in lb/ton of feed or charge, for that emission unit, as determined during the performance test, to provide emissions for each emission unit for the 24-hour period, in pounds.

(c) Divide the total emissions for each SAPU for the 24-hour period by the total material charged to the SAPU, or the weight of aluminum produced by the SAPU over the 24-hour period, to provide the daily emission rate for the SAPU.

(d) Compute the 24-hour daily emission rate using Equation 4:

$$E_{\text{day}} = \frac{\sum_{i=1}^n (T_i \times ER_i)}{\sum_{i=1}^n T_i} \quad (\text{Equation 4})$$

where:

$E_{\text{day}}$  is the daily PM, HCl, or D&F emission rate for the secondary aluminum processing unit for the 24-hour period

$T_i$  is the total amount of feed, or aluminum produced, for emission unit  $i$  for the 24-hour period (tons or Mg)

$ER_i$  is the measured emission rate for emission unit  $i$  as determined in the performance test (lb/ton or  $\mu\text{g}/\text{Mg}$  of feed or charge)

$n$  is the number of emission units in the secondary aluminum processing unit

(e) Calculate and record the 3-day, 24-hour rolling average for each pollutant each day by summing the daily emission rates for each pollutant over the 3 most recent consecutive days and dividing by 3.

**(21) SECONDARY ALUMINUM PROCESSING UNIT COMPLIANCE BY INDIVIDUAL EMISSION UNIT DEMONSTRATION.** As an alternative to the procedures of sub. (20), an owner or operator may demonstrate, through performance tests, that each individual emission unit within the secondary aluminum production unit is in compliance with the applicable emission limits for the emission unit.

**(22) ALTERNATIVE MONITORING METHOD FOR LIME ADDITION.** The owner or operator of a lime-coated fabric filter that employs intermittent or noncontinuous lime addition may apply to the department for approval of an alternative method for monitoring the lime addition schedule and rate based on monitoring the weight of lime added per ton of feed or charge for each operating cycle or time period used in the performance test. An alternative monitoring method may not be approved unless the owner or operator provides assurance through data and information that the affected source will meet the relevant emission standards on a continuous basis.

**(23) ALTERNATIVE MONITORING METHODS.** If an owner or operator wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in this subchapter, other than those alternative monitoring methods which may be authorized pursuant to subs. (10) (e) and (22), the owner or operator may submit an application to the department. Any application shall be processed according to the criteria and procedures in pars. (a) to (f).

(a) The department may not approve averaging periods other than those specified in this section.

(b) The owner or operator shall continue to use the original monitoring requirement until necessary data are submitted and approval is received to use another monitoring procedure.

(c) The owner or operator shall submit the application for approval of alternate monitoring methods no later than the notification of the performance test. The application shall contain all the information specified in subs. 1. to 3.:

1. Data or information justifying the request, such as the technical or economic infeasibility, or the impracticality of using the required approach.

2. A description of the proposed alternative monitoring requirements, including the operating parameters to be monitored, the monitoring approach and technique, and how the limit is to be calculated.

3. Data and information documenting that the alternative monitoring requirements would provide equivalent or better assurance of compliance with the relevant emission standards.

(d) The department may not approve an alternate monitoring application unless it would provide equivalent or better assurance of compliance with the relevant emission standards. Before disapproving any alternate monitoring application, the department shall provide both of the following:

1. Notice of the information and findings upon which the intended disapproval is based.

2. Notice of opportunity for the owner or operator to present additional supporting information before final action is taken on the application. This notice shall specify how much additional time is allowed for the owner or operator to provide additional supporting information.

(e) The owner or operator is responsible for submitting any supporting information in a timely manner to enable the department to consider the application prior to the performance test. Neither submittal of an application nor the department's failure to approve or disapprove the application relieves the owner or operator of the responsibility to comply with any provisions of this subchapter.

(f) The department may decide at any time, on a case-by-case basis, that additional or alternative operating limits, or alternative approaches to establishing operating limits, are necessary to demonstrate compliance with the emission standards of this subchapter.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09; corrections in (11) (b), (14) (b) and (18) (b) made under s. 13.92 (4) (b) 7., Stats., Register December 2008 No. 636.

**NR 463.16 Performance test and compliance demonstration general requirements.** (1) **SITE-SPECIFIC TEST PLAN.** Prior to conducting any performance test required by this subchapter, the owner or operator shall prepare a site-specific test plan which satisfies all of the requirements of this section, and shall obtain review and evaluation of the plan by the department pursuant to the procedures in s. NR 460.06.

(2) **INITIAL PERFORMANCE TEST.** (a) Following the review and evaluation of the site-specific test plan, the owner or operator shall demonstrate initial compliance with each applicable emission, equipment, work practice or operational standard for each affected source and emission unit, and report the results in the notification of compliance status report as described in s. NR 463.17 (2). The owner or operator of any existing affected source for which an initial performance test is required to demonstrate compliance shall conduct this initial performance test no later than the date for compliance established by s. NR 463.115 (1). The owner or operator of any new affected source for which an initial performance test is required shall conduct this initial performance test within 90 days after the date for compliance estab-



lished by s. NR 463.115 (2). Except for the date by which the performance test shall be conducted, the owner or operator shall conduct each performance test in accordance with the requirements and procedures in s. NR 460.06 (2). Owners or operators of affected sources located at facilities which are area sources are subject only to those performance testing requirements pertaining to D&F. Owners or operators of sweat furnaces meeting the specifications of s. NR 463.13 (6) are not required to conduct a performance test.

