INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: August 15, 2008

RE: Harrison Steel Castings Company / 045-25426-00002

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

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Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNTV-PMOD.doc 3/27/08

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August 15, 2008

Mr. Pete Bodine
Harrison Steel Castings Company
900 N Mound St, P.O. Box 60
Attica, IN 47918

Re: 045-25426-00002
Significant Permit Modification to
Part 70 Renewal No.: T 045-22716-00002

Dear Mr. Bodine:

Harrison Steel Castings Company was issued Part 70 Operating Permit Renewal No. T 045-22716-00002 on June 2, 2008 for a stationary steel and ductile iron casting plant. Pursuant to the provisions of 326 IAC 2-7-12, a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of incorporating the revised VOC PSD BACT limits for the Airset molding line pouring and castings cooling operations and for the mold sand mixer associated with the Airset molding line mold making operations into the Part 70 Operating Permit.

For your convenience, the entire Part 70 Operating Permit as modified has been provided.

This decision is subject to the Indiana Administrative Orders and Procedures Act – IC 4-21.5-3-5. If you have any questions on this matter, please contact Laura Spriggs, OAQ, 100 North Senate Avenue, MC 61-53 1003 IGCN, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Laura Spriggs or extension (3-5693), or dial (317) 233-5693.

Sincerely,

Original document signed by

Matthew Stuckey, Chief
Permits Branch
Office of Air Quality

Attachments:
Updated Permit
Technical Support Document
PTE Calculations
BACT Analysis

MS/lss

cc: File – Fountain County
Fountain County Health Department
U.S. EPA, Region V
Air Compliance Inspector
Compliance Data Section

Permits Administration and Development
IDEM Office of Enforcement - Janusz Johnson

Mr. Robert S. Harrison
Harrison Steel Castings Company
900 N Mound St, P.O. Box 60
Attica, IN 47918

Ms. Erin Surinak
ERM
11350 N. Meridian St, Suite 220
Indianapolis, IN 46032

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PART 70 OPERATING PERMIT RENEWAL
OFFICE OF AIR QUALITY

Harrison Steel Castings Company
900 North Mound Street
Attica, Indiana 47918

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T045-22716-00002	
Issued By/Original Signed By: Matthew Stuckey, Branch Chief Permits Branch Office of Air Quality	Issuance Date: June 2, 2008 Expiration Date: June 2, 2013

First Administrative Amendment No.: 045-26622-00002, issuance pending

First Significant Permit Modification No.: 045-25426-00002	
Issued by: *Original document signed by* Matthew Stuckey, Branch Chief Permits Branch Office of Air Quality	Issuance Date: August 15, 2008 Expiration Date: June 2, 2013

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary steel and ductile iron castings plant.

Source Address:	900 North Mound Street, Attica, Indiana 47918
Mailing Address:	P.O. Box 60, Attica, Indiana 47918
SIC Code:	3325, 3321
County Location:	Fountain County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD; Major Source, under Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) The scrap and charge handling process, constructed in 1951, with a maximum capacity of 24.5 tons of steel per hour, with emissions uncontrolled exhausting through stacks S8 and S10.

(b) The melting process consisting of the following:

(1) One (1) electric arc furnace, identified as EAF2, constructed in 1951 with a maximum melt rate of 4.5 tons of steel or iron per hour with emissions controlled by one (1) baghouse, identified as DC4, exhausting through stack DC4.

(2) One (1) electric arc furnace, identified as EAF3, constructed prior to October 1974 with a maximum melt rate of 10 tons of steel or iron per hour with emissions controlled by one (1) baghouse, identified as DC5, exhausting through stack DC5.

(3) One (1) electric arc furnace, identified as EAF4, constructed in 1989 with a maximum melt rate of 10 tons of steel or iron per hour with emissions controlled by one (1) baghouse, identified as DC40, exhausting through stack DC40.

Note: Two (2) baghouses identified as DC38 and DC42 are used to control fugitive melt shop particulate emissions at the roof monitor.

(c) The pouring, cooling, and shakeout operations consisting of the following:

(1) One (1) pouring/casting operation, identified as Floor Molding, constructed in or before 1951 with a maximum capacity of 20 tons of melted steel per hour and 183.68 tons of sand per hour with emissions uncontrolled.

(2) One (1) casting cooling operation, identified as Floor Molding, constructed in or before 1951 with a maximum capacity of 20 tons of melted steel per hour and 183.68 tons of sand per hour with emissions uncontrolled.

(3) One (1) pouring/casting operation, identified as #2 EAF Steel, constructed in 1950, with a maximum capacity of 4.5 tons of melted steel per hour and 24.32 tons of sand per hour with emissions uncontrolled.

(4) One (1) casting cooling operation, identified as #2 EAF Steel, constructed in 1950, with a maximum capacity of 4.5 tons of melted steel per hour and 24.32 tons of sand per hour with emissions uncontrolled.

(5) One (1) shakeout system, identified as North Shakeout, constructed in 2007, with a maximum capacity of 4.5 tons of steel per hour and 8 tons of sand per hour with emissions controlled by three (3) baghouses, identified as DC2, DC3 and DC39.

(d) One (1) magnesium treatment operation for producing ductile iron castings, identified as DCTLE, constructed in 1987, with a maximum capacity of 4.5 tons of steel per hour with emissions uncontrolled.

(e) The shot blasting operations consisting of the following;

(1) One (1) twin table blast machine, identified as L3/4 - STT, constructed in 1961, with a maximum capacity of 25 tons of steel per hour with emissions controlled by baghouse DC18.

(2) One (1) blast machine, identified as LN4-3 Wheel Blast, constructed in 2006, with a maximum capacity of 25 tons of steel per hour with emissions controlled by baghouse DC16.

(3) One (1) Nelle Belle shotblast machine, identified as Nelle, constructed in 1955 with a maximum capacity of 60 tons of steel per hour with emissions controlled by a baghouse, identified as DC7.

(4) One (1) Wheelabrator Frye shotblast machine, identified as #16 Monorail, constructed in 1976 with a maximum capacity of 25.7 tons of metal per hour with emissions controlled by a baghouse, identified as DC17.

(5) Two (2) room blast machines, identified as LN3-Rm and LN5-S Rm, constructed in 1962 and 1967, respectively, with a maximum capacity of 8 tons of steel per hour, each, with emissions from LN3-RM controlled by baghouse DC30 and emissions from LN5-S Rm controlled by baghouse DC28.

(6) One (1) room blast machine, identified as LN5-N, constructed in 1960 with a maximum capacity of 10 tons of steel per hour with emissions controlled by a baghouse, identified as DC11.

(7) One (1) room blast machine, identified as LN2-N, constructed in 1981 with a maximum capacity of 13 tons of steel per hour with emissions controlled by a baghouse, identified as DC23.

(8) One (1) tumble blast machine, identified as LN1-TMBL, constructed in 1945 with maximum capacity of 4.5 tons of steel per hour with emissions controlled by a baghouse, identified as DC10.

(9) One (1) blast machine, identified as LN7-3 wheel blast, constructed in 2004 with a maximum capacity of 25 tons of steel per hour with emissions controlled by a baghouse, identified as DC8.

(10) One (1) monorail blast machine, identified as #18 Monorail, constructed in 1980 with a maximum capacity of 11.4 tons of steel per hour with emissions controlled

by a baghouse, identified as DC21.

(11) One (1) room blast machine, identified as LN2-S Rm, constructed in 1979 with a maximum capacity of 7 tons of steel per hour with emissions controlled by a baghouse, identified as DC33.

(12) One (1) chill room tumble blast machine, identified as Chill Tmbl, constructed July 1,1977, with a maximum capacity of 11.4 tons of steel per hour with emissions controlled by a baghouse, identified as DC6.

(13) One (1) chill room cabinet blast machine, identified as Chill Cbnt, constructed in 1978 with a maximum capacity of 11.4 tons of steel per hour with emissions controlled by a baghouse, identified as DC6.

(14) One (1) pangborn rotoblast machine, identified as LN2-T, constructed in 2005 with a maximum capacity of 6 tons of steel per hour with emissions controlled by baghouse, identified as DC-22.

(f) One (1) sand handling system, identified as North Lumpbreaker, constructed in 1988 and modified in 1994 with a maximum capacity of 8 tons of sand per hour with emissions controlled by a baghouse, identified as DC41.

(g) One (1) sand handling system, identified as Core Sands System, constructed in 1967 and modified in 1988, with a maximum capacity of 5 tons of sand per hour, consisting of one silo controlled by a bin vent filter and one hopper controlled by a bin vent filter and vented internally, and equipped with a muller, identified as 1.5G Muller.

(h) Core and mold making operations consisting of the following:

(1) One (1) Airset core making process, identified as Jordan, consisting of two (2) core sand mixers, one constructed in 1989, identified as Small Airset Mixer, and the other constructed in 2005 identified as Zircon Mixer, with maximum capacities of 9 tons of sand per hour and 6 tons of sand per hour, respectively.

(2) One (1) Floor Molding Machine equipped with a mixer, constructed in 1994 with a maximum capacity of 45 tons of sand per hour with emissions uncontrolled.

(3) One (1) Airset core making machine equipped with a mixer, identified as Snap, constructed in 1992 with a maximum capacity of 9 tons of sand per hour with emissions uncontrolled.

(4) Five (5) Oil Sand core making benches, constructed in 1959, each with a maximum capacity of 0.4 tons of oil sand per hour or 0.6 tons of CO_2 sand per hour.

(5) Two (2) Shell core making machines, constructed in 1962 and 1973, each with a maximum capacity of 0.075 tons of sand per hour.

(6) One (1) Shell core making machine constructed in 1976, with a maximum capacity of 0.125 tons of sand per hour.

(7) One (1) Airset core making machine equipped with a mixer, identified as Medium Airset Core, constructed in 1976, with a maximum capacity of 16.5 tons of sand per hour.

(8) One (1) core wash process, constructed prior to 1977, with emissions uncontrolled and exhausting internally.

(i) One (1) natural gas-fired surface combustion heat treat furnace, identified as L7SC, constructed in 1997 with a maximum capacity of 24.5 million British thermal units per hour, with emissions uncontrolled.

(j) One (1) Airset molding line rated at a maximum steel production rate of 15.73 tons of steel or iron per hour and 47.2 tons of sand per hour. The Airset molding line consists of the following processes/equipment:

(1) pouring operations, constructed in 2001, with a maximum capacity of 15.73 tons of steel or ductile iron per hour and 47.2 tons of sand per hour, with emissions uncontrolled and exhausting through stacks S37through S42;

(2) castings cooling operations, constructed in 2001, with a maximum capacity of 15.73 tons of steel or ductile iron per hour and 47.2 tons of sand per hour, with emissions uncontrolled and exhausting through stacks S37through S42;

(3) shakeout operations, constructed in 2001, with a maximum capacity of 15.73 tons of steel or ductile iron per hour and 47.2 tons of sand per hour, with particulate emissions controlled by two (2) baghouses, identified as DC9 and DC12, and exhausting to stacks DC9 and DC12, respectively;

(4) sand handling operations, constructed in 2001, with a maximum capacity of 47.2 tons of sand per hour, with emissions controlled by a baghouse identified as DC46, and exhausting to stack DC46. The sand handling system consists of the following equipment:

(A) six sand storage silos, each controlled by a bin vent;
(B) four (4) sand heaters;
(C) covered pneumatic conveyors for transporting sand from silos to mixer;

(5) mechanical reclaim operations, constructed in 2001, with a maximum capacity of 47.2 tons of sand per hour, with emissions controlled by a baghouse identified as DC45 and exhausting to stack DC45;

(6) one natural gas fired thermal reclaimer, constructed in 2001, with a maximum heat input capacity of 2.83 million Btu per hour, with a maximum capacity of 2.85 tons of sand per hour, with emissions controlled by a baghouse identified as DC46 and exhausting to stack DC46;

(7) phenolic urethane no-bake mold making operations, constructed in 2001, with a maximum capacity of 47.2 tons of sand per hour. The mold making operation consists of the following equipment.

(A) one enclosed mixer for combining mold sand with resin, with VOC emissions controlled by the thermal sand reclaimer;
(B) strike off operations;
(C) rollover draw/strip operations;
(D) one natural gas fired preheat tunnel with a maximum heat input capacity of 0.8 million Btu per hour;
(E) mold wash operations with a maximum capacity of 230.69 pounds of mold wash per hour, which is equivalent to 11.34 gallons of mold wash per hour;
(F) one natural gas fired drying (curing) oven, with a maximum heat input capacity of 3.2 million Btu per hour; and
(G) one mold closer process which puts the two halves of the mold together.

Note: Each individual shakeout unit has a maximum design capacity of 10 tons of metal per hour; however, the pouring and cooling operations bottleneck the shakeout process,

such that the total hourly rate at shakeout cannot exceed 15.73 tons of metal per hour.

(k) One core line, identified as “Over 500 lb Core Line”, constructed in 2006, including:

(1) one (1) phenolic urethane no bake mold making machine with a maximum capacity of 45 tons per hour;

(2) one (1) sand mixer with a maximum capacity of 45 tons per hour;

(3) one (1) 350-ton sand storage silo;

(4) two (2) 100 ton sand storage silo;

(5) one (1) sand transporter;

(6) two (2) compaction tables; and

(7) two (2) sand heaters

the sand silos and sand mixer are controlled by two (2) bin vents.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Machining where an aqueous cutting coolant continuously floods the machining interface. [326 IAC 6-3-2]

(b) Furnaces used for melting metals other than beryllium with a brim full capacity of less than or equal to 450 cubic inches by volume. [326 IAC 6-3-2]

(c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]

(1) Grinding machines each with a maximum capacity of 18.9 pounds per hour with emissions controlled by baghouses, identified as DC13, DC14, DC26, and DC37.

(2) One (1) pattern woodworking shop with emissions controlled by a roto-clone, identified as DC1.

(d) Flame cutting - natural gas and oxygen torch to remove gates, spurs, and rizers. [326 IAC 6-3-2]

(e) Flame wash - arc welding like torch to smooth castings after flame cutting. [326 IAC 6-3-2]

(f) One (1) paint booth for coating metal castings, constructed prior to 1977, utilizing air assisted airless spray type, with VOC emissions uncontrolled and overspray controlled by using a filter wall, with emissions exhausting to stack S154. [326 IAC 6-3-2(d)]

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22); and

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

(a) This permit, T045-22716-00002, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ , within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by

the "responsible official" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form or its equivalent, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) The "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information

on each facility:

(1) Identification of the individual(s), by job title, responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-0178 (ask for Compliance Section)
Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue

MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(h) The Permittee shall include all emergencies lasting one (1) hour or more in the Quarterly Deviation and Compliance Monitoring Report unless the emergency report made pursuant to Condition B.11(b)(5) included a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit

under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T045-22716-00002 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ, determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.17 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12][40 CFR 72]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.20 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b),(c), or (e) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b),(c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.21 Source Modification Requirement [326 IAC 2-7-10.5] [326 IAC 2-2-2] [326 IAC 2-3-2]

(a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2 and/or 326 IAC 2-3-2.

B.22 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.23 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.25 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the emission limitation, standard, or rule if the appropriate performance or compliance test or procedure had been performed.

SECTION C **SOURCE OPERATION CONDITIONS**

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Matter Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3(a)(2)(D) and (E), 4-1-3(b)(2)(A) and (B), 4-1-3(b)(3)(D), 4-1-3(b)(4) and (5); 4-1-3(c)(1)(B)-(F), 4-1-3(c)(2)(B), 4-1-3(c)(6), 4-1-3(c)(8), and 4-1-6 are not federally enforceable.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or

before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue,
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

(d) The Permittee may request an extension of a deadline to conduct testing as provided by 40 CFR 60.8, 61.13, or 63.7.

(e) In addition to any other testing required by this permit, if at any time the Permittee replaces a control device that is used to comply with an emission limitation listed in Section D, then the Permittee shall conduct a performance test no later than one hundred eighty (180) days after installation of the replacement control device in accordance with this Condition C.8.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on March 18, 1999.

(b) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level.
[326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to within the indicator range,

designated condition, or below the applicable emission limitation or standard, as applicable.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records;

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

(a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1 (32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:
Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

(c) If there is a reasonable possibility (as defined in 40 CFR 51.165 (a)(6)(vi)(A), 40 CFR 51.165 (a)(6)(vi)(B), 40 CFR 51.166 (r)(6)(vi)(a), and/or 40 CFR 51.166 (r)(6)(vi)(b)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section

326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 40 CFR 51.165 (a)(6)(vi)(A) and/or 40 CFR 51.166 (r)(6)(vi)(a)) that a “project” (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

(f) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C- General Record Keeping Requirements for any “project” (as defined in 326 IAC 2-2-

1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ :

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(xx) and/or 326 IAC 2-3-1(qq), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(ii).

(g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C- General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Air Compliance Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(a) The scrap and charge handling process, constructed in 1951 with a maximum capacity of 24.5 tons of steel per hour, with emissions uncontrolled exhausting through stacks S8 and S10.

Note: Emissions from the scrap yard are fugitive emissions.

(b) One (1) electric arc furnace, identified as EAF2, constructed in 1951 with a maximum melt rate of 4.5 tons of steel or iron per hour with emissions controlled by one (1) baghouse, identified as DC4, exhausting through stack DC4.