(b) The owner or operator shall conduct each test while the affected source or emission unit is operating at the highest production level with charge materials representative of the range of materials processed by the unit and, if applicable, at the highest reactive fluxing rate.

(c) Each performance test for a continuous process shall consist of 3 separate runs; pollutant sampling for each run shall be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours.

(d) Each performance test for a batch process shall consist of 3 separate runs; pollutant sampling for each run shall be conducted over the entire process operating cycle.

(e) Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run shall be conducted over a period of time during which all affected sources or emission units complete at least one entire process operating cycle or for 24 hours, whichever is shorter.

(f) Initial compliance with an applicable emission limit or standard is demonstrated if the average of 3 runs conducted during the performance test is less than or equal to the applicable emission limit or standard.

**(3) TEST METHODS.** The owner or operator shall use the following methods in Appendix A to 40 CFR part 60, incorporated by reference in s. NR 484.04 (13), to determine compliance with the applicable emission limits or standards:

- (a) Method 1 for sample and velocity traverses.
- (b) Method 2 for velocity and volumetric flow rate.
- (c) Method 3 for gas analysis.
- (d) Method 4 for moisture content of the stack gas.
- (e) Method 5 for the concentration of PM.
- (f) Method 9 for visible emission observations.
- (g) Method 23 for the concentration of D&F.
- (h) Method 25A for the concentration of THC, as propane.
- (i) Method 26A for the concentration of HCl. Where a lime-injected fabric filter is used as the control device to comply with the 90% reduction standard, the owner or operator shall measure the fabric filter inlet concentration of HCl at a point before lime is introduced to the system.

**(4) ALTERNATIVE METHODS.** The owner or operator may use an alternative test method, subject to approval by the department.

**(5) REPEAT TESTS.** The owner or operator of new or existing affected sources and emission units located at secondary aluminum production facilities that are major sources shall conduct a performance test every 5 years following the initial performance test.

**(6) TESTING OF REPRESENTATIVE EMISSION UNITS.** With the prior approval of the department, an owner or operator may utilize emission rates obtained by testing a particular type of group 1 furnace which is not controlled by any add-on control device, or by testing an in-line flux box which is not controlled by any add-on control device, to determine the emission rate for other units of the same type at the same facility. Emission test results may

only be considered to be representative of other units if all of the following criteria are satisfied:

(a) The tested emission unit uses feed materials and charge rates which are comparable to the emission units that it represents.

(b) The tested emission unit uses the same type of flux materials in the same proportions as the emission units it represents.

(c) The tested emission unit is operated utilizing the same work practices as the emission units that it represents.

(d) The tested emission unit is of the same design as the emission units that it represents.

(e) The tested emission unit is tested under the highest load or capacity reasonably expected to occur for any of the emission units that it represents.

**(7) ESTABLISHMENT OF MONITORING AND OPERATING PARAMETER VALUES.** The owner or operator of new or existing affected sources and emission units shall establish a minimum or maximum operating parameter value, or an operating parameter range, for each parameter to be monitored as required by s. NR 463.15 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the owner or operator shall use the appropriate procedures in this section and submit the information required by s. NR 463.17 (2) (d) in the notification of compliance status report. The owner or operator may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the department:

(a) The complete emission test report used as the basis of the parameter or parameters is submitted.

(b) The same test methods and procedures as required by this subchapter were used in the test.

(c) The owner or operator certifies that no design or work practice changes have been made to the source, process or emission control equipment since the time of the report.

(d) All process and control equipment operating parameters required to be monitored were monitored as required in this subchapter and documented in the test report.

**(8) TESTING OF COMMONLY-DUCTED UNITS WITHIN A SECONDARY ALUMINUM PROCESSING UNIT.** When group 1 furnaces and in-line fluxers are included in a single existing SAPU or new SAPU, and the emissions from more than one emission unit within that existing SAPU or new SAPU are manifolded to a single control device, compliance for all units within the SAPU is demonstrated if the total measured emissions from all controlled and uncontrolled units in the SAPU do not exceed the emission limits calculated for that SAPU based on the applicable equation in s. NR 463.13 (11).

**(9) TESTING OF COMMONLY-DUCTED UNITS NOT WITHIN A SECONDARY ALUMINUM PROCESSING UNIT.** With the prior approval of the department, an owner or operator may do combined performance testing of 2 or more individual affected sources or emission units which are not included in a single existing SAPU or new SAPU, but whose emissions are manifolded to a single control device. Any performance testing of commonly-ducted units shall satisfy all the following basic requirements:

(a) All testing shall be designed to verify that each affected source or emission unit individually satisfies all emission requirements applicable to that affected source or emission unit.

(b) All emissions of pollutants subject to a standard shall be tested at the outlet from each individual affected source or emission unit while operating under the highest load or capacity reasonably expected to occur, and prior to the point that the emis-

sions are manifolded together with emissions from other affected sources or emission units.

(c) The combined emissions from all affected sources and emission units which are manifolded to a single emission control device shall be tested at the outlet of the emission control device.

(d) All tests at the outlet of the emission control device shall be conducted with all affected sources and emission units whose emissions are manifolded to the control device operating simultaneously under the highest load or capacity reasonably expected to occur.

(e) For purposes of demonstrating compliance of a commonly-ducted unit with any emission limit for a particular type of pollutant, the emissions of that pollutant by the individual unit shall be presumed to be controlled by the same percentage as total emissions of that pollutant from all commonly-ducted units are controlled at the outlet of the emission control device.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09; correction in (2) (a) made under s. 13.92 (4) (b) 7., Stats., Register December 2008 No. 636.