(c) One (1) electric arc furnace, identified as EAF3, constructed prior to October 1974 with a maximum melt rate of 10 tons of steel or iron per hour with emissions controlled by one (1) baghouse, identified as DC5, exhausting through stack DC5.

(d) One (1) electric arc furnace, identified as EAF4, constructed in 1989 with a maximum melt rate of 10 tons of steel or iron per hour with emissions controlled by one (1) baghouse, identified as DC40, exhausting through stack DC40.

Note: Two (2) baghouses identified as DC38 and DC42 are used to control fugitive melt shop particulate emissions at the roof monitor.

(The information describing the processes contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the following condition shall apply:

The particulate emission rate from the scrap and charge handling process shall not exceed 35.0 pounds per hour when operating at a process weight rate of 24.5 tons of charge materials per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The PM emissions from the baghouse DC40 controlling the electric arc furnace (EAF4) shall not exceed 5.48 pounds per hour.

(b) The PM10 emissions from the baghouse DC40 controlling the electric arc furnace (EAF4) shall not exceed 3.20 pounds per hour.

Compliance with these limits will limit PM and PM10 emissions to less than 25 and 15 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply to 1989 modification.

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these electric arc furnaces and all baghouses listed in this section. The Operation and Maintenance Plan required pursuant to 40 CFR 63.7710 will satisfy the requirements of a Preventive Maintenance Plan for these units.

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [40 CFR 60.275a][326 IAC 2-1.1-11]

Before August 15, 2012, the Permittee shall perform PM and PM10 testing for baghouse DC40 controlling the electric arc furnace EAF4 using methods as approved by the Commissioner, in order to demonstrate compliance with Condition D.1.2. These tests shall be repeated at least once every five (5) years from the date of a valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

D.1.5 Particulate Control

In order to comply with the requirements of Conditions D.1.1 and D.1.2, the following conditions shall apply:

(a) The baghouses DC40 and DC42 for PM and PM10 control shall be in operation at all times when the electric arc furnace EAF4 is in operation.

(b) The baghouses DC42 and DC38 for PM and PM10 control shall be in operation at all times while oxygen lancing is conducted.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The pouring, cooling, and shakeout operations consisting of the following:

(a) One (1) pouring/casting operation, identified as Floor Molding, constructed in or before 1951 with a maximum capacity of 20 tons of melted steel per hour and 183.68 tons of sand per hour with emissions uncontrolled.

(b) One (1) casting cooling operation, identified as Floor Molding, constructed in or before 1951 with a maximum capacity of 20 tons of melted steel per hour and 183.68 tons of sand per hour with emissions uncontrolled.

(c) One (1) pouring/casting operation, identified as #2 EAF Steel, constructed in 1950, with a maximum capacity of 4.5 tons of melted steel per hour and 24.32 tons of sand per hour with emissions uncontrolled.

(d) One (1) casting cooling operation, identified as #2 EAF Steel, constructed in 1950, with a maximum capacity of 4.5 tons of melted steel per hour and 24.32 tons of sand per hour with emissions uncontrolled.

(e) One (1) shakeout system, identified as North Shakeout, constructed in 2001 and modified in 2007, with a maximum capacity of 4.5 tons of steel per hour and 8 tons of sand per hour with emissions controlled by three (3) baghouses, identified as DC2, DC3 and DC-39.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 BACT for VOC [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6 (BACT), the Permittee shall comply with the following BACT requirements:

(a) The VOC emissions from the north shakeout operation shall be limited to 3.32 pounds per ton of metal, and the resin content in the mold shall not exceed 1.23% by weight.

(b) The metal throughput to the North Shakeout shall be limited to 30,000 tons per 12 consecutive month period with compliance determined at the end of each month.

Compliance with the requirements of this condition will satisfy the requirements of 326 IAC 8-1-6 (BACT).

D.2.2 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the following conditions shall apply:

(a) The particulate emission rate from the pouring/casting operation identified as Floor Molding shall not exceed 58.7 pounds per hour when operating at a process weight rate of 203.68 tons of metal and sand per hour.

(b) The particulate emission rate from the casting cooling operation identified as Floor Molding shall not exceed 58.7 pounds per hour when operating at a process weight rate

of 203.68 tons of metal and sand per hour.

(c) The particulate emission rate from the pouring/casting operation identified as #2 EAF Steel shall not exceed 39.0 pounds per hour when operating at a process weight rate of 28.8 tons of metal and sand per hour.

(d) The particulate emission rate from the casting cooling operation identified as #2 EAF Steel shall not exceed 39.0 pounds per hour when operating at a process weight rate of 28.8 tons of metal and sand per hour.

(e) The particulate emission rate from the North shakeout operation shall not exceed 22.27 pounds per hour when operating at a process weight rate of 12.5 tons of metal and sand per hour.

The pounds per hour limitations for (c), (d), and (e) were calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

The pounds per hour limitations for (a) and (b) were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.2.3 PM10 Emission Credits [326 IAC 2-2]

Pursuant to PSD Significant Source Modification Number 045-12788-00002 issued on June 13, 2001 and as revised in Significant Permit Modification Number 045-23578-00002, and in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Rules) not applicable for the Airset mold line (constructed in 2001) for PM10, the following requirements shall apply.

(a) The amount of metal throughput to the mold line identified as Floor Molding shall not exceed 30,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(b) The PM10 emissions from the pouring/casting and castings cooling operation identified as Floor Molding shall not exceed 0.28 pounds per ton of metal throughput.

D.2.4 PM10 Emissions [326 IAC 2-2]

Pursuant to Fourth Significant Source Modification No.: 045-23527-00002, issued on March 21, 2007, the PM10 emissions from the baghouses identified as DC2, DC3 and DC39 controlling the shakeout system identified as the North shakeout, shall not exceed the following:

(a) The amount of metal throughput to the shakeout system identified as the North shakeout shall be limited to less than 30,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(b) The PM10 emissions from the shakeout system identified as the North shakeout shall not exceed 0.35 pounds per ton of metal throughput.

Compliance with these limits shall render 326 IAC 2-2 (PSD) not applicable to 2007 modification.

D.2.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for each baghouse listed in this section.

Compliance Determination Requirements

D.2.6 Particulate Control

In order to comply with the requirements of Condition D.2.2(e), the following conditions shall apply:

(a) The baghouses, DC2, DC3 and DC39, for PM and PM10 control shall be in operation at all times when the North Shakeout system is in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.2.7 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

(a) Within 60 days after the North Shakeout system achieves maximum production, but no later than 180 days after initial start up of the North Shakeout system, in order to demonstrate compliance with D.2.1, the Permittee shall perform VOC testing from the North Shakeout system, using methods as approved by the Commissioner, in order to demonstrate compliance with Condition D.2.1(a). Testing shall be conducted in accordance with Section C - Performance Testing.

(b) Within 60 days after the North Shakeout system achieves maximum production, but no later than 180 days after initial start up of the North Shakeout system, the Permittee shall perform PM10 emissions testing on the baghouses DC2, DC3 and DC39 used to control the North shakeout system. Testing shall be conducted using methods as approved by the Commissioner, in order to demonstrate compliance with Condition D.2.4. The tests on the baghouses shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.8 Visible Emissions Notations

(a) Daily visible emission notations of each of the baghouse stack exhausts shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.2.9 Parametric Monitoring

The Permittee shall record the pressure drop across each of the baghouses used in conjunction with the north shakeout system, at least once per day when the north shakeout system is in operation. When for any one reading, the pressure drop across the baghouse is outside the range of 2.0 - 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Response to Excursions and Exceedances, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.2.10 Broken or Failed Bag Detection

For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.11 Record Keeping Requirements

(a) To document compliance with Condition D.2.8, the Permittee shall maintain records of visible emission notations of the shakeout system stack exhausts once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document compliance with Condition D.2.9, the Permittee shall maintain records of the pressure drop once per day during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) To document compliance with Conditions D.2.1, D.2.3 and D.2.4, the Permittee shall maintain records of the metal throughputs to the north shakeout and the Floor Molding line. These records shall be complete and sufficient to establish compliance with the emission limits established in D.2.1, D.2.3 and D.2.4.

(d) To document compliance with Condition D.2.1(a), the Permittee shall maintain records of the percent by weight resin content of the mold used in the north shakeout system.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.12 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.2.1(b), D.2.3(a) and D.2.4(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the (quarter or six (6) month period) being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

One (1) magnesium treatment operation for the production of ductile iron, identified as DCTLE, constructed in 1987, with a maximum capacity of 4.5 tons of iron per hour with emissions uncontrolled.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the magnesium treatment process identified as DCTLE shall not exceed 11.2 pounds per hour when operating at a process weight rate of 4.5 tons of iron per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.3.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The amount of iron throughput to the magnesium ductile treatment (DCTLE) operation shall not exceed 26,630 tons of iron per 12 consecutive month period with compliance determined at the end of each month.

(b) The PM emissions from the magnesium ductile treatment operation (DCTLE) shall not exceed 1.80 pounds per ton of iron throughput.

Compliance with these limits will limit PM emissions to less than 25 tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.3 Record keeping Requirements

(a) To document compliance with Condition D.3.2(a), the Permittee shall maintain records of the metal throughput to the magnesium ductile treatment process in tons of iron per month.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.2(a) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the

certification by the “responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The shot blasting operations consisting of the following:

(a) One (1) twin table blast machine, identified as L3/4 - STT, constructed in 1961, with a maximum capacity of 25 tons of steel per hour with emissions controlled by baghouse DC18.
(b) One (1) blast machine, identified as LN4-3 Wheel Blast, constructed in 2006, with a maximum capacity of 25 tons of steel per hour with emissions controlled by baghouse DC16.
(c) One (1) Nelle Belle shotblast machine, identified as Nelle, constructed in 1955 with a maximum capacity of 60 tons of steel per hour with emissions controlled by a baghouse, identified as DC7.
(d) One (1) Wheelabrator Frye shotblast machine, identified as #16 Monorail, constructed in 1976 with a maximum capacity of 25.7 tons of metal per hour with emissions controlled by a baghouse, identified as DC17.
(e) Two (2) room blast machines, identified as LN3-Rm and LN5-S Rm, constructed in 1962 and 1967, respectively, with a maximum capacity of 8 tons of steel per hour each with emissions from LN3-RM controlled by baghouse DC30 and emissions from LN5-S Rm controlled by baghouse DC28.
(f) One (1) room blast machine, identified as LN5-N, constructed in 1960 with a maximum capacity of 10 tons of steel per hour with emissions controlled by a baghouse, identified as DC11.
(g) One (1) room blast machine, identified as LN2-N, constructed in 1981 with a maximum capacity of 13 tons of steel per hour with emissions controlled by a baghouse, identified as DC23.
(h) One (1) tumble blast machine, identified as LN1-TMBL, constructed in 1945 with maximum capacity of 4.5 tons of steel per hour with emissions controlled by a baghouse, identified as DC10.
(i) One (1) blast machine, identified as LN7-3 wheel blast, constructed in 2004 with a maximum capacity of 25 tons of steel per hour with emissions controlled by a baghouse, identified as DC8.
(j) One (1) monorail blast machine, identified as #18 Monorail, constructed in 1980 with a maximum capacity of 11.4 tons of steel per hour with emissions controlled by a baghouse, identified as DC21.
(k) One (1) room blast machine, identified as LN2-S Rm, constructed in 1979 with a maximum capacity of 7 tons of steel per hour with emissions controlled by a baghouse, identified as DC33.
(l) One (1) chill room tumble blast machine, identified as Chill Tmbl, constructed July 1,1977, with a maximum capacity of 11.4 tons of steel per hour with emissions controlled by a baghouse, identified as DC6.
(m) One (1) chill room cabinet blast machine, identified as Chill Cbnt, constructed in 1978 with a maximum capacity of 11.4 tons of steel per hour with emissions controlled by a baghouse, identified as DC6.
(n) One (1) pangborn rotoblast machine, identified as LN2-T, constructed in 2005 with a maximum capacity of 6 tons of steel per hour with emissions controlled by baghouse, identified as DC-22.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the following conditions shall apply:

(a) The particulate emission rate from the baghouse DC18 controlling the shotblast machine identified as the twin table shotblast machine L3/4-STT, shall not exceed 35.4 pounds per hour when operating at a process weight rate of 25 tons of metal castings per hour.

(b) The particulate emission rate from the baghouse DC7 controlling the shotblast machine identified as the Nelle Belle shotblast machine (Nelle) shall not exceed 46.3 pounds per hour when operating at a process weight rate of 60 tons of metal castings per hour.

(c) The particulate emission rate from the baghouse DC17 controlling the shotblast machine identified as the Wheelabrator Frye shotblast machine (#16 Monorail) shall not exceed 36.1 pounds per hour when operating at a process weight rate of 25.7 tons of metal castings per hour.

(d) The particulate emission rate from each of the baghouses DC30 and DC28 controlling the shotblast machines identified as the room blast shotblast machines LN3-Rm and LN5-S Rm, shall not exceed 16.5 pounds per hour when operating at a process weight rate of 8 tons of metal castings per hour each.

(e) The particulate emission rate from the baghouse DC11 controlling the shotblast machine identified as the room blast shotblast machine LN5-N shall not exceed 19.2 pounds per hour when operating at a process weight rate of 10 tons of metal castings per hour.

(f) The particulate emission rate from the baghouse DC23 controlling the shotblast machine identified as the room blast shotblast machine LN2-N shall not exceed 22.9 pounds per hour when operating at a process weight rate of 13 tons of metal castings per hour.

(g) The particulate emission rate from the baghouse DC10 controlling the shotblast machine identified as the tumble blast shotblast machine LN1-TMBL shall not exceed 11.2 pounds per hour when operating at a process weight rate of 4.5 tons of metal castings per hour.

(h) The allowable PM emission rate from the baghouse DC8 controlling the shotblast machine identified as the LN7-3 wheel blast shall not exceed 35.4 pounds per hour when operating at a process weight rate of 25 tons of metal castings per hour.

(i) The particulate emission rate from the baghouse DC21 controlling the shotblast machine identified as the #18 monorail shotblast machine shall not exceed 20.9 pounds per hour when operating at a process weight rate of 11.4 tons of metal castings per hour.

(j) The particulate emission rate from the baghouse DC33 controlling the shotblast machine identified as the room blast shotblast machine LN2-S Rm shall not exceed 15.1 pounds per hour when operating at a process weight rate of 7 tons of metal castings per hour.

(k) The particulate emission rate from the baghouse DC6 controlling the shotblast machines identified as the chill room tumble blast shotblast machine (Chill Tmbl) and the chill room cabinet blast shotblast machine (Chill Cbnt) shall not exceed 33.3 pounds per hour when operating at a combined process weight rate of 22.8 tons of metal castings per hour.

(l) The particulate emission rate from the baghouse DC22 controlling the shotblast machine identified as LN2-T rotoblast shall not exceed 13.62 pounds per hour when operating at a process weight rate of 6 tons of metal castings per hour.

(m) The particulate emission rate from the baghouse DC16 controlling the shotblast machine identified as the LN4-3 Wheel Blast, shall not exceed 35.4 pounds per hour when operating at a process weight rate of 25 tons of metal castings per hour.

The pounds per hour limitations for (a), and (c) through (m) above were calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

The pounds per hour limitation for (b) above was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 55\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.4.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The PM emissions from the baghouse DC23 controlling the LN2-N shot blast machine shall not exceed 5.48 pounds per hour.

(b) The PM emissions from the baghouse DC21 controlling the #18 Monorail shot blast machine shall not exceed 5.48 pounds per hour.

(c) The PM emissions from the baghouse DC33 controlling the LN2-S Rm shot blast machine shall not exceed 5.48 pounds per hour.

(d) The PM emissions from the baghouse DC6 controlling the Chill room tumble blast shot blast machine (Chill Tmbl) and the Chill room cabinet blast shotblast machine (Chill Cbnt) shall not exceed 5.48 pounds per hour.

(e) The PM emissions from the baghouse DC8 controlling the LN7-3 shot blast machine shall not exceed 4.50 pounds per hour.

(f) The PM emissions from the baghouse DC22 controlling the LN2-T shot blast machine shall not exceed 1.18 pounds per hour.

(g) The PM emissions from the baghouse DC16 controlling the LN4-3 shot blast machine shall not exceed 4.25 pounds per hour.

(h) The PM10 emissions from the baghouse DC8 controlling the LN7-3 shot blast machine shall not exceed 2.70 pounds per hour.

(i) The PM10 emissions from the baghouse DC22 controlling the LN2-T shot blast machine shall not exceed 0.70 pounds per hour.

(j) The PM10 emissions from the baghouse DC16 controlling the LN4-3 shot blast machine shall not exceed 2.70 pounds per hour.

Compliance with these limits will limit PM and PM10 emissions to less than 25 and 15 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (PSD) shall not apply.

D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for each of the control devices listed in this section.

Compliance Determination Requirements

D.4.4 Particulate Control

In order to comply with the requirements of Conditions D.4.1 and D.4.2, the following conditions shall apply:

(a) The baghouse, DC16, for PM and PM10 control shall be in operation at all times when the LN4-3 shot blast machine is in operation.

(b) The baghouse, DC18, for PM and PM10 control shall be in operation at all times when the L3/4-STT shot blast machine is in operation.