**NR 463.163 Performance test and compliance demonstration requirements and procedures. (1) ALUMINUM SCRAP SHREDDER.**

The owner or operator shall conduct performance tests to measure PM emissions at the outlet of the control system. If visible emission observations is the selected monitoring option, the owner or operator shall record visible emission observations from each exhaust stack for all consecutive 6-minute periods during the PM emission test according to the requirements of Method 9 in Appendix A to 40 CFR part 60, incorporated by reference in s. NR 484.04 (13).

**(2) THERMAL CHIP DRYER.** The owner or operator shall conduct a performance test to measure THC and D&F emissions at the outlet of the control device while the unit processes only unpainted aluminum chips.

**(3) SCRAP DRYER, DELACQUERING KILN AND DECOATING KILN.** (a) The owner or operator shall conduct performance tests to measure emissions of THC, D&F, HCl and PM at the outlet of the control device.

(b) If the scrap dryer, delacquering kiln or decoating kiln is subject to the alternative emission limits in s. NR 463.13 (5), the average afterburner operating temperature in each 3-hour block period shall be maintained at or above 760°C (1400°F) for the test.

(c) The owner or operator of a scrap dryer, delacquering kiln or decoating kiln subject to the alternative limits in s. NR 463.13 (5) shall submit a written certification in the notification of compliance status report containing the information required by s. NR 463.17 (2) (g).

**(4) GROUP 1 FURNACE WITH ADD-ON AIR POLLUTION CONTROL DEVICES.** (a) The owner or operator of a group 1 furnace that processes scrap other than clean charge materials with emissions controlled by a lime-injected fabric filter shall conduct performance tests to measure emissions of PM and D&F at the outlet of the control device and emissions of HCl at the outlet, for the emission limit, or the inlet and the outlet, for the percent reduction standard.

(b) The owner or operator of a group 1 furnace that processes only clean charge materials with emissions controlled by a lime-injected fabric filter shall conduct performance tests to measure emissions of PM at the outlet of the control device and emissions of HCl at the outlet, for the emission limit, or the inlet and the outlet, for the percent reduction standard.

(c) The owner or operator may choose to determine the rate of reactive flux addition to the group 1 furnace and assume, for the purposes of demonstrating compliance with the SAPU emission

limit, that all reactive flux added to the group 1 furnace is emitted. Under these circumstances, the owner or operator is not required to conduct an emission test for HCl.

(d) The owner or operator of a sidewall group 1 furnace that conducts reactive fluxing, except for cover flux, in the hearth, or that conducts reactive fluxing in the sidewall at times when the level of molten metal falls below the top of the passage between the sidewall and the hearth, shall conduct the performance tests required by par. (a) or (b), to measure emissions from both the sidewall and the hearth.

**(5) GROUP 1 FURNACE, INCLUDING MELTING AND HOLDING FURNACES, WITHOUT ADD-ON AIR POLLUTION CONTROL DEVICES.** (a) In the site-specific monitoring plan required by s. NR 463.15 (15), the owner or operator of a group 1 furnace, including a melting and holding furnace, without add-on air pollution control devices shall include data and information demonstrating compliance with the applicable emission limits.

(b) If the group 1 furnace processes material other than clean charge, the owner or operator shall conduct emission tests to measure emissions of PM, HCl and D&F at the furnace exhaust outlet.

(c) If the group 1 furnace processes only clean charge, the owner or operator shall conduct emission tests to simultaneously measure emissions of PM and HCl at the furnace exhaust outlet. A D&F test is not required. Each test shall be conducted while the group 1 furnace, including a melting and holding furnace, processes only clean charge.

(d) The owner or operator may choose to determine the rate of reactive flux addition to the group 1 furnace and assume, for the purposes of demonstrating compliance with the SAPU emission limit, that all reactive flux added to the group 1 furnace is emitted. Under these circumstances, the owner or operator is not required to conduct an emission test for HCl.

**(6) SWEAT FURNACE.** The owner or operator shall measure emissions of D&F from each sweat furnace at the outlet of the control device except that the owner or operator is not required to conduct a performance test to demonstrate compliance with the emission standard of s. NR 463.13 (6), provided that, on and after the compliance date established by s. NR 463.115, the owner or operator operates and maintains an afterburner with a design residence time of 0.8 seconds or greater and an operating temperature of 1600°F or greater.

**(7) DROSS-ONLY FURNACE.** The owner or operator shall conduct a performance test to measure emissions of PM from each dross-only furnace at the outlet of each control device while the unit processes only dross and salt flux as the sole feedstock.

**(8) IN-LINE FLUXER.** (a) The owner or operator of an in-line fluxer that uses reactive flux materials shall conduct a performance test to measure emissions of HCl and PM or otherwise demonstrate compliance in accordance with par. (b). If the in-line fluxer is equipped with an add-on control device, the emissions shall be measured at the outlet of the control device.

(b) The owner or operator may choose to limit the rate at which reactive chlorine flux is added to an in-line fluxer and assume, for the purposes of demonstrating compliance with the SAPU emission limit, that all chlorine in the reactive flux added to the in-line fluxer is emitted as HCl. Under these circumstances, the owner or operator is not required to conduct an emission test for HCl. If the owner or operator of any in-line flux box which has no ventilation ductwork manifolded to any outlet or emission control device chooses to demonstrate compliance with the emission limit for HCl by limiting use of reactive chlorine flux and assuming that all chlorine in the flux is emitted as HCl, compliance with the HCl limit shall also constitute compliance

with the emission limit for PM, and no separate emission test for PM is required. In this case, the owner or operator of the unvented in-line flux box shall utilize the maximum permissible PM emission rate for the in-line flux boxes when determining the total emissions for any SAPU which includes the flux box.