(c) The baghouse, DC7, for PM and PM10 control shall be in operation at all times when the Nelle Belle shot blast machine is in operation.

(d) The baghouse, DC17, for PM and PM10 control shall be in operation at all time when the Wheelabrator Frye shot blast machine is in operation.

(e) The baghouse, DC30, for PM and PM10 control shall be in operation at all times when the LN3-Rm shot blast machine is in operation.

(f) The baghouse, DC28, for PM and PM10 control shall be in operation at all times when the LN5-SRm shot blast machine is in operation.

(g) The baghouse, DC11, for PM and PM10 control shall be in operation at all times when the LN5-N shot blast machine is in operation.

(h) The baghouse, DC23, for PM and PM10 control shall be in operation at all times when the LN2-N shot blast machine is in operation.

(i) The baghouse, DC10, for PM and PM10 control shall be in operation at all times when the LN1-TMBL shot blast machine is in operation.

(j) The baghouse, DC8, for PM and PM10 control shall be in operation at all times when the LN7-3 shot blast machine is in operation.

(k) The baghouse, DC21, for PM and PM10 control shall be in operation at all times when the #18 Monorail shot blast machine is in operation.

(l) The baghouse, DC33, for PM and PM10 control shall be in operation at all times when the LN2-S Rm shot blast machine is in operation.

(m) The baghouse, DC6, shall be in operation at all times when the Chill Tmbl and Chill Cbnt shot blast machines are in operation.

(n) The baghouse, DC22, for PM and PM10 control shall be in operation at all times when the LN2-T shot blast machine is in operation.

(o) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.4.5 Visible Emissions Notations [40 CFR Part 64]

(a) Visible emission notations of each of the shot blasting machines stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

Compliance with the above monitoring condition shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the shot blasting machines (L3/4 STT, Nelle Belle, #16 Monorail, LN7-3 and LN4-3).

D.4.6 Parametric Monitoring [40 CFR Part 64]

The Permittee shall record the pressure drop across each of the baghouses used in conjunction with the shot blasting machines, at least once per day when the shot blasting machines are in operation. When for any one reading, the pressure drop across the baghouses DC11 and DC30 is outside the range of 0.2 - 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions and Exceedances. When for any one reading, the pressure drop across each of the other baghouses listed in this section is outside the range of 2.0 - 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions and Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

Compliance with the above monitoring condition shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the shot blasting machines (L3/4 STT, Nelle Belle, #16 Monorail, LN7-3 and LN4-3).

D.4.7 Broken or Failed Bag Detection [40 CFR Part 64]

For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature,

flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance with the above monitoring condition shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the shot blasting machines (L3/4 STT, Nelle Belle, #16 Monorail, LN7-3 and LN4-3).

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.8 Record Keeping Requirements

(a) To document compliance with Condition D.4.5, the Permittee shall maintain records of visible emission notations of the shot blasting machines stack exhausts once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) To document compliance with condition D.4.6, the Permittee shall maintain records of the pressure drop across each baghouse once per day. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(a) One (1) sand handling system, identified as North Lumpbreaker, constructed in 1988 and modified in 1994 with a maximum capacity of 8 tons of sand per hour with emissions controlled by a baghouse, identified as DC41.

(b) One (1) sand handling system, identified as Core Sands System, constructed in 1967 and modified in 1988, with a maximum capacity of 5 tons of sand per hour, consisting of one silo controlled by a bin vent filter and one hopper controlled by a bin vent filter and vented internally, and equipped with a muller, identified as 1.5G Muller.

The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the following conditions shall apply:

(a) The particulate emission rate from the baghouse DC41 controlling the North Lumpbreaker shall not exceed 16.5 pounds per hour when operating at a process weight rate of 8 tons of sand per hour.

(b) The particulate emission rate from the Core Sands System shall not exceed 12.1 pounds per hour when operating at a process weight rate of 5 tons of sand per hour.

The pounds per hour limitations were calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.5.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The PM emissions from the baghouse DC41 controlling the North Lumpbreaker shall not exceed 0.072 pound per ton of sand.

(b) The PM10 emissions from the baghouse DC41 controlling the North Lumpbreaker shall not exceed 0.39 pounds per ton of sand.

(c) The sand throughput to the North Lumpbreaker shall not exceed 72,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(d) The PM emissions from the Core Sands System shall not exceed 0.072 pound per ton of sand.

(e) The PM10 emissions from the Core Sands System shall not exceed 0.005 pound per ton of sand.

(f) The sand throughput to the Core Sands System shall not exceed 22,000 tons per 12

consecutive month period with compliance determined at the end of each month.

Compliance with (e) and (f) of this condition are necessary in order that the requirements of 326 IAC 2-2 (PSD) shall not apply to the Airset mold line, as described in Section D.7 of this permit. Therefore, the requirements of 326 IAC 2-2 (PSD) shall not apply.

D.5.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the baghouse listed in this section.

Compliance Determination Requirements

D.5.4 Particulate Control

In order to comply with the requirements of Conditions D.5.1 and D.5.2, the following conditions shall apply:

(a) The baghouse, DC41, for PM and PM10 control shall be in operation at all times when the North Lumpbreaker is in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.5.5 Visible Emissions Notations

(a) Daily visible emission notations of the North Lumpbreaker stack exhausts shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.5.6 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse DC41 used in conjunction with the North Lumpbreaker, at least once per day when the North Lumpbreaker is in operation. When for any one reading, the pressure drop across the baghouse is outside the range of 2.0 - 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.5.7 Broken or Failed Bag Detection

For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.8 Record Keeping Requirements

(a) In order to document compliance with Condition D.5.5, the Permittee shall maintain records of visible emission notations of the North Lumpbreaker stack exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) In order to document compliance with condition D.5.6, the Permittee shall maintain records of the pressure drop once per day during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) In order to document compliance with Condition D.5.2(c) and (f), the Permittee shall maintain records of the sand throughputs to the North Lumpbreaker and Core Sands System in tons of sand per month.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.5.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.5.2(c) and (f) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the “responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Core and mold making operations consisting of the following:

(a) One (1) Airset core making process, identified as Jordan, consisting of two (2) core sand mixers, one constructed in 1989, identified as Small Airset Mixer, and the other constructed in 2005 identified as Zircon Mixer, with maximum capacities of 9 tons of sand per hour and 6 tons of sand per hour, respectively.

(b) One (1) Floor Molding Machine, constructed in 1994 with a maximum capacity of 45 tons of sand per hour with emissions uncontrolled.

(c) One (1) Airset core making machine equipped with a mixer, identified as Snap, constructed in 1992 with a maximum capacity of 9 tons of sand per hour with emissions uncontrolled.

(d) Five (5) Oil Sand core making benches, constructed in 1959, each with a maximum capacity of 0.4 tons of oil sand per hour or 0.6 tons of CO_2 sand per hour.

(e) Two (2) Shell core making machines, constructed in 1962 and 1973, each with a maximum capacity of 0.075 tons of sand per hour.

(f) One (1) Shell core making machine, constructed in 1976, with a maximum capacity of 0.125 tons of sand per hour.

(g) One (1) Airset core making machine equipped with a mixer, identified as Medium Airset Core, constructed in 1976, with a maximum capacity of 16.5 tons of sand per hour.

(h) One (1) core wash process, constructed prior to 1977, with emissions uncontrolled and exhausting internally.

The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 VOC Emissions [326 IAC 8-1-6] [326 IAC 2-2]

In order to render the requirements of 326 IAC 8-1-6 (BACT) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the following conditions shall apply:

(a) The VOC emissions from the Floor Molding Machine shall not exceed 0.0325 pounds of VOC per pound of resin.

(b) The resin usage for the Floor Molding Machine shall not exceed 1,532,307 pounds of resin per 12 consecutive month period with compliance determined at the end of each month.

(c) The total resin usage for the Zircon Mixer, constructed in 2005, shall be limited to less than 1,000,000 pounds of resin per 12 consecutive month period with compliance determined at the end of each month. This is equivalent to VOC emissions of less than 25 tons per year.

(d) The VOC emissions from the Zircon Mixer shall not exceed 0.05 pounds of VOC per pound of core resin.

(e) The total resin usage for the airset core making machine (Small Airset Mixer), constructed in 1989, shall be limited to less than 854,700 pounds of resin per 12 consecutive month period with compliance determined at the end of each month.

(f) The VOC emissions from the airset core making machine (Small Airset Mixer) shall not exceed 0.0585 pounds of VOC per pound of core resin.

(g) The total resin usage for the airset core making machine (Snap), constructed in 1992, shall be limited to less than 854,700 pounds of resin per 12 consecutive month period with compliance determined at the end of each month.

(h) The VOC emissions from the airset core making machine (Snap) shall not exceed 0.0585 pounds of VOC per pound of core resin.

Compliance with these limits will limit VOC emissions to less than 25 tons per year, therefore, the requirements of 326 IAC 8-1-6 (BACT) shall not apply. Compliance with above limits will also render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.2 Record Keeping Requirements

(a) In order to document compliance with Condition D.6.1(b), the Permittee shall maintain records of the total resin usage for the Floor Molding Machine, constructed in 1994.

(b) In order to document compliance with Condition D.6.1(c), the Permittee shall maintain records of the total resin usage for the Zircon Mixer, constructed in 2005.

(c) In order to document compliance with Condition D.6.1(e), the Permittee shall maintain records of the total resin usage for the Airset core making machine (Small Airset Mixer), constructed in 1989.

(d) In order to document compliance with Condition D.6.1(g), the Permittee shall maintain records of the total resin usage for the Airset core making machine (Snap), constructed in 1992.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.6.3 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.6.1(b), D.6.1(c), D.6.1(e) and D.6.1(g) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

One (1) new Airset molding line rated at a maximum steel production rate of 15.73 tons of steel or iron per hour and 47.2 tons of sand per hour. The Airset molding line consists of the following processes/equipment:

(a) pouring operations, constructed in 2001, with a maximum capacity of 15.73 tons of steel or ductile iron per hour and 47.2 tons of sand per hour, with emissions uncontrolled and exhausting through stacks S37through S42;
(b) castings cooling operations, constructed in 2001, with a maximum capacity of 15.73 tons of steel or ductile iron per hour and 47.2 tons of sand per hour, with emissions uncontrolled and exhausting through stacks S37through S42;
(c) shakeout operations, constructed in 2001, with a maximum capacity of 15.73 tons of steel or ductile iron per hour and 47.2 tons of sand per hour, with particulate emissions controlled by two (2) baghouses, identified as DC9 and DC12, and exhausting to stacks DC9 and DC12, respectively;
(d) sand handling operations, constructed in 2001, with a maximum capacity of 47.2 tons of sand per hour, with emissions controlled by a baghouse identified as DC46, and exhausting to stack DC46. The sand handling system consists of the following equipment:
  (1) six sand storage silos, each controlled by a bin vent;
  (2) four (4) sand heaters;
  (3) covered pneumatic conveyors for transporting sand from silos to mixer;
(e) mechanical reclaim operations, constructed in 2001, with a maximum capacity of 47.2 tons of sand per hour, with emissions controlled by a baghouse identified as DC45 and exhausting to stack DC45;
(f) one natural gas fired thermal reclaimer, constructed in 2001, with a maximum heat input capacity of 2.83 million Btu per hour, with a maximum capacity of 2.85 tons of sand per hour, with emissions controlled by a baghouse identified as DC46 and exhausting to stack DC46;
(g) phenolic urethane no-bake mold making operations, constructed in 2001, with a maximum capacity of 47.2 tons of sand per hour. The mold making operation consists of the following equipment.
  (1) one enclosed mixer for combining mold sand with resin, with VOC emissions controlled by the thermal sand reclaimer;
  (2) strike off operations;
  (3) rollover draw/strip operations;
  (4) one natural gas fired preheat tunnel with a maximum heat input capacity of 0.8 million Btu per hour;
  (5) mold wash operations with a maximum capacity of 230.69 pounds of mold wash per hour, which is equivalent to 11.34 gallons of mold wash per hour;
  (6) one natural gas fired drying (curing) oven, with a maximum heat input capacity of 3.2 million Btu per hour; and
  (7) one mold closer process which puts the two halves of the mold together.

Note: Each individual shakeout unit has a maximum design capacity of 10 tons of metal per hour; however, the pouring and cooling operations bottleneck the shakeout process, such that the total hourly rate at shakeout cannot exceed 15.73 tons of metal per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 BACT for VOC [326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6]

Pursuant PSD/SSM No. 045-12788-00002, issued on June 13, 2001; PSD/SSM No. 045-20845-00002, issued on May 19, 2006; PSD/SSM No. 045-25405-00002; 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules); and 326 IAC 8-1-6 (BACT), the Permittee shall comply with the following BACT requirements:

(a) The VOC emissions from the pouring and castings cooling operations shall be limited to 1.8 pounds per ton of metal poured.

(b) The resin content shall not exceed 1.23%.

(c) The VOC emissions from the Airset molding line shakeout operations shall be limited to 3.32 pounds per ton of metal.

(d) The metal throughput to the Airset mold line shall be limited to less than 55,400 tons per 12 consecutive month period with compliance determined at the end of each month.

(e) The VOC emissions from the mold making process shall be limited to 1.17 pounds per ton of sand and 22.20 pounds per hour.

(f) The VOC content of the mold wash shall not exceed 0.0 percent by weight.

(g) The mold production shall be limited to less than 166,200 tons per 12 consecutive month period and the binder usage shall be limited to less than 1,662 tons per 12 consecutive month period with compliance determined at the end of each month.

(h) The VOC emissions from the thermal sand reclamation system, which controls the mold sand mixer, shall not exceed 2.2 pounds per hour.

(i) The maximum throughput rate to the shakeout process shall not exceed 15.73 tons of metal per hour.

Compliance with the requirements of this condition will also satisfy the requirements of 326 IAC 8-1-6 (BACT).

D.7.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the following conditions shall apply:

(a) The particulate emission rate from the pouring/casting and castings cooling process shall not exceed 46.7 pounds per hour each when operating at a process weight rate of 15.73 tons of metal per hour each and 47.2 tons of sand per hour each, for a total process weight rate of 62.9 tons per hour each.

(b) The total particulate emission rate from the baghouses DC9 and DC12 controlling the shakeout process shall not exceed 46.7 pounds per hour when operating at a process weight rate of 15.73 tons of metal per hour and 47.2 tons of sand per hour, for a total process weight rate of 62.9 tons per hour.

(c) The particulate emission rate from the baghouse DC46 controlling the sand handling process and the thermal reclaimer shall not exceed 44.0 pounds per hour when operating at a process weight rate of 47.2 tons of sand per hour. The baghouse identified as DC46 shall be in operation at all times the sand handling process is in operation, in order to comply with this limit.

(d) The particulate emission rate from the baghouse DC45 controlling the mechanical reclaim process shall not exceed 44.0 pounds per hour when operating at a process weight rate of 47.2 tons of sand per hour.

The pounds per hour limitations were calculated using the following equation:

Interpolation and extrapolation of the data for the process weight rate greater than 60,000 pounds per hour shall be accomplished by use of the equations:

$E = 55\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.7.3 PM and PM10 Emissions [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Rules) not applicable for PM and PM10, the Permittee shall comply with the following requirements:

(a) At least 99% of all particulate matter (PM and PM-10,) emissions generated during sand handling, mechanical reclaim, and thermal reclaim operations shall be captured by a baghouse and controlled such that visible emissions from any building opening shall not exceed three percent (3%) opacity based on a six-minute average (24 readings taken in accordance with 40 CFR Part 60, Appendix A, Method 9).

(b) At least 96% of all particulate matter (PM and PM-10,) emissions generated during shakeout operations shall be captured by a baghouse and controlled such that visible emissions from any building opening shall not exceed three percent (3%) opacity based on a six-minute average (24 readings taken in accordance with 40 CFR Part 60, Appendix A, Method 9).

(c) The PM emissions from the baghouses DC9 and DC12 controlling the shakeout operations shall be limited to a total of 0.25 pounds per ton of metal throughput.

(d) The PM10 emissions from the baghouses DC9 and DC12 controlling the shakeout operations shall be limited to a total of 0.25 pounds per ton of metal throughput.

(e) The PM emissions from the baghouse DC46 controlling the Airset sand handling operations and the thermal reclaimer shall be limited to 0.008 pounds per ton of sand throughput to the Airset sand handling system.

(f) The PM10 emissions from the baghouse DC46 controlling the sand handling operations and the thermal reclaimer shall be limited to 0.008 pounds per ton of sand throughput.

(g) The sand throughput to the thermal sand reclamation system shall not exceed 24,930 tons per 12 consecutive month period with compliance determined at the end of each month.

(h) The sand throughput to the sand handling system shall not exceed 166,200 tons per 12 consecutive month period with compliance determined at the end of each month.

(i) The PM emissions from the baghouse DC45 controlling the mechanical reclaimer shall be limited to 0.008 pounds per ton of sand throughput.

(j) The PM10 emissions from the baghouse DC45 controlling the mechanical reclaimer shall be limited to 0.008 pounds per ton of sand throughput.

(k) The PM emissions from the pouring and cooling processes combined shall be limited to 0.4 pounds per ton of metal throughput.

(l) The PM10 emissions from the pouring and cooling processes combined shall be limited to 0.14 pounds per ton of metal throughput.

Therefore, the requirements of 326 IAC 2-2 will not apply for PM and PM10 emissions.

D.7.4 Lead Emissions [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Rules) not applicable for lead, the Permittee shall comply with the following requirement.

The combined lead emissions from the Airset pouring/casting and castings cooling operations shall be limited to 0.13 pounds per hour.

Therefore, the requirements of 326 IAC 2-2 (PSD) will not apply for lead emissions.

D.7.5 Carbon Monoxide Emissions [326 IAC 2-2]

In order to make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Rules) not applicable, the carbon monoxide emissions from the Airset molding line pouring, castings cooling, and shakeout combined operations shall be less than 3.55 pounds per ton of metal poured.

Compliance with the above limit, combined with the metal throughput limit in Condition D.7.1(c) and the potential to emit carbon monoxide of other emission units from the 2001 modification, shall limit the carbon monoxide emissions from the 2001 modification to less than 100 tons per twelve (12) consecutive month period and render 326 IAC 2-2 not applicable.

D.7.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the baghouses DC9 and DC12 controlling the shakeout operations, baghouse DC45 controlling the mechanical reclaimer, the thermal reclaimer and the baghouse DC46 controlling the thermal reclaimer, and the five bin vents controlling the six sand silos.

Compliance Determination Requirements

D.7.7 Particulate Control

In order to comply with the limits in Conditions D.7.2, D.7.3 and D.7.4, the following conditions shall apply:

(a) The baghouses DC9 and DC12 for particulate control shall be in operation and control emissions from the shakeout operation at all times that the shakeout process is in operation.

(b) The baghouse DC45 for particulate control shall be in operation and control emissions from the mechanical reclaimer at all times that the mechanical reclaimer is in operation.

(c) The baghouse DC46 for particulate control shall be in operation and control emissions from the thermal reclaimer and the sand handling system at all times that the thermal reclaimer or the sand handling system is in operation.

(d) The bin vents for particulate control shall be in place and control emissions from each of the six sand silos at all times that sand is being transferred into or out of the silos.

(e) All conveyors associated with the sand handling system, mechanical reclamation system, and thermal reclamation system shall be completely enclosed.

(f) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units

will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.7.8 Volatile Organic Compound (VOC) Controls

In order to comply with D.7.1(h), the thermal sand reclaimer for VOC control shall be in operation and control emissions from the sand mixer at all times that the mixing process is in operation. When operating, the thermal reclamation system shall maintain a minimum operating temperature of 1400 ^{0}F during operation or a temperature and fan amperage as determined from the most recent compliant stack test, as approved by IDEM.

D.7.9 Volatile Organic Compounds (VOC) Content and Usage Limitations

Compliance with the VOC content and usage limitations contained in Condition D.7.1(f) shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the mold wash solvent manufacturer.

D.7.10 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Within ninety (90) days of issuance of Significant Permit Modification No. 045-25426-00002, the Permittee shall perform VOC testing from the thermal sand reclaimer controlling the mold sand mixer, using methods as approved by the Commissioner, in order to demonstrate compliance with Condition D.7.1(h). This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

(b) The Permittee shall perform PM and PM10 testing from the facilities as shown in the table below no later than September 30, 2008.

Facility Identification	Control Device Identification
Airset shakeout units (both units)	baghouses DC9 and DC12
Airset sand handling system and thermal reclaimer	baghouse DC46
Airset mechanical reclaimer	baghouse DC45

Testing shall be conducted using methods as approved by the Commissioner, in order to demonstrate compliance with Conditions D.7.2 and D.7.3. The tests on the baghouses shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

(c) Any stack which has multiple processes which exhaust to the same stack shall operate all of the processes simultaneously in accordance with 326 IAC 3-6 (Source Sampling Procedures) unless IDEM, OAQ approves an alternative source sampling protocol.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.7.11 Visible Emissions Notations [40 CFR Part 64]

(a) Visible emission notations of the baghouses DC9, DC12, DC45, and DC46 stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

Compliance with the above monitoring condition shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the Airset line sand handling and shakeout processes, and mechanical reclaimer.

D.7.12 Parametric Monitoring [40 CFR Part 64]

The Permittee shall record the pressure drop across the baghouses DC9, DC12, DC45, and DC46 used in conjunction with the shakeout, sand handling, mechanical reclamation, and thermal reclamation processes, at least once per day when these processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the range of 2.0 - 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

The instruments used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

Compliance with the above monitoring condition shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the Airset line sand handling and shakeout processes, and mechanical reclaimer.

D.7.13 Broken or Failed Bag Detection [40 CFR Part 64]

For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance with the above monitoring condition shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the Airset line sand handling and shakeout processes, and mechanical reclaimer.

D.7.14 Thermal Reclaimer Monitoring

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal sand reclamation system for measuring the operating temperature. The output of this system shall be recorded, and that temperature shall be greater than or equal to 1400 degrees Fahrenheit or the temperature used to demonstrate compliance during the most recent compliance stack test, as approved by IDEM.

(b) The duct pressure or fan amperage shall be observed at least once per day when the thermal sand reclaimer is in operation. This pressure or amperage shall be maintained within the range specified by the manufacturer or a range as established in the most recent compliant stack test, as approved by IDEM.

(c) The Permittee shall take the troubleshooting contingency and response steps in accordance with Section C – Response to Excursions and Exceedances when the reading is outside the above mentioned range for any one reading. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a violation of this permit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.15 Record Keeping Requirements

(a) To document compliance with Condition D.7.11, the Permittee shall maintain records of visible emission notations of the baghouses DC9, DC12, DC45, and DC46 stack exhausts once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(b) In order to document compliance with Condition D.7.12, the Permittee shall maintain records of the pressure drop once per day during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).

(c) To document compliance with Conditions D.7.1 and D.7.3, the Permittee shall maintain records of the metal and sand throughputs to the Airset mold line. These records shall be complete and sufficient to establish compliance with the emission limits established in D.7.1 and D.7.3.

(d) To document compliance with Conditions D.7.1, D.7.8, and D.7.14, the Permittee shall maintain records in accordance with (1) and (2) below.

(1) The continuous temperature records for the thermal reclaimer and the temperature used to demonstrate compliance during the most recent compliance stack test.

(2) Records of the duct pressure or fan amperage once per day.

(e) In order to document compliance with Conditions D.7.1, the Permittee shall maintain records in accordance with (1) through (4) below.

(1) Copies of the Material Safety Data Sheets for each mold wash material used at the Airset mold line;

(2) The amount of binder usage in the Airset mold line, each month of operation;

(3) The sand throughput to the thermal sand reclaimer, each month of operation; and

(4) The percent by weight resin content of the Airset line pouring/cooling operation.

D.7.16 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.7.1 and D.7.3 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the (quarter or six (6) month period) being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.8 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

One core line, identified as "Over 500 lb Core Line", constructed in 2006, including:

(a) one (1) phenolic urethane no bake mold making machine with a maximum capacity of 45 tons per hour;

(b) one (1) sand mixer with a maximum capacity of 45 tons per hour;

(c) one (1) 350-ton sand storage silo;

(d) two (2) 100 ton sand storage silo;

(e) one (1) sand transporter;

(f) two (2) compaction tables; and

(g) two (2) sand heaters

the sand silos and sand mixer are controlled by two (2) bin vents.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.8.1 VOC Emissions [326 IAC 8-1-6] [326 IAC 2-2]

The following conditions shall apply to the "over 500 lb core line":

(a) The total resin usage for the "over 500 lb core line", constructed in 2006, shall be limited to less than 996,000 pounds of resin per 12 consecutive month period with compliance determined at the end of each month.

(b) The VOC emissions from the "over 500 lb core line" shall be limited to 0.05 pounds of VOC per pound of core resin.

Compliance with the above limits shall limit VOC emissions to less than 25 tons per year and render 326 IAC 8-1-6 (BACT) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to 2006 modification.

D.8.2 PSD Minor Limit [326 IAC 2-2]

The following conditions shall apply:

(a) The PM emissions from the sand system at the "over 500 lb core line" shall be less than 1.4 pounds per hour.

(b) The PM10 emissions from the sand system at the "over 500 lb core line" shall be less than 0.6 pounds per hour.

Compliance with these limits in conjunction with the PM and PM10 limits in Conditions D.4.2(g) and D.4.2(j), respectively, will limit PM and PM10 emissions to less than 25 and 15 tons per year, respectively and render 326 IAC 2-2 (PSD) not applicable to the 2006 modification.

D.8.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the dust collector and bin vents controlling the "over 500 lb core line" listed in this section.

Compliance Determination Requirements

D.8.4 Particulate Control

In order to comply with condition D.8.2, the bin vents for particulate control shall be in operation and control emissions from the sand system at the "over 500 lb core line" at all times that the sand system at the "over 500 lb core line" is in operation.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.8.5 Record Keeping Requirements

(a) In order to document compliance with Condition D.8.1, the Permittee shall maintain records of the amount of resin usage in the "over 500 lb core line", each month of operation.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.8.6 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.8.1(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.9 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Insignificant activities including the following:

(a) Machining where an aqueous cutting coolant continuously floods the machining interface. [326 IAC 6-3-2]

(b) Furnaces used for melting metals other than beryllium with a brim full capacity of less than or equal to 450 cubic inches by volume. [326 IAC 6-3-2]

(c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]

(1) Grinding machines each with a maximum capacity of 18.9 pounds per hour with emissions controlled by baghouses, identified as DC13, DC14, DC26, and DC37.

(2) One (1) pattern woodworking shop with emissions controlled by a roto-clone, identified as DC1.

(d) Flame cutting - natural gas and oxygen torch to remove gates, spurs, and rizers. [326 IAC 6-3-2]

(e) Flame wash - arc welding like torch to smooth castings after flame cutting. [326 IAC 6-3-2]

(f) One (1) paint booth for coating metal castings, constructed prior to 1977, utilizing air assisted airless spray type, with VOC emissions uncontrolled and overspray controlled by using a filter wall, with emissions exhausting to stack S154. [326 IAC 6-3-2(d)]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.9.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from each of the above listed processes, except the paint booth, shall not exceed the pounds per hour limitations as calculated with the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.9.2 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d), particulate from the paint booth shall be controlled by a filter wall, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

Compliance Determination Requirements

D.9.3 Particulate Control

In order to comply with the requirements of Condition D.9.1, the control devices listed in this section for particulate emissions control shall be in operation at all times when the associated facility is in operation.

SECTION E.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

The melting process consisting of the following:

(1) One (1) electric arc furnace, identified as EAF2, constructed in 1951 with a maximum melt rate of 4.5 tons of steel or iron per hour with emissions controlled by one (1) baghouse, identified as DC4, exhausting through stack DC4.

(2) One (1) electric arc furnace, identified as EAF3, constructed prior to October 1974 with a maximum melt rate of 10 tons of steel or iron per hour with emissions controlled by one (1) baghouse, identified as DC5, exhausting through stack DC5.

(3) One (1) electric arc furnace, identified as EAF4, constructed in 1989 with a maximum melt rate of 10 tons of steel or iron per hour with emissions controlled by one (1) baghouse, identified as DC40, exhausting through stack DC40.

Note: Two (2) baghouses identified as DC38 and DC42 are used to control fugitive melt shop particulate emissions at the roof monitor.

(4) The scrap and charge handling process, constructed in 1951 with a maximum capacity of 24.5 tons of steel per hour, with emissions uncontrolled exhausting through stacks S8 and S10.

Note: Emissions from the scrap yard are fugitive emissions.

Under NESHAP Subpart EEEEE, the three electric arc furnaces (EAF-2, EAF-3 and EAF-4) and the fugitive emissions from foundry operations are considered existing affected sources.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.1.1 General Provisions Relating to NESHAP EEEEE [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.7760, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 1 of 40 CFR Part 63, Subpart EEEEE in accordance with schedule in 40 CFR 63 Subpart EEEEE.

E.1.2 Iron and Steel Foundries NESHAP [40 CFR Part 63, Subpart EEEEE]

The Permittee that operates an iron and steel foundry, which is a major source of hazardous air pollutants shall comply with the following provisions of 40 CFR Part 63, Subpart EEEEE (included as Attachment A of this permit), with a compliance date of April 23, 2007:

(1) 40 CFR 63.7680;
(2) 40 CFR 63.7681;
(3) 40 CFR 63.7682(a), (b) and (c);
(4) 40 CFR 63.7683(a), (b) and (f);
(5) 40 CFR 63.7690(a)(1), (a)(7) and (b)(2);
(6) 40 CFR 63.7700(a), (b), (c)(1)(i), (c)(2) and (c)(3);
(7) 40 CFR 63.7710(a), (b)(1) and (b)(3) through (b)(6);
(8) 40 CFR 63.7720;
(9) 40 CFR 63.7730;
(10) 40 CFR 63.7731;

(11) 40 CFR 63.7732(a), (b)(1), (b)(2), (b)(4), (c)(1), (c)(2), (c)(4), (d), (h) and (i);
(12) 40 CFR 63.7733(b), (e) and (f);
(13) 40 CFR 63.7734(a)(1), (a)(7), (b)(1) and (b)(2);
(14) 40 CFR 63.7735(a) and (b);
(15) 40 CFR 63.7736(b) and (c);
(16) 40 CFR 63.7740(b), (c) and (d);
(17) 40 CFR 63.7741(b), (c) and (f);
(18) 40 CFR 63.7742;
(19) 40 CFR 63.7743(a)(1), (a)(7), (a)(12), (c) and (d);
(20) 40 CFR 63.7744(a) and (b);
(21) 40 CFR 63.7745;
(22 40 CFR 63.7746;
(23) 40 CFR 63.7747;
(24) 40 CFR 63.7750(a), (b), (d) and (e);
(25) 40 CFR 63.7751;
(26) 40 CFR 63.7752;
(27) 40 CFR 63.7753;
(28) 40 CFR 63.7760;
(29) 40 CFR 63.7761;
(30) 40 CFR 63.7765; and
(31) Table 1.

SECTION E.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

One (1) paint booth for coating metal castings, constructed prior to 1977, utilizing air assisted airless spray type, with VOC emissions uncontrolled and overspray controlled by using a filter wall, with emissions exhausting to stack S154. [326 IAC 6-3-2(d)]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.2.1 General Provisions Relating to NESHAP MMMM [326 IAC 20-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.3901, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 2 of 40 CFR Part 63, Subpart MMMM in accordance with schedule in 40 CFR 63 Subpart MMMM.

E.2.2 Surface Coating of Miscellaneous Metal Parts and Products NESHAP [40 CFR Part 63, Subpart MMMM]

The Permittee that engages in surface coating of miscellaneous metal parts and products, at a major source of hazardous air pollutants shall comply with the following provisions of 40 CFR Part 63, Subpart MMMM (included as Attachment B of this permit), with a compliance date of January 2, 2007:

(1) 40 CFR 63.3880
(2) 40 CFR 63.3881(a)(1), (a)(2) and (b)
(3) 40 CFR 63.3882
(4) 40 CFR 63.3883(b) and (d)
(5) 40 CFR 63.3890(b)(1)
(6) 40 CFR 63.3891(a) and (b)
(7) 40 CFR 63.3892(a) and (b)
(8) 40 CFR 63.3893(a)
(9) 40 CFR 63.3900(a)(1) and (b)
(10) 40 CFR 63.3901
(11) 40 CFR 63.3910(a), (b), (c)(1)-(c)(7), (c)(8)(i), and (c)(8)(ii)
(12) 40 CFR 63.3920(a)(1), (a)(2), (a)(3)(i)-(v), and (a)(4)-(6)
(13) 40 CFR 63.3930(a), (b), (c)(1)-(3), (d)-(h), and (j)
(14) 40 CFR 63.3931
(15) 40 CFR 63.3940
(16) 40 CFR 63.3941
(17) 40 CFR 63.3942
(18) 40 CFR 63.3950
(19) 40 CFR 63.3951
(20) 40 CFR 63.3952
(21) 40 CFR 63.3980
(22) 40 CFR 63.3981
(23) Tables 2, 3, and 4 of 40 CFR 63, Subpart MMMM

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT CERTIFICATION

Source Name:	Harrison Steel Castings Company
Source Address:	900 North Mound Street, Attica, Indiana 47918
Mailing Address:	P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.:	T045-22716-00002

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit

☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:
Printed Name:
Title/Position:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH

100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
- The Permittee must submit notice by mail or facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe: Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:

Title / Position:

Date:

Phone:

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: North Shakeout system
Parameter: metal throughput to the system
Limit: Less than 30,000 tons per 12 consecutive month period for the North Shakeout system with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Floor Molding Mold Line
Parameter: Metal throughput
Limit: Shall not exceed 30,000 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Magnesium ductile treatment operation
Parameter: Metal throughput to treatment operation
Limit: 26,630 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: North Lumpbreaker and Core Sands systems
Parameter: sand throughput to each system
Limit: 72,000 tons per 12 consecutive month period for the North Lumpbreaker system; and 22,000 tons per 12 consecutive month period for the Core Sands system with compliance determined at the end of each month

YEAR:
North Lumpbreaker Sand System

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

Core Sands System

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.
☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Floor Molding Machine
Parameter: VOC
Limit: Resin Usage shall be limited to less than 1,532,307 pounds of resin per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Resin Usage This Month	Resin Usage Previous 11 Months	Resin Usage 12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Zircon Mixer (constructed in 2005)
Parameter: VOC
Limit: Total resin usage for the Zircon Mixer (constructed in 2005) shall be limited to less than 1,000,000 pounds of resin per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Resin Usage This Month	Resin Usage Previous 11 Months	Resin Usage 12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Airset Core Making Machine (Small Airset Mixer) (constructed in 1989)
Parameter: VOC
Limit: Total resin usage for the Airset core making machine (Small Airset Mixer) (constructed in 1989) shall be limited to less than 854,700 pounds of resin per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Resin Usage This Month	Resin Usage Previous 11 Months	Resin Usage 12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Airset Core Making Machine (Snap) (constructed in 1992)
Parameter: VOC
Limit: Total resin usage for the Airset core making machine (Snap) (constructed in 1992) shall be limited to less than 854,700 pounds of resin per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Resin Usage This Month	Resin Usage Previous 11 Months	Resin Usage 12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Airset Mold Line
Parameter: Metal throughput
Limit: Less than 55,400 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Airset Mold Line
Parameter: Mold Production
Limit: Less than 166,200 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Airset Mold Line
Parameter: Binder usage
Limit: Less than 1,662 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Thermal sand reclamation system
Parameter: Sand throughput
Limit: Shall not exceed 24,930 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: Airset sand handling operations
Parameter: Sand throughput
Limit: Shall not exceed 166,200 tons per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002
Facility: "Over 500 lb Core Making Machine" (constructed in 2006)
Parameter: VOC
Limit: Total resin usage for the "Over 500 lb Core Machine" (constructed in 2006) shall be limited to less than 996,000 pounds of resin per 12 consecutive month period with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Resin Usage This Month	Resin Usage Previous 11 Months	Resin Usage 12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Harrison Steel Castings Company
Source Address: 900 North Mound Street, Attica, Indiana 47918
Mailing Address: P.O. Box 60, Attica, Indiana 47918
Part 70 Permit No.: T045-22716-00002

Months: _____ **to** _____ **Year:** _____

This report is an affirmation that the source has met all the requirements stated in this permit. This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".
☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By:

Title/Position:

Date:

Phone:

Attach a signed certification to complete this report.