**(9) ROTARY DROSS COOLER.** The owner or operator shall conduct a performance test to measure PM emissions from a rotary dross cooler at the outlet of the control device.

**(10) SECONDARY ALUMINUM PROCESSING UNIT.** The owner or operator shall conduct performance tests as described in pars. (a) to (c). The results of the performance tests shall be used to establish emission rates in lb/ton of feed or charge for PM and HCl and  $\mu\text{g TEQ/Mg}$  of feed or charge for D&F emissions from each emission unit. These emission rates shall be used for compliance monitoring in the calculation of the 3-day, 24-hour rolling average emission rates using the equation in s. NR 463.15 (20). A performance test is required for:

(a) Each group 1 furnace processing only clean charge to measure emissions of PM and either of the following:

1. Emissions of HCl, for the emission limit.
2. The mass flow rate of HCl at the inlet to and outlet from the control device, for the percent reduction standard.

(b) Each group 1 furnace that processes scrap other than clean charge to measure emissions of PM and D&F and either of the following:

1. Emissions of HCl, for the emission limit.
2. The mass flow rate of HCl at the inlet to and outlet from the control device, for the percent reduction standard.

(c) Each in-line fluxer to measure emissions of PM and HCl.

**(11) FEED OR CHARGE WEIGHT MEASUREMENT.** During the emission tests conducted to determine compliance with emission limits in a kg/Mg (lb/ton) format, the owner or operator of an affected source or emission unit, subject to an emission limit in a kg/Mg (lb/ton) of feed or charge format, shall measure, or otherwise determine, and record the total weight of feed or charge to the affected source or emission unit for each of the 3 test runs and calculate and record the total weight. An owner or operator that chooses to demonstrate compliance on the basis of the aluminum production weight shall measure the weight of aluminum produced by the emission unit or affected source instead of the feed or charge weight.

**(12) CONTINUOUS OPACITY MONITORING SYSTEM.** The owner or operator of an affected source or emission unit using a continuous opacity monitoring system shall conduct a performance evaluation to demonstrate compliance with Performance Specification 1 in Appendix B to 40 CFR part 60, incorporated by reference in s. NR 484.04 (21). Following the performance evaluation, the owner or operator shall measure and record the opacity of emissions from each exhaust stack for all consecutive 6-minute periods during the PM emission test.

**(13) AFTERBURNER.** The owner or operator of an affected source using an afterburner to comply with the requirements of this subchapter shall do both of the following:

(a) Prior to the initial performance test, the owner or operator shall conduct a performance evaluation for the temperature monitoring device according to the requirements of s. NR 460.07.

(b) The owner or operator shall use the following procedures to establish an operating parameter value or range for the afterburner operating temperature:

1. Continuously measure and record the operating temperature of each afterburner every 15 minutes during the THC and D&F performance tests.

2. Determine and record the 15-minute block average temperatures for the 3 test runs.

3. Determine and record the 3-hour block average temperature measurements for the 3 test runs.

**(14) INLET GAS TEMPERATURE.** The owner or operator of a scrap dryer, delacquering kiln or decoating kiln or a group 1 furnace using a lime-injected fabric filter shall use the following procedures to establish an operating parameter value or range for the inlet gas temperature:

(a) Continuously measure and record the temperature at the inlet to the lime-injected fabric filter every 15 minutes during the HCl and D&F performance tests.

(b) Determine and record the 15-minute block average temperatures for the 3 test runs.

(c) Determine and record the 3-hour block average of the recorded temperature measurements for the 3 test runs.

**(15) FLUX INJECTION RATE.** The owner or operator shall use the following procedures to establish an operating parameter value or range for the total reactive chlorine flux injection rate:

(a) Continuously measure and record the weight of gaseous or liquid reactive flux injected for each 15-minute period during the HCl and D&F tests, determine and record the 15-minute block average weights, and calculate and record the total weight of the gaseous or liquid reactive flux for the 3 test runs.

(b) Record the identity, composition and total weight of each addition of solid reactive flux for the 3 test runs.

(c) Determine the total reactive chlorine flux injection rate by adding the recorded measurement of the total weight of chlorine in the gaseous or liquid reactive flux injected and the total weight of chlorine in the solid reactive flux using Equation 5:

$$W_t = F_1 W_1 + F_2 W_2 \quad (\text{Equation 5})$$

where:

$W_t$  is the total chlorine usage, by weight

$F_1$  is the fraction of gaseous or liquid flux that is chlorine

$W_1$  is the weight of reactive flux gas injected

$F_2$  is the fraction of solid reactive chloride flux that is chlorine

**Note:** For example,  $F_2$  is equal to 0.75 for magnesium chloride

$W_2$  is the weight of solid reactive flux

(d) Divide the weight of total chlorine usage ( $W_t$ ) for the 3 test runs by the recorded measurement of the total weight of feed for the 3 test runs.

(e) If a solid reactive flux other than magnesium chloride is used, the owner or operator shall derive the appropriate proportion factor subject to approval by the department.

**(16) LIME INJECTION.** The owner or operator of an affected source or emission unit using a lime-injected fabric filter system shall use the following procedures during the HCl and D&F tests to establish an operating parameter value for the feeder setting for each operating cycle or time period used in the performance test:

(a) For continuous lime injection systems, ensure that lime in the feed hopper or silo is free-flowing at all times.

(b) Record the feeder setting for the 3 test runs. If the feed rate setting varies during the runs, determine and record the average feed rate from the 3 runs.