Attachment A
to Part 70 PSD/Significant Source Modification and Significant Permit Modification

40 CFR 63, Subpart EEEEE—National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries

Source Name:	Harrison Steel Castings Company
Source Location:	900 North Mound Street, Attica, Indiana 47918
County:	Fountain
SIC Code:	3325, 3321
PSD/SSM No.:	045-25405-00002
SPM No.:	045-25426-00002
Permit Reviewer:	Laura Spriggs

Source: 69 FR 21923, Apr. 22, 2004, unless otherwise noted.

What this Subpart Covers

§ 63.7680 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for iron and steel foundries. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emissions limitations, work practice standards, and operation and maintenance requirements in this subpart.

§ 63.7681 Am I subject to this subpart?

You are subject to this subpart 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 subpart 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 as defined in §63.2.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7218, February 7, 2008]

§ 63.7682 What parts of my foundry does this subpart cover?

(a) The affected source is each new or existing iron and steel foundry.

(b) This subpart covers emissions from metal melting furnaces, scrap preheaters, pouring areas, pouring stations, automated conveyor and pallet cooling lines, automated shakeout lines, and mold and core making lines. This subpart 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 §63.2.

§ 63.7683 When do I have to comply with this subpart?

(a) Except as specified in paragraph (b) of this section, if you have an existing affected source, you must comply with each emissions limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you no later than April 23, 2007. Major source status for existing affected sources must be determined no later than April 23, 2007.

(b) If you have an existing affected source, you must comply with the work practice standards in §63.7700(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 must comply with each emissions limitation, work practice standard, and operation and maintenance requirement in this subpart 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 must comply with each emissions limitation, work practice standard, and operation and maintenance requirement in this subpart 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 must meet the requirements of §63.6(c)(5).

(f) You must meet the notification and schedule requirements in §63.7750. Note that several of these notifications must be submitted before the compliance date for your affected source.

Emissions Limitations

§ 63.7690 What emissions limitations must I meet?

(a) You must meet the emissions limits or standards in paragraphs (a)(1) through (11) of this section that apply to you. When alternative emissions limitations are provided for a given emissions source, you are not restricted in the selection of which applicable alternative emissions limitation is used to demonstrate compliance.

(1) For each electric arc metal melting furnace, electric induction metal melting furnace, or scrap preheater at an existing iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for particulate matter (PM) in paragraph (a)(1)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(1)(ii) of this section:

(i) 0.005 grains of PM per dry standard cubic foot (gr/dscf), or

(ii) 0.0004 gr/dscf of total metal HAP.

(2) For each cupola metal melting furnace at an existing iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(2)(i) or (ii) of this section or, alternatively the limit for total metal HAP in paragraph (a)(2)(iii) or (iv) of this section:

(i) 0.006 gr/dscf of PM; or

(ii) 0.10 pound of PM per ton (lb/ton) of metal charged, or

(iii) 0.0005 gr/dscf of total metal HAP; or

(iv) 0.008 pound of total metal HAP per ton (lb/ton) of metal charged.

(3) For each cupola metal melting furnace or electric arc metal melting furnace at a new iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(3)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(3)(ii) of this section:

(i) 0.002 gr/dscf of PM, or

(ii) 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, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(4)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(4)(ii) of this section:

(i) 0.001 gr/dscf of PM, or

(ii) 0.00008 gr/dscf of total metal HAP.

(5) For each pouring station at an existing iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(5)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(5)(ii) of this section:

(i) 0.010 gr/dscf of PM, or

(ii) 0.0008 gr/dscf of total metal HAP.

(6) For each pouring area or pouring station at a new iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(6)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(6)(ii) of this section:

(i) 0.002 gr/dscf of PM, or

(ii) 0.0002 gr/dscf of total metal HAP.

(7) For each building or structure housing any iron and steel foundry emissions source at the iron and steel foundry, you must not discharge any fugitive emissions to the atmosphere from foundry operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 27 percent opacity.

(8) For each cupola metal melting furnace at a new or existing iron and steel foundry, you must 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 percent oxygen.

(9) As an alternative to the work practice standard in §63.7700(e) for a scrap preheater at an existing iron and steel foundry or in §63.7700(f) for a scrap preheater at a new iron and steel foundry, you must 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 automated shakeout lines that use a sand mold system at a new iron and steel foundry, you must 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 must meet either the emissions limit in paragraph (a)(11)(i) of this section or, alternatively the emissions standard in paragraph (a)(11)(ii) of this section:

(i) You must not discharge emissions of TEA through a conveyance to the atmosphere that exceed 1 ppmv, as determined according to theperformance test procedures in § 63.7732(g); or

(ii) You must reduce emissions of TEA from each TEA cold box mold or core making line by at least 99 percent, as determined according to the performance test procedures in § 63.7732(g).

(b) You must meet each operating limit in paragraphs (b)(1) through (5) of this section that applies to you.

(1) You must install, operate, and maintain a capture and collection system for all emissions sources subject to an emissions limit for VOHAP or TEA in paragraphs (a)(8) through (11) of this section.

(i) Each capture and collection system must meet accepted engineering standards, such as those published by the American Conference of Governmental Industrial Hygienists.

(ii) You must operate each capture system at or above the lowest value or settings established as operating limits in your operation and maintenance plan.

(2) You must operate each wet scrubber applied to emissions from a metal melting furnace, scrap preheater, pouring area, or pouring station subject to an emissions limit for PM or total metal HAP in paragraphs (a)(1) through (6) of this section such 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 must operate each combustion device applied to emissions from a cupola metal melting furnace subject to the emissions limit for VOHAP in paragraph (a)(8) of this section, such that the 15-minute average combustion zone temperature does not fall below 1,300 degrees Fahrenheit (°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 must operate each combustion device applied to emissions from a scrap preheater subject to the emissions limit for VOHAP in paragraph (a)(9) of this section or from a TEA cold box mold or core making line subject to the emissions limit for TEA in paragraph (a)(11) of this section, such 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 must operate each wet acid scrubber applied to emissions from a TEA cold box mold or core making line subject to the emissions limit for TEA in paragraph (a)(11) of this section such that:

(i) The 3-hour average scrubbing liquid flow rate does not fall below the minimum level established during the initial or subsequent performance test; and

(ii) 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 must prepare and submit a monitoring plan containing the information listed in paragraphs (c)(1) through (5) of this section. The monitoring plan is subject to approval by the Administrator.

(1) A description of the device;

(2) Test results collected in accordance with §63.7732 verifying the performance of the device for reducing emissions of PM, total metal HAP, VOHAP, or TEA to the levels required by this subpart;

(3) A copy of the operation and maintenance plan required by §63.7710(b);

(4) A list of appropriate operating parameters that will be monitored to maintain continuous compliance with the applicable emissions limitation(s); and

(5) Operating parameter limits based on monitoring data collected during the performance test.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7218, February 7, 2008]

Work Practice Standards

§ 63.7700 What work practice standards must I meet?

(a) For each segregated scrap storage area, bin or pile, you must either comply with the certification requirements in paragraph (b) of this section, or prepare and implement a plan for the selection and inspection of scrap according to the requirements in paragraph (c) of this section. You may have certain scrap subject to paragraph (b) of this section and other scrap subject to paragraph (c) of this section at your facility provided the scrap remains segregated until charge make-up.

(b) You must 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. For the purpose of this paragraph (b), “free organic liquids” is defined as material that fails the paint filter test by EPA 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—see §63.14). Any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed and/or cleaned to the extent practicable such that the materials do not include lead components, mercury switches, chlorinated plastics, or free organic liquids can be included in this certification.

(c) You must 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 Administrator. You must keep a copy of the plan onsite and readily available to all plant personnel with materials acquisition or inspection duties. You must provide a copy of the material specifications to each of your scrap vendors. Each plan must include the information specified in paragraphs (c)(1) through (3) of this section.

(1) A materials acquisition program to limit organic contaminants according to the requirements in paragraph (c)(1)(i) or (ii) of this section, as applicable.

(i) For scrap charged to a scrap preheater, electric arc metal melting furnace, or electric induction metal melting furnace, specifications for scrap materials to be depleted (to the extent practicable) of the

presence of used oil filters, chlorinated plastic parts, organic liquids, and a program to ensure the scrap materials are drained of free liquids; or

(ii) For scrap charged to a cupola metal melting furnace, specifications for scrap materials to be depleted (to the extent practicable) of the presence of chlorinated 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 must either 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, or document your attempts to obtain a copy of these procedures from the scrap suppliers servicing your area.

(3) Procedures for visual inspection of a representative portion, but not less than 10 percent, of all incoming scrap shipments to ensure the materials meet the specifications.

(i) The inspection procedures must identify the location(s) where inspections are to be performed for each type of shipment. Inspections may be performed at the scrap supplier's facility. The selected location(s) must provide a reasonable vantage point, considering worker safety, for visual inspection.

(ii) The inspection procedures must include recordkeeping requirements that document each visual inspection and the results.

(iii) The inspection procedures must 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 three inspections in one calendar year.

(iv) If the inspections are performed at the scrap supplier's facility, the inspection procedures must include an explanation of how the periodic inspections ensure that not less than 10 percent 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 must 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 must meet either the requirement in paragraph (e)(1) or (2) of this section. As an alternative to the requirement in paragraph (e)(1) or (2) of this section, you must meet the VOHAP emissions limit in §63.7690(a)(9).

(1) You must operate and maintain a gas-fired preheater where the flame directly contacts the scrap charged; or

(2) You must charge only material that is subject to and in compliance with the scrap certification requirement in paragraph (b) of this section.

(f) For each scrap preheater at a new iron and steel foundry, you must charge only material that is subject to and in compliance with the scrap certification requirement in paragraph (b) of this section. As an alternative to this requirement, you must meet the VOHAP emissions limit in §63.7690(a)(9).

[69 FR 21923, Apr. 22, 2004, as amended at 70 FR 29404, May 20, 2005; 73 FR 7218, February 7, 2008]

Operation and Maintenance Requirements

§ 63.7710 What are my operation and maintenance requirements?

(a) As required by §63.6(e)(1)(i), you must always operate and maintain your iron and steel foundry, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this subpart.

(b) You must 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 a PM, metal HAP, TEA, or VOHAP emissions limit in §63.7690(a). Your operation and maintenance plan also must include procedures for igniting gases from mold vents in pouring areas and pouring stations that use a sand mold system. This operation and maintenance plan is subject to approval by the Administrator. Each plan must contain the elements described in paragraphs (b)(1) through (6) of this section.

(1) Monthly inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., 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 must 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 §63.7690(a)(8) through (11). You must establish the operating according to the requirements in paragraphs (b)(2)(i) through (iii) of this section.

(i) 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 must 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, but are not limited to: 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.

(ii) For each operating limit parameter selected in paragraph (b)(2)(i) of this section, 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, designate the value or setting for the parameter at which the capture system operates during each possible configuration that you may operate (i.e., the operating limits with one furnace melting, two melting, as applicable to your plant).

(iii) Include documentation in your plan to support your selection of the operating limits established for your capture system. This documentation must 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 §63.7740(a), and the data used to set the value or setting for the parameter for each of your process configurations.

(3) Preventative maintenance plan for each control device, including a preventative 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 must 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). This baghouse monitoring plan is subject to approval by the Administrator. The owner or operator shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan must address all of the items identified in paragraphs (b)(4)(i) through (v) of this section.

(i) Installation of the bag leak detection system.

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

(iii) Operation of the bag leak detection system including quality assurance procedures.

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

(v) How the bag leak detection system output will be recorded and stored.

(5) Corrective action plan for each baghouse. The plan must include the requirement that, in the event a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 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, but are not limited to:

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

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media or otherwise repairing the control device.

(iv) Sealing off a defective baghouse compartment.

(v) Cleaning the bag leak detection system probe or otherwise repairing the bag leak detection system.

(vi) Making process changes.

(vii) 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 must document and maintain records of this determination. The determination of ignitability, accessibility, and safety may encompass multiple casting patterns provided the castings utilize similar sand-to-metal ratios, binder formulations, and coating materials. The determination of ignitability must be based on observations of the mold vents within 5 minutes of pouring, and the flame must be present for at least 15 seconds for the mold vent to be considered ignited. For the purpose of this determination:

(i) Mold vents that ignite more than 75 percent of the time without the presence of an auxiliary ignition source are considered to ignite automatically; and

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

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7218, February 7, 2008]

General Compliance Requirements

§ 63.7720 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emissions limitations, work practice standards, and operation and maintenance requirements in this subpart 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 §63.7683 and the date when applicable operating limits have been established during the initial performance test, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) You must develop a written startup, shutdown, and malfunction plan according to the provisions in §63.6(e)(3). The startup, shutdown, and malfunction plan also must specify what constitutes a shutdown of a cupola and how to determine that operating conditions are normal following startup of a cupola.

[69 FR 21923, Apr. 22, 2004, as amended at 71 FR 20468, Apr. 20, 2006]

Initial Compliance Requirements

§ 63.7730 By what date must I conduct performance tests or other initial compliance demonstrations?

(a) As required by §63.7(a)(2), you must conduct a performance test no later than 180 calendar days after the compliance date that is specified in §63.7683 for your iron and steel foundry to demonstrate initial compliance with each emissions limitation in §63.7690 that applies to you.

(b) For each work practice standard in §63.7700 and each operation and maintenance requirement in §63.7710 that applies to you where initial compliance is not demonstrated using a performance test, you must demonstrate initial compliance no later than 30 calendar days after the compliance date that is specified for your iron and steel foundry in §63.7683.

(c) If you commenced construction or reconstruction between December 23, 2002 and April 22, 2004, you must 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 §63.7(a)(2)(ix).

(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 must 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 §63.7(a)(2)(ix).

§ 63.7731 When must I conduct subsequent performance tests?

(a) You must conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP, VOHAP, and TEA emissions limitations in §63.7690 for your iron and steel foundry no less frequently than every 5 years and each time you elect to change an operating limit or to comply with

a different alternative emissions limit, if applicable. 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 must conduct subsequent performance tests to demonstrate compliance with the opacity limit in §63.7690(a)(7) for your iron and steel foundry no less frequently than once every 6 months.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7219, February 7, 2008]

§ 63.7732 What test methods and other procedures must I use to demonstrate initial compliance with the emissions limitations?

(a) You must conduct each performance test that applies to your iron and steel foundry based on your selected compliance alternative, if applicable, according to the requirements in §63.7(e)(1) and the conditions specified in paragraphs (b) through (i) of this section.

(b) To determine compliance with the applicable emissions limit for PM in §63.7690(a)(1) through (6) for a metal melting furnace, scrap preheater, pouring station, or pouring area, follow the test methods and procedures in paragraphs (b)(1) through (6) of this section.

(1) Determine the concentration of PM according to the test methods in 40 CFR part 60, appendix A that are specified in paragraphs (b)(1)(i) through (v) of this section.

(i) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must 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.

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

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

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

(v) 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 three 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 during normal production conditions, which may include, but are not limited to the following cycles: Charging, melting, alloying, refining, slagging, and tapping.

(5) For scrap preheaters, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, heating, and discharging.