**(17) BAG LEAK DETECTION SYSTEM.** The owner or operator of an affected source or emission unit using a bag leak detection system shall submit the information described in s. NR 463.17 (2) (f) as part of the notification of compliance status report to document conformance with the specifications and requirements in s. NR 463.15 (6).

(18) LABELING. The owner or operator of each scrap dryer, delacquering kiln or decoating kiln, group 1 furnace, group 2 furnace and in-line fluxer shall submit the information described in s. NR 463.17 (2) (c) as part of the notification of compliance status report to document conformance with the operational standard in s. NR 463.14 (2).

(19) CAPTURE AND COLLECTION SYSTEM. The owner or operator of a new or existing affected source or emission unit with an add-on control device shall submit the information described in s. NR 463.17 (2) (b) as part of the notification of compliance status report to document conformance with the operational standard in s. NR 463.14 (3).

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.166 Equations for determining compliance.**

(1) THC EMISSION LIMIT. The owner or operator of an emission unit subject to a THC emission limit shall use Equation 6 to determine compliance with the THC emission limit in s. NR 463.13:

$$E = \frac{C \times MW \times Q \times K_1 \times K_2}{M_v \times P \times 10^6} \quad (\text{Equation 6})$$

where:

E is the emission rate of measured pollutant, kg/Mg (lb/ton) of feed

C is the measured volume fraction of pollutant, ppmv

MW is the molecular weight of measured pollutant, g/g-mole (lb/lb-mole): THC, as propane, has a molecular weight of 44.11

Q is the volumetric flow rate of exhaust gases, dscm/hr (dscf/hr)

K<sub>1</sub> is the conversion factor, 1 kg/1,000 g (1 lb/lb)

K<sub>2</sub> is the conversion factor, 1,000 L/m<sup>3</sup> (1 ft<sup>3</sup>/ft<sup>3</sup>)

M<sub>v</sub> is the molar volume, 24.45 L/g-mole (385.3 ft<sup>3</sup>/lb-mole)

P is the production rate, Mg/hr (ton/hr)

(2) PM, HCL AND D&F EMISSION LIMITS. (a) The owner or operator of an emission unit subject to a PM or HCL emission limit shall use Equation 7 to determine compliance with the PM or HCL emission limit in s. NR 463.13:

$$E = \frac{C \times Q \times K_1}{P} \quad (\text{Equation 7})$$

where:

E is the emission rate of PM or HCL, kg/Mg (lb/ton) of feed

C is the concentration of PM or HCL, g/dscm (gr/dscf)

Q is the volumetric flow rate of exhaust gases, dscm/hr (dscf/hr)

K<sub>1</sub> is the conversion factor, 1 kg/1,000 g (1 lb/7,000 gr)

P is the production rate, Mg/hr (ton/hr)

(b) The owner or operator of an emission unit subject to a D&F emission limit shall use Equation 7A to determine compliance with the emission limit in s. NR 463.13:

$$E = \frac{C \times Q}{P} \quad (\text{Equation 7A})$$

where:

E is the emission rate of D&F, µg/Mg (gr/ton) of feed;

C is the concentration of D&F, µg/dscm (gr/dscf);

Q is the volumetric flow rate of exhaust gases, dscm/hr (dscf/hr); and

P is the production rate, Mg/hr (ton/hr).

(3) HCL PERCENT REDUCTION STANDARD. The owner or operator of an emission unit subject to the HCL percent reduction standard shall use Equation 8 to determine compliance with the HCL percent reduction standard in s. NR 463.13:

$$\%R = \frac{L_i - L_o}{L_i} \times 100 \quad (\text{Equation 8})$$

where:

%R is the percent reduction of the control device

L<sub>i</sub> is the inlet loading of pollutant, kg/Mg (lb/ton)

L<sub>o</sub> is the outlet loading of pollutant, kg/Mg (lb/ton)

(4) CONVERSION OF D&F MEASUREMENTS TO TEQ UNITS. To convert D&F measurements to TEQ units, the owner or operator shall use the procedures and equations in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA-625/3-89-016), incorporated by reference in s. NR 484.05 (12).

(5) SECONDARY ALUMINUM PROCESSING UNIT. The owner or operator of a secondary aluminum processing unit shall use the procedures in pars. (a) to (c) or the procedure in par. (d) to determine compliance with emission limits in s. NR 463.13 for a secondary aluminum processing unit.

(a) Use Equation 9 to compute the mass-weighted PM emissions for a secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit (E<sub>cPM</sub>) is less than or equal to the emission limit for the secondary aluminum processing unit (L<sub>cPM</sub>) calculated using Equation 1 in s. NR 463.13 (11).

$$E_{cPM} = \frac{\sum_{i=1}^n (E_{tiPM} \times T_{ti})}{\sum_{i=1}^n (T_{ti})} \quad (\text{Equation 9})$$

where:

E<sub>cPM</sub> is the mass-weighted PM emissions for the secondary aluminum processing unit

E<sub>tiPM</sub> is the measured PM emissions for individual emission unit i

T<sub>ti</sub> is the average feed rate for individual emission unit i during the operating cycle or performance test period

n is the number of emission units in the secondary aluminum processing unit

(b) Use Equation 10 to compute the aluminum mass-weighted HCL emissions for the secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit (E<sub>cHCL</sub>) is less than or equal to the emission limit for the secondary aluminum processing unit (L<sub>cHCL</sub>) calculated using Equation 2 in s. NR 463.13 (11).

$$E_{cHCL} = \frac{\sum_{i=1}^n (E_{tiHCL} \times T_{ti})}{\sum_{i=1}^n (T_{ti})} \quad (\text{Equation 10})$$

where:



$E_{c_{HCl}}$  is the mass-weighted HCl emissions for the secondary aluminum processing unit

$E_{ti_{HCl}}$  is the measured HCl emissions for individual emission unit  $i$

(c) Use Equation 11 to compute the aluminum mass-weighted D&F emissions for the secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit is less than or equal to the emission limit for the secondary aluminum processing unit. The emission limit for the secondary aluminum processing unit ( $L_{cD\&F}$ ) is calculated using Equation 3 in s. NR 463.13 (11).

$$E_{c_{D\&F}} = \frac{\sum_{i=1}^n (E_{ti_{D\&F}} \times T_{ti})}{\sum_{i=1}^n (T_{ti})} \quad (\text{Equation 11})$$

where:

$E_{c_{D\&F}}$  is the mass-weighted D&F emissions for the secondary aluminum processing unit

$E_{ti_{D\&F}}$  is the measured D&F emissions for individual emission unit  $i$

(d) As an alternative to using the equations in pars. (a) to (c), the owner or operator may demonstrate compliance for a secondary aluminum processing unit by demonstrating that each existing group 1 furnace is in compliance with the emission limits for a new group 1 furnace in s. NR 463.13 (9) and that each existing in-line fluxer is in compliance with the emission limits for a new in-line fluxer in s. NR 463.13 (10).

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.17 Notifications. (1) INITIAL NOTIFICATIONS.** The owner or operator shall submit initial notifications to the department as described in pars. (a) to (g).

(a) As required by s. NR 460.08 (2) (a), the owner or operator shall provide notification for an area source that subsequently increases its emissions such that the source is a major source subject to the standard.

(b) The owner or operator of a new or reconstructed affected source, or a source that has been reconstructed such that it is an affected source, that has an initial startup after September 24, 2002 and for which an application for approval of construction or reconstruction is not required under ch. NR 406, shall provide notification that the source is subject to the standard.

(c) As required by s. NR 460.08 (2) (d), the owner or operator of a new or reconstructed major affected source that has an initial startup after September 24, 2002 and for which an application for approval of construction or reconstruction is required by ch. NR 406 shall provide all the following notifications:

1. Intention to construct a new major affected source, reconstruct a major source or reconstruct a major source such that the source becomes a major affected source.

2. Date when construction or reconstruction was commenced, submitted simultaneously with the application for approval of construction or reconstruction if construction or reconstruction was commenced before September 24, 2002, or no later than 30 days after the date construction or reconstruction com-

menced if construction or reconstruction commenced after September 24, 2002.

3. Anticipated date of startup.

4. Actual date of startup.

(d) As required by s. NR 460.08 (2) (d), after September 24, 2002, an owner or operator who intends to construct a new affected source or reconstruct an affected source subject to this subchapter, or reconstruct a source such that it becomes an affected source subject to this subchapter, shall provide notification of the intended construction or reconstruction. The notification shall include all the information required for an application for approval of construction or reconstruction as required by ch. NR 406. For major sources, the application for approval of construction or reconstruction may be used to fulfill these requirements. The application shall be submitted according to one of the following, as applicable:

1. The application shall be submitted as soon as practicable before the construction or reconstruction is planned to commence, but no sooner than September 24, 2002, if the construction or reconstruction commences after September 24, 2002.

2. The application shall be submitted as soon as practicable before startup but no later than 90 days after September 24, 2002 if the construction or reconstruction had commenced and initial startup had not occurred before September 24, 2002.

(e) As required by s. NR 460.08 (4), the owner or operator shall provide notification of any special compliance obligations for a new source.

(f) As required by s. NR 460.08 (5) and (6), the owner or operator shall provide notification of the anticipated date for conducting performance tests and visible emission observations. The owner or operator shall notify the department of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test shall be provided at least 30 days before the observations are scheduled to take place.

(g) As required by s. NR 460.08 (7), the owner or operator shall provide additional notifications for sources with continuous emission monitoring systems or continuous opacity monitoring systems.

**(2) NOTIFICATION OF COMPLIANCE STATUS REPORT.** Each owner or operator of an existing affected source shall submit a notification of compliance status report within 60 days after the compliance date established by s. NR 463.115 (1). Each owner or operator of a new affected source shall submit a notification of compliance status report within 90 days after conducting the initial performance test required by s. NR 463.16 (2), or within 90 days after the compliance date established by s. NR 463.115 (2) if no initial performance test is required. The notification shall be signed by the responsible official who shall certify its accuracy. A notification of compliance status report shall include the information specified in pars. (a) to (j). The required information may be submitted in an operation permit application, in an amendment to an operation permit application, in a separate submittal, or in any combination. If an owner or operator submits the information specified in this section at different times or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the information previously submitted. A notification of compliance status report shall include:

(a) All information required in s. NR 460.08 (8). The owner or operator shall provide a complete performance test report for each affected source and emission unit for which a performance test is required. A complete performance test report includes all data, associated measurements, and calculations, including visible emission and opacity tests.

(b) The approved site-specific test plan and performance evaluation test results for each continuous monitoring system, including a continuous emission or opacity monitoring system.

(c) Unit labeling as described in s. NR 463.14 (2), including process type or furnace classification and operating requirements.

(d) The compliant operating parameter value or range established for each affected source or emission unit with supporting documentation and a description of the procedure used to establish the value, such as lime injection rate, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, including the operating cycle or time period used in the performance test.

(e) Design information and analysis, with supporting documentation, demonstrating conformance with the requirements for capture and collection systems in s. NR 463.14 (3).

(f) If applicable, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in s. NR 463.15 (6).