(6) Determine the total mass of metal charged to the furnace or scrap preheater. For a cupola metal melting furnace at an existing iron and steel foundry that is subject to the PM emissions limit in §63.7690(a)(ii), calculate the PM emissions rate in pounds of PM per ton (lb/ton) of metal charged using Equation 1 of this section:

$$EF_{PM} = C_{PM} x \left(\frac{Q}{M_{charge}} \right) x \left(\frac{t_{test}}{7,000} \right) \qquad \text{(Eq. 1)}$$

Where:

EF_{PM} = Mass emissions rate of PM, pounds of PM per ton (lb/ton) of metal charged;

C_{PM} = Concentration of PM measured during performance test run, gr/dscf;

Q = Volumetric flow rate of exhaust gas, dry standard cubic feet per minute (dscfm);

M_{charge} = Mass of metal charged during performance test run, tons;

t_{test} = Duration of performance test run, minutes; and
7,000 = Unit conversion factor, grains per pound (gr/lb).

(c) To determine compliance with the applicable emissions limit for total metal HAP in § 63.7690(a)(1) through (6) for a metal melting furnace, scrap preheater, pouring station, or pouring area, follow the test methods and procedures in paragraphs (c)(1) through (6) of this section.

(1) Determine the concentration of total metal HAP according to the test methods in 40 CFR part 60, appendix A that are specified in paragraphs (c)(1)(i) through (v) of this section.

(i) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must 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.

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

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

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

(v) Method 29 to determine the total metal HAP concentration.

(2) A minimum of three 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 during normal production conditions, which may include, but are not limited to the following cycles: Charging, melting, alloying, refining, slagging, and tapping.

(5) For scrap preheaters, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, heating, and discharging.

(6) Determine the total mass of metal charged to the furnace or scrap preheater during each performance test run and calculate the total metal HAP emissions rate (pounds of total metal HAP per ton (lb/ton) of metal charged) using Equation 2 of this section:

$$EF_{TMHAP} = C_{TMHAP} x \left(\frac{Q}{M_{charge}} \right) x \left(\frac{t_{test}}{7,000} \right) \qquad \text{(Eq. 2)}$$

Where:

EF_{TMHAP} = Emissions rate of total metal HAP, pounds of total metal HAP per ton (lb/ton) of metal charged;

C_{TMHAP} = Concentration of total metal HAP measured during performance test run, gr/dscf;

Q = Volumetric flow rate of exhaust gas, dscfm;

M_{charge} = Mass of metal charged during performance test run, tons;

t_{test} = Duration of performance test run, minutes; and

7,000 = Unit conversion factor, gr/lb.

(d) To determine compliance with the opacity limit in §63.7690(a)(7) for fugitive emissions from buildings or structures housing any iron and steel foundry emissions source at the iron and steel foundry, follow the procedures in paragraphs (d)(1) and (2) of this section.

(1) Using a certified observer, conduct each opacity test according to the requirements in EPA Method 9 (40 CFR part 60, appendix A) and §63.6(h)(5). The certified observer may identify a limited number of openings or vents that appear to have the highest opacities and perform opacity observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single opacity observation for the entire building or structure may be performed, if the fugitive release points afford such an observation.

(2) During testing intervals when PM performance tests, if applicable, are being conducted, conduct the opacity test such the opacity observations are recorded during the PM performance tests.

(e) To determine compliance with the applicable VOHAP emissions limit in §63.7690(a)(8) for a cupola metal melting furnace or in §63.7690(a)(9) for a scrap preheater, follow the test methods and procedures in paragraphs (e)(1) through (4) of this section.

(1) Determine the VOHAP concentration for each test run according to the test methods in 40 CFR part 60, appendix A that are specified in paragraphs (b)(1)(i) through (v) of this section.

(i) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must 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.

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

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

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

(v) 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 three valid test runs. Each test run must 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 3 of this section:

$$C_{VOHAP,10\%O_2} = C_{VOHAP}\left(\frac{10.9\%}{20.9\% - \%O_2}\right) \qquad \text{(Eq. 3)}$$

Where:

C_{VOHAP} = Concentration of VOHAP in ppmv as measured by Method 18 in 40 CFR part 60, appendix A 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; and

$\%O_2$ = 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 §63.7740(d) during each sampling run in 15-minute intervals. Determine and record the 15-minute average of the three runs.

(f) Follow the applicable procedures in paragraphs (f)(1) through (3) of this section to determine compliance with the VOHAP emissions limit in §63.7690(a)(10) for automated pallet cooling lines or automated shakeout lines.

(1) Follow these procedures to demonstrate compliance by direct measurement of total hydrocarbons (a surrogate for VOHAP) using a volatile organic compound (VOC) CEMS.

(i) Using the VOC CEMS required in §63.7740(g), measure and record the concentration of total hydrocarbons (as hexane) for 180 continuous operating minutes. You must 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.

(ii) Reduce the monitoring data to hourly averages as specified in §63.8(g)(2).

(iii) Compute and record the 3-hour average of the monitoring data.

(2) As an alternative to the procedures in paragraph (f)(1) of this section, you may demonstrate compliance with the VOHAP emissions limit in §63.7690(a)(10) by establishing a site-specific TOC emissions limit that is correlated to the VOHAP emissions limit according to the procedures in paragraph (f)(2)(i) through (ix) of this section.

(i) Determine the VOHAP concentration for each test run according to the test methods in 40 CFR part 60, appendix A that are specified in paragraph (f)(2)(ii) through (vi) of this section.

(ii) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must 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.

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

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

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

(vi) 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.

(vii) Using the CEMS required in §63.7740(g), measure and record the concentration of total hydrocarbons (as hexane) during each of the Method 18 (or Method 25) sampling runs. You must 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.

(viii) 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.

(ix) Calculate the site-specific VOC emissions limit using Equation 4 of this section:

$$VOC_{limit} = 20x\frac{C_{VOHAP,avg}}{C_{CEM}} \qquad \text{(Eq. 4)}$$

Where:

$C_{VOHAP,avg}$ = Average concentration of VOHAP for the source test in ppmv as measured by Method 18 in 40 CFR part 60, appendix A 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; and

C_{CEM} = Average concentration of total hydrocarbons in ppmv as hexane as measured using the CEMS during the source test.

(3) For two 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 5 of this section:

$$C_W = \frac{\sum_{i=1}^{n} C_i Q_i}{\sum_{i=1}^{n} Q_i} \qquad \text{(Eq. 5)}$$

Where:

C_W = Flow-weighted concentration of VOHAP or VOC, ppmv (as hexane);

C_i = Concentration of VOHAP or VOC from exhaust stream ‘‘i’’, ppmv (as hexane);

n = Number of exhaust streams sampled; and

Q_i = Volumetric flow rate of effluent gas from exhaust stream ‘‘i,’’, dscfm.

(g) To determine compliance with the emissions limit or standard in §63.7690(a)(11) for a TEA cold box mold or core making line, follow the test methods in 40 CFR part 60, appendix A, specified in paragraphs (g)(1) through (4) of this section.

(1) Determine the TEA concentration for each test run according to the test methods in 40 CFR part 60, appendix A that are specified in paragraphs (g)(1)(i) through (v) of this section.

(i) 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 percent reduction standard, sampling sites must 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 must 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.

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

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

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

(v) Method 18 to determine the TEA concentration. Alternatively, you may use NIOSH Method 2010 (incorporated by reference—see §63.14) to determine the TEA concentration provided the performance requirements outlined in section 13.1 of EPA Method 18 are satisfied. The sampling option and time must 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. When using Method 18, the adsorbent tube approach, as described in section 8.2.4 of Method 18, may be required to achieve the necessary analytical detection limits. The sampling time must be at least 1 hour in all cases.

(2) If you use a wet acid scrubber, 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 §63.7690(b)(5)(ii) for pH level, determine the pH of the scrubber blowdown using the procedures in paragraph (g)(3)(i) or (ii) of this section.

(i) Measure the pH of the scrubber blowdown with the CPMS required in §63.7740(f)(2) during each TEA sampling run in intervals of no more than 15 minutes. Determine and record the 3-hour average; or

(ii) Measure and record the pH level using the probe and meter required in §63.7740(f)(2) once each sampling run. Determine and record the average pH level for the three runs.

(4) If you are subject to the 99 percent reduction standard, calculate the mass emissions reduction using Equation 6 of this section:

$$\%\text{reduction} = \frac{E_i - E_o}{E_i} x100\% \qquad \text{(Eq. 6)}$$

Where:

E_i = Mass emissions rate of TEA at control device inlet, kilograms per hour (kg/hr); and

E_o = Mass emissions rate of TEA at control device outlet, kg/hr.

(h) To determine compliance with the PM or total metal HAP emissions limits in §63.7690(a)(1) through (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 procedures in paragraphs (h)(1) through (3) of this section.

(1) Meet the most stringent applicable emissions limit for the regulated emissions sources included in the combined emissions stream for the combined emissions stream.

(2) Use the procedures in paragraphs (h)(2)(i) through (iii) of this section.

(i) Determine the volumetric flow rate of the individual regulated streams for which emissions limits apply.

(ii) Calculate the flow-weighted average emissions limit, considering only the regulated streams, using Equation 5 of this section, 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.

(iii) 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) Use the procedures in paragraphs (h)(3)(i) through (iii) of this section.

(i) 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.

(ii) 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 6 of this section, 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.

(iii) Meet the applicable emissions limit based on the calculated PM or total metal HAP concentration for the regulated emissions sources using Equation 7 of this section:

$$C_{released} = C_i x\left(1 - \frac{\%reduction}{100}\right) \qquad \text{(Eq. 7)}$$

Where:

$C_{released}$= Calculated concentration of PM (or total metal HAP) predicted to be released to the atmosphere from the regulated emissions source, gr/dscf; and

C_i= Concentration of PM (or total metal HAP) in the uncontrolled regulated exhaust stream, gr/dscf.

(i) To determine compliance with an emissions limit for situations when multiple sources are controlled by a single control device, but only one source operates at a time, or other situations that are not expressly considered in paragraphs (b) through (h) of this section, a site-specific test plan should be submitted to the Administrator for approval according to the requirements in § 63.7(c)(2) and (3).

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7219, February 7, 2008]

§ 63.7733 What procedures must I use to establish operating limits?

(a) For each capture system subject to operating limits in §63.7690(b)(1)(ii), you must establish site-specific operating limits in your operation and maintenance plan according to the procedures in paragraphs (a)(1) through (3) of this section.

(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 §63.7740(a).

(2) For any dampers that are manually set and remain at the same position at all times the capture system is operating, the damper position must be visually checked and recorded 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 §63.7690(b)(2) for pressure drop and scrubber water flow rate, you must establish site-specific operating limits according to the procedures specified in paragraphs (b)(1) and (2) of this section.

(1) Using the CPMS required in §63.7740(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 average pressure drop and average scrubber water flow rate for each valid 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 §63.7690(b)(4) for combustion zone temperature, you must establish a site-specific operating limit according to the procedures specified in paragraphs (c)(1) and (2) of this section.

(1) Using the CPMS required in §63.7740(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 average combustion zone temperature for each valid sampling run in which the applicable emissions limit is met.

(d) For each acid wet scrubber subject to the operating limit in §63.7690(b)(5), you must establish a site-specific operating limit for scrubbing liquid flow rate according to the procedures specified in paragraphs (d)(1) and (2) of this section.

(1) Using the CPMS required in §63.7740(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 average scrubbing liquid flow rate for each valid 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 meet the requirements in paragraphs (e)(1) through (3) of this section.

(1) Submit a written notification to the Administrator 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 §63.7690.

(3) Establish revised operating limits according to the applicable procedures in paragraphs (a) through (d) of this section.

(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 subpart.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

§ 63.7734 How do I demonstrate initial compliance with the emissions limitations that apply to me?

(a) You have demonstrated initial compliance with the emissions limits in §63.7690(a) by meeting the applicable conditions in paragraphs (a)(1) through (11) of this section. When alternative emissions limitations are provided for a given emissions source, you are not restricted in the selection of which applicable alternative emissions limitation is used to demonstrate compliance.

(1) For each electric arc metal melting furnace, electric induction metal melting furnace, or scrap preheater at an existing iron and steel foundry,

(i) The average PM concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(b), did not exceed 0.005 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.0004 gr/dscf.

(2) For each cupola metal melting furnace at an existing iron and steel foundry,

(i) The average PM concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(b), did not exceed 0.006 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.0005 gr/dscf; or

(iii) The average PM mass emissions rate, determined according to the performance test procedures in §63.7732(b), did not exceed 0.10 pound of PM per ton (lb/ton) of metal charged; or

(iv) The average total metal HAP mass emissions rate, determined according to the performance test procedures in §63.7732(c), did not exceed 0.008 pound of total metal HAP per ton (lb/ton) of metal charged.

(3) For each cupola metal melting furnace or electric arc metal melting furnace at a new iron and steel foundry,

(i) The average PM concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(b), did not exceed 0.002 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), 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,

(i) The average PM concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(b), did not exceed 0.001 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.00008 gr/dscf.

(5) For each pouring station at an existing iron and steel foundry,

(i) The average PM concentration in the exhaust stream, measured according to the performance test procedures in §63.7732(b), did not exceed 0.010 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.0008 gr/dscf.

(6) For each pouring area or pouring station at a new iron and steel foundry,

(i) The average PM concentration in the exhaust stream, measured according to the performance test procedures in §63.7732(b), did not exceed 0.002 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.0002 gr/dscf.

(7) For each building or structure housing any iron and steel foundry emissions source at the iron and steel foundry, the opacity of fugitive emissions from foundry operations discharged to the atmosphere, determined according to the performance test procedures in §63.7732(d), did not exceed 20 percent (6-minute average), except for one 6-minute average per hour that did not exceed 27 percent 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 §63.7732(e), did not exceed 20 ppmv corrected to 10 percent oxygen.

(9) For each scrap preheater at an existing iron and steel foundry that does not meet the work practice standards in §63.7700(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 §63.7700(f), the average VOHAP concentration determined according to the performance test procedures in §63.7732(e), 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,

(i) You have reduced the data from the CEMS to 3-hour averages according to the performance test procedures in §63.7732(f)(1) or (2); and

(ii) The 3-hour flow-weighted average VOHAP concentration, measured according to the performance test procedures in §63.7332(f)(1) or (2), 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 §63.7732(g), did not exceed 1 ppmv or was reduced by 99 percent.

(b) You have demonstrated initial compliance with the operating limits in §63.7690(b) if:

(1) For each capture system subject to the operating limit in §63.7690(b)(1)(ii),

(i) You have established appropriate site-specific operating limits in your operation and maintenance plan according to the requirements in §63.7710(b); and

(ii) You have a record of the operating parameter data measured during the performance test in accordance with §63.7733(a); and

(2) For each wet scrubber subject to the operating limits in §63.7690(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 §63.7733(b).

(3) For each combustion device subject to the operating limit in §63.7690(b)(3) for combustion zone temperature, you have a record of the combustion zone temperature measured during the performance test in accordance with §63.7732(e)(4).

(4) For each combustion device subject to the operating limit in §63.7690(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 §63.7733(c).

(5) For each acid wet scrubber subject to the operating limits in §63.7690(b)(5) for scrubbing liquid flow rate and scrubber blowdown pH,

(i) 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 §63.7733(d); and

(ii) You have a record of the pH of the scrubbing liquid blowdown measured during the performance test in accordance with §63.7732(g)(3).

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

§ 63.7735 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 §63.7700(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 §63.7700(c) for a scrap inspection and selection plan, you have demonstrated initial compliance if you have certified in your notification of compliance status that:

(1) You have submitted a written plan to the Administrator for approval according to the requirements in §63.7700(c); and

(2) 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 §63.7700(d), you have demonstrated initial compliance if you have certified in your notification of compliance status that:

(1) You will meet the no methanol requirement for the catalyst portion of each binder chemical formulation; and

(2) 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 §63.7700(e)(1) or (2), you have demonstrated initial compliance if you have certified in your notification of compliance status that:

(1) 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 such that the flame directly contacts the scrap charged, and you have records documenting your certification of compliance that are onsite and available for inspection; or

(2) You will charge only material that is subject to and in compliance with the scrap certification requirements in §63.7700(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 §63.7700(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 §63.7700(b) and you have records documenting your certification of compliance that are onsite and available for inspection.

[69 FR 21923, Apr. 22, 2004, as amended at 70 FR 29404, May 20, 2005]

§ 63.7736 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 §63.7690(b), you have demonstrated initial compliance if you have met the conditions in paragraphs (a)(1) and (2) of this section.

(1) You have certified in your notification of compliance status that:

(i) You have submitted the capture system operation and maintenance plan to the Administrator for approval according to the requirements of §63.7710(b); and

(ii) You will inspect, operate, and maintain each capture system according to the procedures in the plan.

(2) You have 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 §63.7690(b), you have demonstrated initial compliance if you have certified in your notification of compliance status that:

(1) You have submitted the control device operation and maintenance plan to the Administrator for approval according to the requirements of §63.7710(b); and

(2) 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 in your notification of compliance status that:

(1) You have submitted the bag leak detection system monitoring information to the Administrator within the written O&M plan for approval according to the requirements of §63.7710(b);

(2) You will inspect, operate, and maintain each bag leak detection system according to the procedures in the plan; and

(3) 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 in your notification of compliance status report that:

(1) You have submitted the mold vent ignition plan to the Administrator for approval according to the requirements in §63.7710(b); and

(2) You will follow the procedures for igniting mold vent gases according to the requirements in the plan.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

Continuous Compliance Requirements

§ 63.7740 What are my monitoring requirements?

(a) For each capture system subject to an operating limit in §63.7690(b)(1), you must install, operate, and maintain a CPMS according to the requirements in §63.7741(a) and the requirements in paragraphs (a)(1) and (2) of this section.

(1) If you use a flow measurement device to monitor the operating limit parameter, you must at all times monitor the hourly average rate (e.g., 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) Dampers that are manually set and remain in the same position are exempt from the requirement to install and operate a CPMS. If dampers are not manually set and remain in the same position, you must 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.

(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 subpart, you must at all times monitor the relative change in PM loadings using a bag leak detection system according to the requirements in § 63.7741(b).

(c) For each baghouse, regardless of type, that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must conduct inspections at their specified frequencies according to the requirements specified in paragraphs (c)(1) through (8) of this section.

(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 inspections 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.

(d) For each wet scrubber subject to the operating limits in §63.7690(b)(2), you must at all times monitor the 3-hour average pressure drop and scrubber water flow rate using CPMS according to the requirements in §63.7741(c).

(e) For each combustion device subject to the operating limit in §63.7690(b)(3), you must at all times monitor the 15-minute average combustion zone temperature using a CPMS according to the requirements of §63.7741(d).

(f) For each combustion device subject to the operating limit in §63.7690(b)(4), you must at all times monitor the 3-hour average combustion zone temperature using CPMS according to the requirements in §63.7741(d).

(g) For each wet acid scrubber subject to the operating limits in §63.7690(b)(5),

(1) You must at all times monitor the 3-hour average scrubbing liquid flow rate using CPMS according to the requirements of §63.7741(e)(1); and

(2) You must at all times monitor the 3-hour average pH of the scrubber blowdown using CPMS according to the requirements in §63.7741(e)(2) or measure and record the pH of the scrubber blowdown once per production cycle using a pH probe and meter according to the requirements in §63.7741(e)(3).

(h) 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 §63.7690(a)(10), you must at all times monitor the 3-hour average VOHAP concentration using a CEMS according to the requirements of §63.7741(g).

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

§ 63.7741 What are the installation, operation, and maintenance requirements for my monitors?

(a) For each capture system subject to an operating limit in §63.7690(b)(1), you must install, operate, and maintain each CPMS according to the requirements in paragraphs (a)(1) through (3) of this section.

(1) If you use a flow measurement device to monitor an operating limit parameter for a capture system, you must meet the requirements in paragraphs (a)(1)(i) through (iv) of this section.

(i) 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.

(ii) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the flow rate.

(iii) Conduct a flow sensor calibration check at least semiannually.

(iv) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(2) If you use a pressure measurement device to monitor the operating limit parameter for a capture system, you must meet the requirements in paragraphs (a)(2)(i) through (vi) of this section.

(i) Locate the pressure sensor(s) 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.

(ii) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.

(iii) Check the pressure tap for pluggage daily. If a ‘‘non-clogging’’ pressure tap is used, check for pluggage monthly.

(iv) Using a manometer or equivalent device such as a magnahelic or other pressure indicating transmitter, check gauge and transducer calibration quarterly.

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

(vi) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(3) Record the results of each inspection, calibration, and validation check.

(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 subpart, you must install, operate, and maintain a bag leak detection system according to the requirements in paragraphs (b)(1) through (7) of this section.

(1) The system must 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 must 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 (e.g., using a strip chart recorder or a data logger).

(3) The system must 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, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(4) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (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, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time without approval from the Administrator. Except, once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonable effects including

temperature and humidity according to the procedures in the operation and maintenance plan required by §63.7710(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 must 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 §63.7690(b)(2), you must install and maintain CPMS to measure and record the pressure drop and scrubber water flow rate according to the requirements in paragraphs (c)(1) and (2) of this section.

(1) For each CPMS for pressure drop you must:

(i) 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.

(ii) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.

(iii) Check the pressure tap for pluggage daily. If a ‘‘non-clogging’’ pressure tap is used, check for pluggage monthly

(iv) Using a manometer or equivalent device such as a magnahelic or other pressure indicating transmitter, check gauge and transducer calibration quarterly.

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

(vi) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(2) For each CPMS for scrubber liquid flow rate, you must:

(i) 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.

(ii) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the flow rate.

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

(iv) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(d) For each combustion device subject to the operating limit in §63.7690(b)(3) or (4), you must install and maintain a CPMS to measure and record the combustion zone temperature according to the requirements in paragraphs (d)(1) through (8) of this section.

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

(2) For a noncryogenic temperature range, use a temperature sensor with a minimum tolerance of 2.2 °C or 0.75 percent 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 percent 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 must 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 must yield a reading within 16.7 °C of the process temperature sensor's reading.

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

(8) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(e) For each wet acid scrubber subject to the operating limits in §63.7690(b)(5), you must:

(1) Install and maintain CPMS to measure and record the scrubbing liquid flow rate according to the requirements in paragraph (c)(2) of this section; and

(2) Install and maintain CPMS to measure and record the pH of the scrubber blowdown according to the requirements in paragraph (e)(2)(i) through (iv) of this section.

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

(ii) Use a gauge with a minimum measurement sensitivity of 0.1 pH or a transducer with a minimum measurement sensitivity of 5 percent of the pH range.

(iii) Check gauge calibration quarterly and transducer calibration monthly using a manual pH gauge.

(iv) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(3) As an alternative to the CPMS required in paragraph (e)(2) of this section, you may use a pH probe to extract a sample for analysis by a pH meter that meets the requirements in paragraphs (e)(3)(i) through (iii) of this section.

(i) The pH meter must have a range of at least 1 to 5 or more;

(ii) The pH meter must have an accuracy of ±0.1; and

(iii) The pH meter must have a resolution of at least 0.1 pH.

(f) You must operate each CPMS used to meet the requirements of this subpart according to the requirements specified in paragraphs (f)(1) through (3) of this section.

(1) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of three of the required four data points to constitute a valid hour of data.

(2) Each CPMS must have valid hourly data for 100 percent of every averaging period.

(3) Each CPMS must determine 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 emissions limit in §63.7690(a)(10), you must install, operate, and maintain a CEMS to measure and record the concentration of VOHAP emissions according to the requirements in paragraphs (g)(1) through (3) of this section.

(1) You must install, operate, and maintain each CEMS according to Performance Specification 8 in 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each CEMS according to the requirements of §63.8 and Performance Specification 8 in 40 CFR part 60, appendix B.

(3) You must operate each CEMS according to the requirements specified in paragraph (g)(3)(i) through (iv) of this section.

(i) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(ii) You must reduce CEMS data as specified in §63.8(g)(2).

(iii) Each CEMS must determine and record the 3-hour average emissions using all the hourly averages collected for periods during which the CEMS is not out-of-control.

(iv) Record the results of each inspection, calibration, and validation check.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

§ 63.7742 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 must monitor continuously (or collect data at all required intervals) any time a source of emissions is operating.

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

(c) A monitoring malfunction is 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.

§ 63.7743 How do I demonstrate continuous compliance with the emissions limitations that apply to me?

(a) You must demonstrate continuous compliance by meeting the applicable conditions in paragraphs (a)(1) through (12) of this section. When alternative emissions limitations are provided for a given emissions source, you must comply with the alternative emissions limitation most recently selected as your compliance alternative.

(1) For each electric arc metal melting furnace, electric induction metal melting furnace, or scrap preheater at an existing iron and steel foundry,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.005 gr/dscf; or

(ii) Maintaining 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,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.006 gr/dscf; or

(ii) Maintaining the average total metal HAP concentration in the exhaust stream at or below 0.0005 gr/dscf; or

(iii) Maintaining the average PM mass emissions rate at or below 0.10 pound of PM per ton (lb/ton) of metal charged; or

(iv) Maintaining the average total metal HAP mass emissions rate at or below 0.008 pound of total metal HAP per ton (lb/ton) of metal charged.

(3) For each cupola metal melting furnace or electric arc metal melting furnace at new iron and steel foundry, (i) Maintaining the average PM concentration in the exhaust stream at or below 0.002 gr/dscf; or

(ii) Maintaining 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,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.001 gr/dscf; or

(ii) Maintaining 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,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.010 gr/dscf; or

(ii) Maintaining 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,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.002 gr/dscf; or

(ii) Maintaining 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 iron and steel foundry emissions source at the iron and steel foundry, maintaining the opacity of any fugitive emissions from foundry operations discharged to the atmosphere at or below 20 percent opacity (6-minute average), except for one 6-minute average per hour that does not exceed 27 percent opacity.

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

(9) For each scrap preheater at an existing new iron and steel foundry that does not comply with the work practice standard in §63.7700(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 §63.7700(f), maintaining 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,

(i) Maintaining the 3-hour flow-weighted average VOHAP concentration in the exhaust stream at or below 20 ppmv;

(ii) Inspecting and maintaining each CEMS according to the requirements of §63.7741(g) and recording all information needed to document conformance with these requirements; and

(iii) Collecting and reducing monitoring data for according to the requirements of §63.7741(g) and recording 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, maintaining a 99 percent reduction in the VOHAP concentration in the exhaust stream or maintaining the average VOHAP concentration in the exhaust stream at or below 1 ppmv.

(12) Conducting subsequent performance tests at least every 5 years for each emissions source subject to an emissions limit for PM, total metal HAP, VOHAP, or TEA in §63.7690(a) and subsequent performance tests at least every 6 months for each building or structure subject to the opacity limit in §63.7690(a)(7).

(b) You must demonstrate continuous compliance for each capture system subject to an operating limit in §63.7690(b)(1) by meeting the requirements in paragraphs (b)(1) and (2) of this section.

(1) Operating the capture system at or above the lowest values or settings established for the operating limits in your operation and maintenance plan; and

(2) Monitoring the capture system according to the requirements in §63.7740(a) and collecting, reducing, and recording the monitoring data for each of the operating limit parameters according to the applicable requirements in this subpart.

(c) For each baghouse,

(1) Inspecting and maintaining each baghouse according to the requirements of §63.7740(c)(1) through (8) and recording all information needed to document conformance with these requirements; and

(2) If the baghouse is equipped with a bag leak detection system, maintaining records of the times the bag leak detection system 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.

(d) For each wet scrubber that is subject to the operating limits in §63.7690(b)(2), you must demonstrate continuous compliance by:

(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 §63.7741(c) and recording all information needed to document conformance with these requirements; and

(3) Collecting and reducing monitoring data for pressure drop and scrubber water flow rate according to the requirements of §63.7741(f) and recording all information needed to document conformance with these requirements.

(e) For each combustion device that is subject to the operating limit in §63.7690(b)(3), you must demonstrate continuous compliance by:

(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 §63.7741(d) and recording all information needed to document conformance with these requirements; and

(3) Collecting and reducing monitoring data for combustion zone temperature according to the requirements of §63.7741(f) and recording all information needed to document conformance with these requirements.

(f) For each combustion device that is subject to the operating limit in §63.7690(b)(4), you must demonstrate continuous compliance by:

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

(2) Inspecting and maintaining each CPMS according to the requirements of §63.7741(d) and recording all information needed to document conformance with these requirements; and

(3) Collecting and reducing monitoring data for combustion zone temperature according to the requirements of §63.7741(f) and recording all information needed to document conformance with these requirements.

(g) For each acid wet scrubber subject to the operating limits in §63.7690(b)(5), you must demonstrate continuous compliance by:

(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 §63.7741(e) and recording all information needed to document conformance with these requirements; and

(4) Collecting and reducing monitoring data for scrubbing liquid flow rate and scrubber blowdown pH according to the requirements of §63.7741(f) and recording all information needed to document conformance with these requirements. If the pH level of the scrubber blowdown is measured by a probe and meter, you must demonstrate continuous compliance by maintaining records that document the date, time, and results of each sample taken for each production shift.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7222, February 7, 2008]

§ 63.7744 How do I demonstrate continuous compliance with the work practice standards that apply to me?

(a) You must maintain records that document continuous compliance with the certification requirements in §63.7700(b) or with the procedures in your scrap selection and inspection plan required in §63.7700(c). Your records documenting compliance with the scrap selection and inspection plan must 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 must 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 §63.7700(d).

(c) For a scrap preheater at an existing iron and steel foundry, you must operate and maintain each gas-fired preheater such that the flame directly contacts the scrap charged to demonstrate continuous compliance with the requirement §63.7700(e)(1). If you choose to meet the work practice standard in §63.7700(e)(2), you must keep records to document that the scrap preheater charges only material that is subject to and in compliance with the scrap certification requirements in §63.7700(b).

(d) For a scrap preheater at a new iron and steel foundry, you must keep records to document that each scrap preheater charges only material that is subject to and in compliance with the scrap certification requirements in §63.7700(b) to demonstrate continuous compliance with the requirement in §63.7700(f).

§ 63.7745 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 emissions source subject to an emissions limit in §63.7690(a), you must demonstrate continuous compliance with the operation and maintenance requirements of §63.7710 by:

(1) Making monthly inspections of capture systems and initiating corrective action according to §63.7710(b)(1) and recording all information needed to document conformance with these requirements;

(2) Performing preventative maintenance for each control device according to the preventive maintenance plan required by §63.7710(b)(3) and recording all information needed to document conformance with these requirements;

(3) Operating and maintaining each bag leak detection system according to the site-specific monitoring plan required by §63.7710(b)(4) and recording all information needed to demonstrate conformance with these requirements;

(4) Initiating and completing corrective action for a bag leak detection system alarm according to the corrective action plan required by §63.7710(b)(5) and recording all information needed to document conformance with these requirements; and

(5) Igniting gases from mold vents according to the procedures in the plan required by §63.7710(b)(6). (Any instance where you fail to follow the procedures is a deviation that must be included in your semiannual compliance report.)

(b) You must maintain a current copy of the operation and maintenance plans required by §63.7710(b) onsite and available for inspection upon request. You must 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 subpart.

§ 63.7746 What other requirements must I meet to demonstrate continuous compliance?

(a) Deviations. You must report each instance in which you did not meet each emissions limitation in §63.7690 (including each operating limit) that applies to you. This requirement includes periods of startup, shutdown, and malfunction. You also must report each instance in which you did not meet each work practice standard in §63.7700 and each operation and maintenance requirement of §63.7710 that applies to you. These instances are deviations from the emissions limitations, work practice standards, and operation and maintenance requirements in this subpart. These deviations must be reported according to the requirements of §63.7751.

(b) Startups, shutdowns, and malfunctions. (1) Consistent with the requirements of §§63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with §63.6(e)(1).

(2) The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations according to the provisions in §63.6(e).

[69 FR 21923, Apr. 22, 2004, as amended at 71 FR 20468, Apr. 20, 2006]

§ 63.7747 How do I apply for alternative monitoring requirements for a continuous emissions monitoring system?

(a) You may request an alternative monitoring method to demonstrate compliance with the VOHAP emissions limits in §63.7690(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 can request approval to use an alternative monitoring method in the notification of construction or reconstruction for new sources, or at any time.

(c) You must submit a monitoring plan 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 emissions limit, operating limit(s) (if applicable) determined according to the test results, and the frequency of measuring and recording to establish continuous compliance. If applicable, you must 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 must not begin until approval is granted by the Administrator.

Notifications, Reports, and Records

§ 63.7750 What notifications must I submit and when?

(a) You must submit all of the notifications required by §§63.6(h)(4) and (5), 63.7(b) and (c); 63.8(e); 63.8(f)(4) and (6); 63.9(b) through (h) that apply to you by the specified dates.

(b) As specified in §63.9(b)(2), if you start up your iron and steel foundry before April 22, 2004, you must 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 must submit your initial notification no later than 120 calendar days after you become subject to this subpart.

(d) If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required by §63.7(b)(1).

(e) If you are required to conduct a performance test or other initial compliance demonstration, you must submit a notification of compliance status according to the requirements of §63.9(h)(2)(ii). For opacity performance tests, the notification of compliance status may be submitted with the semiannual compliance report in §63.7751(a) and (b) or the semiannual part 70 monitoring report in § 63.7551(d).

(1) For each initial compliance demonstration that does not include a performance test, you must 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 must 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 §63.10(d)(2).

§ 63.7751 What reports must I submit and when?

(a) Compliance report due dates. Unless the Administrator has approved a different schedule, you must submit a semiannual compliance report to your permitting authority according to the requirements specified in paragraphs (a)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your iron and steel foundry by §63.7683 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 must 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 must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent compliance report must 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 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent

compliance reports according to the dates the permitting authority has established instead of the dates specified in paragraphs (a)(1) through (4) of this section.

(b) Compliance report contents. Each compliance report must include the information specified in paragraphs (b)(1) through (3) of this section and, as applicable, paragraphs (b)(4) through (8) of this section.

(1) Company name and address.

(2) 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) Date of report and 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 compliance report must include the information in §63.10(d)(5)(i).