(g) Manufacturer's specification or analysis documenting the design residence time of no less than one second for each afterburner used to control emissions from a scrap dryer, delacquering kiln or decoating kiln subject to alternative emission standards in s. NR 463.13 (5).

(h) Manufacturer's specification or analysis documenting the design residence time of no less than 0.8 seconds and design operating temperature of no less than 1,600°F for each afterburner used to control emissions from a sweat furnace that is not subject to a performance test.

(i) The operation, maintenance and monitoring (OM&M) plan, including site-specific monitoring plan for each group 1 furnace with no add-on air pollution control device.

(j) Startup, shutdown and malfunction plan, with revisions.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09; correction in (1) (b) made under s. 13.92 (4) (b) 7., Stats., Register December 2008 No. 636.

**NR 463.18 Reports.** (1) **STARTUP, SHUTDOWN AND MALFUNCTION PLAN AND REPORTS.** The owner or operator shall develop a written plan as described in s. NR 460.05 (4) (c) that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown and malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the standard. The owner or operator shall also keep records of each event as required by s. NR 460.09 (2) and record and report if an action taken during a startup, shutdown or malfunction is not consistent with the procedures in the plan as described in s. NR 460.05 (4) (c). In addition to the information required in s. NR 460.05 (4) (c), the plan shall include both of the following:

(a) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended.

(b) Corrective actions to be taken in the event of a malfunction of a process or control device, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

(2) **EXCESS EMISSIONS AND SUMMARY REPORT.** The owner or operator shall submit semiannual reports according to the requirements in s. NR 460.09 (5) (c), except that the semiannual reports shall be submitted within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in s. NR 460.09 (5) (c) 5. When no deviations of parameters have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the report-

ing period. Reports shall be submitted in accordance with all of the following:

(a) A report shall be submitted if any of the following conditions occur during a 6-month reporting period:

1. The corrective action specified in the operation, maintenance and monitoring (OM&M) plan for a bag leak detection system alarm was not initiated within one hour.

2. The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within one hour.

3. The corrective action specified in the OM&M plan for visible emissions from an aluminum scrap shredder was not initiated within one hour.

4. An excursion of a compliant process or operating parameter value or range, including lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap or other approved operating parameter.

5. An action taken during a startup, shutdown or malfunction was not consistent with the procedures in the plan as described in s. NR 460.05 (4) (c).

6. An affected source, including an emission unit in a secondary aluminum processing unit, was not operated according to the requirements of this subchapter.

7. A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit.

(b) Each report shall include each of these certifications, as applicable:

1. For each thermal chip dryer: "Only unpainted aluminum chips were used as feedstock in any thermal chip dryer during this reporting period."

2. For each dross-only furnace: "Only dross and salt flux were used as the charge material in any dross-only furnace during this reporting period."

3. For each sidewall group 1 furnace with add-on air pollution control devices: "Each furnace was operated such that the level of molten metal remained above the top of the passage between the sidewall and hearth during reactive fluxing, and reactive flux, except for cover flux, was added only to the sidewall or to a furnace hearth equipped with an add-on air pollution control device for PM, HCl, and D&F emissions during this reporting period."

4. For each group 1 melting and holding furnace without add-on air pollution control devices and using pollution prevention measures that processes only clean charge material: "Each group 1 furnace without add-on air pollution control devices subject to emission limits in s. NR 463.13 (9) (b) processed only clean charge during this reporting period."

5. For each group 2 furnace: "Only clean charge materials were processed in any group 2 furnace during this reporting period, and no fluxing was performed or all fluxing performed was conducted using only nonreactive, non-HAP-containing and non-HAP-generating fluxing gases or agents, except for cover fluxes, during this reporting period."

6. For each in-line fluxer using no reactive flux: "Only non-reactive, non-HAP-containing, non-HAP-generating flux gases, agents, or materials were used at any time during this reporting period."

(c) The owner or operator shall submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation and monitoring parameter ranges or values for

each test method used for a particular type of emission point tested.

**(3) ANNUAL COMPLIANCE CERTIFICATIONS.** For the purpose of annual certifications of compliance required by s. NR 439.03 (1) (c), the owner or operator shall certify continuing compliance based upon, but not limited to, both of the following conditions:

(a) Any and all periods of excess emissions, as defined in subd. (2) (a), that occurred during the year were reported.

(b) All monitoring, recordkeeping and reporting requirements were met during the year.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.19 Records. (1)** (a) The owner or operator shall maintain files of all information, including all reports and notifications, required by s. NR 460.09 (2) and this subchapter.

(b) The owner or operator shall retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record. The most recent 2 years of records shall be retained at the facility. The remaining 3 years of records may be retained off site.

(c) The owner or operator may retain records on microfilm, computer disks, magnetic tape or microfiche.

(d) The owner or operator may report required information on paper or on a labeled computer disk using commonly available and department compatible computer software.

**(2)** In addition to the general records required by s. NR 460.09 (2), the owner or operator of a new or existing affected source, including an emission unit in a secondary aluminum processing unit, shall maintain records of all of the following:

(a) For each affected source and emission unit with emissions controlled by a fabric filter or a lime-injected fabric filter each of the following as applicable:

1. If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed and a brief description of the cause of the alarm and the corrective actions taken.

2. If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5%, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed and the corrective action taken.

3. If an aluminum scrap shredder is subject to visible emission observation requirements, records of all observations made using Method 9 in Appendix A to 40 CFR part 60, incorporated by reference in s. NR 484.04 (13), including records of any visible emissions during a 30-minute daily test, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed and the corrective action taken.

(b) For each affected source with emissions controlled by an afterburner, both of the following:

1. Records of 15-minute block average afterburner operating temperature, including any period when the average temperature in any 3-hour block period falls below the compliant operating parameter value with a brief explanation of the cause of the excursion and the corrective action taken.

2. Records of annual afterburner inspections.

(c) For each scrap dryer, delacquering kiln or decoating kiln and group 1 furnace, subject to D&F and HCl emission standards

with emissions controlled by a lime-injected fabric filter, records of 15-minute block average inlet temperatures for each lime-injected fabric filter, including any period when the 3-hour block average temperature exceeds the compliant operating parameter value +14°C (+25°F), with a brief explanation of the cause of the excursion and the corrective action taken.

(d) For each affected source and emission unit with emissions controlled by a lime-injected fabric filter, the requirements in subd. 1. and either subd. 2. or 3.:

1. Records of inspections at least once every 8-hour period verifying that lime is present in the feeder hopper or silo and flowing, including any inspection where blockage is found, with a brief explanation of the cause of the blockage and the corrective action taken, and records of inspections at least once every 4-hour period for the subsequent 3 days. If flow monitors, pressure drop sensors or load cells are used to verify that lime is present in the hopper and flowing, records of all monitor or sensor output including any event where blockage was found, with a brief explanation of the cause of the blockage and the corrective action taken.

2. If the lime feeder setting is monitored, records of daily inspections of feeder setting, including records of any deviation of the feeder setting from the setting used in the performance test, with a brief explanation of the cause of the deviation and the corrective action taken.

3. If the lime addition rate for a noncontinuous lime injection system is monitored pursuant to the approved alternative monitoring requirements in s. NR 463.15 (22), records of the time and mass of each lime addition during each operating cycle or time period used in the performance test and calculations of the average lime addition rate in lb/ton of feed or charge.

(e) For each group 1 furnace, with or without add-on air pollution control devices, or in-line fluxer, records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations, including records of the identity, composition and weight of each addition of gaseous, liquid or solid reactive flux, including records of any period the rate exceeds the compliant operating parameter value and corrective action taken.

(f) For each continuous monitoring system, records required by s. NR 460.09 (3).

(g) For each affected source and emission unit subject to an emission standard in kg/Mg (lb/ton) of feed or charge, records of feed or charge, or throughput, weights for each operating cycle or time period used in the performance test.

(h) Approved site-specific monitoring plan for a group 1 furnace without add-on air pollution control devices with records documenting conformance with the plan.

(i) Records of all charge materials for each thermal chip dryer, dross-only furnace, and group 1 melting and holding furnaces without air pollution control devices processing only clean charge.

(j) Operating logs for each group 1 sidewall furnace with add-on air pollution control devices documenting conformance with operating standards for maintaining the level of molten metal above the top of the passage between the sidewall and hearth during reactive flux injection and for adding reactive flux only to the sidewall or a furnace hearth equipped with a control device for PM, HCl and D&F emissions.

(k) For each in-line fluxer for which the owner or operator has certified that no reactive flux was used, one of the following:

1. Operating logs which establish that no source of reactive flux was present at the in-line fluxer.

2. Labels required pursuant to s. NR 463.14 (2) which establish that no reactive flux may be used at the in-line fluxer.

3. Operating logs which document each flux gas, agent or material used during each operating cycle.

(L) Records of all charge materials and fluxing materials or agents for a group 2 furnace.

(m) Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements.

(n) Records of annual inspections of emission capture and collection and closed vent systems.

(o) Records for any approved alternative monitoring or test procedure.

(p) Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including all of the following:

1. Startup, shutdown and malfunction plan.
2. Operation, maintenance and monitoring (OM&M) plan.
3. Site-specific secondary aluminum processing unit emission plan, if applicable.

(q) For each secondary aluminum processing unit, records of total charge weight, or if the owner or operator chooses to comply on the basis of aluminum production, total aluminum produced for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09.

**NR 463.20 Applicability of general provisions.** The requirements of the general provisions in ch. NR 460 that are applicable to the owner or operator subject to the requirements of this subchapter are shown in ch. NR 460 Appendix RRR.

**History:** CR 04-023: cr. Register December 2008 No. 636, eff. 1-1-09; correction made under s. 13.92 (4) (b) 1., Stats., Register December 2008 No. 636; correction made under s. 35.17, Stats., Register June 2015 No. 714.

### 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.

**History:** CR 06-110: cr. Register July 2007 No. 619, eff. 8-1-07.

**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 fil-

ter 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.

**History:** CR 06-110: cr. Register July 2007 No. 619, eff. 8-1-07.

**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 463.22 (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 on-site 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 con-



sistent 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.

**History:** CR 06-110: cr. Register July 2007 No. 619, eff. 8-1-07.

#### **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. Chapter NR 460 Appendix EEEEE shows which parts of the general provisions in ch. NR 460 apply to you.

**History:** CR 06-110: cr. Register July 2007 No. 619, eff. 8-1-07; correction in (2) made under s. 35.17, Stats., Register June 2015 No. 714.

**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 ap-

plies 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 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)

$C_{CEM}$  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 463.26 (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 463.26 (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 463.26 (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 463.23 (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) (d) 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.

**History:** CR 06-110: cr. Register July 2007 No. 619, eff. 8-1-07.

### **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) 1., 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) 2.

(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 con-

tinuously 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).

**History:** CR 06-110: cr. Register July 2007 No. 619, eff. 8-1-07.

**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 dif-

ferent 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.

**History:** CR 06-110: cr. Register July 2007 No. 619, eff. 8-1-07.