(5) If there were no deviations from any emissions limitations (including operating limit), work practice standards, or operation and maintenance requirements, a statement that there were no deviations from the emissions limitations, work practice standards, or operation and maintenance requirements 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 §63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

(7) For each deviation from an emissions 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 emissions limitation or work practice standard required in this subpart, the compliance report must contain the information specified in paragraphs (b)(1) through (4) and (b)(7)(i) and (ii) of this section. This requirement includes periods of startup, shutdown, and malfunction.

(i) The total operating time of each emissions source during the reporting period.

(ii) 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 emissions 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 emissions limitation or work practice standard in this subpart, you must include the information specified in paragraphs (b)(1) through (4) and (b)(8)(i) through (xi) of this section. This requirement includes periods of startup, shutdown, and malfunction.

(i) The date and time that each malfunction started and stopped.

(ii) The date and time that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time, and duration that each continuous monitoring system was out-of-control, including the information in §63.8(c)(8).

(iv) 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.

(v) 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.

(vi) 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.

(vii) 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.

(viii) A brief description of the process units.

(ix) A brief description of the continuous monitoring system.

(x) The date of the latest continuous monitoring system certification or audit.

(xi) 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 and the source exceeds any applicable emissions limitation in § 63.7690, you must submit an immediate startup, shutdown, and malfunction report according to the requirements of §63.10(d)(5)(ii).

(d) Part 70 monitoring report. If you have obtained a title V operating permit for an iron and steel foundry pursuant to 40 CFR part 70 or 40 CFR part 71, you must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(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 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the compliance report includes all the required information concerning deviations from any emissions limitation or operation and maintenance requirement in this subpart, 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 your permitting authority.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7222, February 7, 2008]

§ 63.7752 What records must I keep?

(a) You must keep the records specified in paragraphs (a)(1) through (4) of this section:

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any initial notification or notification of compliance status that you submitted, according to the requirements of §63.10(b)(2)(xiv).

(2) The records specified in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests and performance evaluations as required by §63.10(b)(2)(viii).

(4) Records of the annual quantity of each chemical binder or coating material used to coat or 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 in these chemical binder or coating materials at the foundry as calculated from the recorded quantities and chemical compositions (from Material Data Safety Sheets or other documentation).

(b) You must keep the following records for each CEMS.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (i.e., superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Request for alternatives to relative accuracy tests for CEMS as required in §63.8(f)(6)(i).

(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 must keep the records required by §§63.7743, 63.7744, and 63.7745 to show continuous compliance with each emissions limitation, work practice standard, and operation and maintenance requirement that applies to you.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7222, February 7, 2008]

§ 63.7753 In what form and for how long must I keep my records?

(a) You must keep your records in a form suitable and readily available for expeditious review, according to the requirements of §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to the requirements in §63.10(b)(1). You can keep the records for the previous 3 years offsite.

Other Requirements and Information

§ 63.7760 What parts of the General Provisions apply to me?

Table 1 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§ 63.7761 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (EPA), or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to non-opacity emissions limitations in §63.7690 and work practice standards in §63.7700 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

Definitions

§ 63.7765 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA), in §63.2, and in this section.

Automated conveyor and pallet cooling line means any dedicated conveyor line or area used for cooling molds received from pouring stations.

Automated shakeout line means any mechanical process unit designed for and dedicated to separating a casting from a mold. These mechanical processes include, but are not limited to, 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.

Bag leak detection system means a system that is capable of continuously monitoring relative particulate matter (dust) loadings in the exhaust of a baghouse to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, electrodynamic, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

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.

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, but is not limited to, the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

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.

Combustion device means an afterburner, thermal incinerator, or scrap preheater.

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, but does not necessarily 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.

Cooling means the process of molten metal solidification within the mold and subsequent temperature reduction prior to shakeout.

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.

Deviation means any instance in which an affected source or an owner or operator of such an affected source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emissions limitation (including operating limits), work practice standard, or operation and maintenance requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any iron and steel foundry required to obtain such a permit; or

(3) Fails to meet any emissions limitation (including operating limits) or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart. A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.

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.

Electric induction furnace means a vessel in which forms of iron and steel such as scrap and foundry returns are melted though 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.

Emissions limitation means any emissions limit or operating limit.

Exhaust stream means gases emitted from a process through a conveyance as defined in this subpart.

Free organic liquids means material that fails the paint filter test by EPA Method 9095A (incorporated by reference—see §63.14). That is, if any portion of the material passes through and drops from the filter within the 5-minute test period, the material contains free liquids.

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

Fugitive emissions means any pollutant released to the atmosphere that is not discharged through a conveyance as defined in this subpart.

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.

Hazardous air pollutant means any substance on the list originally established in 112(b)(1) of the CAA and subsequently amended as published in the Code of Federal Regulations.

Iron and steel foundry means a facility or portion of a facility that melts scrap, ingot, and/or other forms of iron and/or 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.

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

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. This definition does not include a line for making green sand molds or cores.

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.

Off blast means those periods of cupola operation when the cupola is not actively being used to produce molten metal. Off blast conditions include cupola startup when air is introduced to the cupola to preheat the sand bed and other cupola startup procedures as defined in the startup, shutdown, and malfunction plan. Off blast conditions also include idling conditions when the blast air is turned off or down to the point that the cupola does not produce additional molten metal.

On blast means those periods of cupola operation when combustion (blast) air is introduced to the cupola furnace and the furnace is capable of producing molten metal. On blast conditions are characterized by both blast air introduction and molten metal production.

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 do not meet the definition of a pouring station.

Pouring station means the fixed location to which molds are brought in a continuous or semicontinuous manner to receive molten metal, after which the molds are moved to a cooling area.

Responsible official means responsible official as defined in §63.2.

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 volatile impurities or other tramp materials by direct flame heating or similar means of heating. Scrap dryers, which solely remove moisture from metal scrap, are not considered to be scrap preheaters for purposes of this subpart.

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.

Total metal HAP means, for the purposes of this subpart, the sum of the concentrations of antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium as measured by EPA Method 29 (40 CFR part 60, appendix A). Only the measured concentration of the listed analytes that are present at concentrations exceeding one-half the quantitation limit of the analytical method are to be used in the sum. If any of the analytes are not detected or are detected at concentrations less than one-half the quantitation limit of the analytical method, the concentration of those analytes will be assumed to be zero for the purposes of calculating the total metal HAP for this subpart.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

[69 FR 21923, Apr. 22, 2004, as amended at 70 FR 29404, May 20, 2005; 73 FR 7222, February 7, 2008]

Table 1 to Subpart EEEEE of Part 63—Applicability of General Provisions to Subpart EEEEE

[As stated in §63.7760, you must meet each requirement in the following table that applies to you.]

Citation	Subject	Applies to Subpart EEEEE?	Explanation
63.1	Applicability	Yes	
63.2	Definitions	Yes	
63.3	Units and abbreviations	Yes	
63.4	Prohibited activities	Yes	
63.5	Construction/reconstruction	Yes	
63.6(a)–(g)	Compliance with standards and maintenance requirements	Yes	
63.6(h)	Opacity and visible emissions standards	Yes	
63.6(i)–(j)	Compliance extension and Presidential compliance exemption	Yes	
63.7(a)(1)–(a)(2)	Applicability and performance test dates	No	Subpart EEEEE specifies applicability and performance test dates.
63.7(a)(3), (b)–(h)	Performance testing requirements	Yes	
63.8(a)(1)–(a)(3), (b), (c)(1)–(c)(3), (c)(6)–(c)(8), (d), (e), (f)(1)–(f)(6), (g)(1)–(g)(4)	Monitoring requirements	Yes	Subpart EEEEE specifies requirements for alternative monitoring systems.
63.8(a)(4)	Additional monitoring requirements for control devices in §63.11	No	Subpart EEEEE does not require flares.
63.8(c)(4)	Continuous monitoring system (CMS) requirements	No	Subpart EEEEE specifies requirements for operation of CMS and CEMS.

63.8(c)(5)	Continuous opacity monitoring system (COMS) Minimum Procedures	No	Subpart EEEEE does not require COMS.
63.8(g)(5)	Data reduction	No	Subpart EEEEE specifies data reduction requirements.
63.9	Notification requirements	Yes	Except: for opacity performance tests, Subpart EEEEE allows the notification of compliance status to be submitted with the semiannual compliance report or the semiannual part 70 monitoring report.
63.10(a)–(b), (c)(1)–(6), (c)(9)–(15), (d)(1)–(2), (e)(1)–(2), (f)	Recordkeeping and reporting requirements	Yes	Additional records for CMS in §63.10(c)(1)–(6), (9)–(15) apply only to CEMS.
63.10(c)(7)–(8)	Records of excess emissions and parameter monitoring exceedances for CMS	No	Subpart EEEEE specifies records requirements.
63.10(d)(3)	Reporting opacity or visible emissions observations	Yes	
63.10(e)(3)	Excess emissions reports	No	Subpart EEEEE specifies reporting requirements.
63.10(e)(4)	Reporting COMS data	No	Subpart EEEEE data does not require COMS.
63.11	Control device requirements	No	Subpart EEEEE does not require flares.
63.12	State authority and delegations	Yes	
63.13–63.15	Addresses of State air pollution control agencies and EPA regional offices. Incorporation by reference. Availability of information and confidentiality	Yes	

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7223, February 7, 2008]

Attachment B
to Part 70 PSD/Significant Source Modification and Significant Permit Modification

40 CFR 63, Subpart MMMM—National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products

Source Name:	Harrison Steel Castings Company
Source Location:	900 North Mound Street, Attica, Indiana 47918
County:	Fountain
SIC Code:	3325, 3321
PSD/SSM No.:	045-25405-00002
SPM No.:	045-25426-00002
Permit Reviewer:	Laura Spriggs

Source: 69 FR 157, Jan. 2, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.3880 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for miscellaneous metal parts and products surface coating facilities. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

§ 63.3881 Am I subject to this subpart?

(a) Miscellaneous metal parts and products include, but are not limited to, metal components of the following types of products as well as the products themselves: motor vehicle parts and accessories, bicycles and sporting goods, recreational vehicles, extruded aluminum structural components, railroad cars, heavy duty trucks, medical equipment, lawn and garden equipment, electronic equipment, magnet wire, steel drums, industrial machinery, metal pipes, and numerous other industrial, household, and consumer products. Except as provided in paragraph (c) of this section, the source category to which this subpart applies is the surface coating of any miscellaneous metal parts or products, as described in paragraph (a)(1) of this section, and it includes the subcategories listed in paragraphs (a)(2) through (6) of this section.

(1) Surface coating is the application of coating to a substrate using, for example, spray guns or dip tanks. When application of coating to a substrate occurs, then surface coating also includes associated activities, such as surface preparation, cleaning, mixing, and storage. However, these activities do not comprise surface coating if they are not directly related to the application of the coating. Coating application with handheld, non-refillable aerosol containers, touch-up markers, marking pens, or the application of paper film or plastic film which may be pre-coated with an adhesive by the manufacturer are not coating operations for the purposes of this subpart.

(2) The general use coating subcategory includes all surface coating operations that are not high performance, magnet wire, rubber-to-metal, or extreme performance fluoropolymer coating operations.

(3) The high performance coating subcategory includes surface coating operations that are performed using coatings that meet the definition of high performance architectural coating or high temperature coating in §63.3981.

(4) The magnet wire coating subcategory includes surface coating operations that are performed using coatings that meet the definition of magnet wire coatings in §63.3981.

(5) The rubber-to-metal coatings subcategory includes surface coating operations that are performed using coatings that meet the definition of rubber-to-metal coatings in §63.3981.

(6) The extreme performance fluoropolymer coatings subcategory includes surface coating operations that are performed using coatings that meet the definition of extreme performance fluoropolymer coatings in §63.3981.

(b) You are subject to this subpart if you own or operate a new, reconstructed, or existing affected source, as defined in §63.3882, that uses 946 liters (250 gallons (gal)) per year, or more, of coatings that contain hazardous air pollutants (HAP) in the surface coating of miscellaneous metal parts and products defined in paragraph (a) of this section; and that is a major source, is located at a major source, or is part of a major source of emissions of HAP. A major source of HAP emissions is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (Mg) (10 tons) or more per year or any combination of HAP at a rate of 22.68 Mg (25 tons) or more per year. You do not need to include coatings that meet the definition of non-HAP coating contained in §63.3981 in determining whether you use 946 liters (250 gal) per year, or more, of coatings in the surface coating of miscellaneous metal parts and products.

(c) This subpart does not apply to surface coating or a coating operation that meets any of the criteria of paragraphs (c)(1) through (17) of this section.

(1) A coating operation conducted at a facility where the facility uses only coatings, thinners and other additives, and cleaning materials that contain no organic HAP, as determined according to §63.3941(a).

(2) Surface coating operations that occur at research or laboratory facilities, or is part of janitorial, building, and facility maintenance operations, or that occur at hobby shops that are operated for noncommercial purposes.

(3) Coatings used in volumes of less than 189 liters (50 gal) per year, provided that the total volume of coatings exempt under this paragraph does not exceed 946 liters (250 gal) per year at the facility.

(4) The surface coating of metal parts and products performed on-site at installations owned or operated by the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State) or the National Aeronautics and Space Administration, or the surface coating of military munitions manufactured by or for the Armed Forces of the United States (including the Coast Guard and the National Guard of any such State).

(5) Surface coating where plastic is extruded onto metal wire or cable or metal parts or products to form a coating.

(6) Surface coating of metal components of wood furniture that meet the applicability criteria for wood furniture manufacturing (subpart JJ of this part).

(7) Surface coating of metal components of large appliances that meet the applicability criteria for large appliance surface coating (subpart NNNN of this part).

(8) Surface coating of metal components of metal furniture that meet the applicability criteria for metal furniture surface coating (subpart RRRR of this part).

(9) Surface coating of metal components of wood building products that meet the applicability criteria for wood building products surface coating (subpart QQQQ of this part).

(10) Surface coating of metal components of aerospace vehicles that meet the applicability criteria for aerospace manufacturing and rework (40 CFR part 63, subpart GG).

(11) Surface coating of metal parts intended for use in an aerospace vehicle or component using specialty coatings as defined in appendix A to subpart GG of this part.

(12) Surface coating of metal components of ships that meet the applicability criteria for shipbuilding and ship repair (subpart II of this part).

(13) Surface coating of metal using a web coating process that meets the applicability criteria for paper and other web coating (subpart JJJJ of this part).

(14) Surface coating of metal using a coil coating process that meets the applicability criteria for metal coil coating (subpart SSSS of this part).

(15) Surface coating of boats or metal parts of boats (including, but not limited to, the use of assembly adhesives) where the facility meets the applicability criteria for boat manufacturing facilities (subpart VVVV of this part), except where the surface coating of the boat is a metal coating operation performed on personal watercraft or parts of personal watercraft. This subpart does apply to metal coating operations performed on personal watercraft and parts of personal watercraft.

(16) Surface coating of assembled on-road vehicles that meet the applicability criteria for the assembled on-road vehicle subcategory in plastic parts and products surface coating (40 CFR part 63, subpart PPPP).

(17) Surface coating of metal components of automobiles and light-duty trucks that meets the applicability criteria in §63.3082(b) for the Surface Coating of Automobiles and Light-Duty Trucks NESHAP (40 CFR part 63, subpart IIII) at a facility that meets the applicability criteria in §63.3081(b).

(d) If your facility meets the applicability criteria in §63.3081(b) of the Surface Coating of Automobiles and Light-Duty Trucks NESHAP (40 CFR part 63, subpart IIII), and you perform surface coating of metal parts or products that meets both the applicability criteria in §63.3082(c) and the applicability criteria of the Surface Coating of Miscellaneous Metal Parts and Products (40 CFR part 63, subpart MMMM), then for the surface coating of any or all of your metal parts or products that meets the applicability criteria in §63.3082(c), you may choose to comply with the requirements of subpart IIII of this part in lieu of complying with the Surface Coating of Miscellaneous Metal Parts and Products NESHAP. Surface coating operations on metal parts or products (e.g., parts for motorcycles or lawnmowers) not intended for use in automobiles, light-duty trucks, or other motor vehicles as defined in §63.3176 cannot be made part of your affected source under subpart IIII of this part.

(e) If you own or operate an affected source that meets the applicability criteria of this subpart and at the same facility you also perform surface coating that meets the applicability criteria of any other final surface coating NESHAP in this part you may choose to comply as specified in paragraph (e)(1), (2), or (3) of this section.

(1) You may have each surface coating operation that meets the applicability criteria of a separate NESHAP comply with that NESHAP separately.

(2) You may comply with the emission limitation representing the predominant surface coating activity at your facility, as determined according to paragraphs (e)(2)(i) and (ii) of this section. However, you may not establish high performance, rubber-to-metal, or extreme performance fluoropolymer coating operations as the predominant activity. You must not consider any surface coating activity that is subject to the Surface Coating of Automobiles and Light-Duty Trucks NESHAP (40 CFR part 63, subpart IIII) in determining the predominant surface coating activity at your facility.

(i) If a surface coating operation accounts for 90 percent or more of the surface coating activity at your facility (that is, the predominant activity), then compliance with the emission limitations of the predominant activity for all surface coating operations constitutes compliance with these and other applicable surface coating NESHAP. In determining predominant activity, you must include coating activities that meet the applicability criteria of other surface coating NESHAP and constitute more than 1 percent of total coating activities at your facility. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than 1 percent of coating activities need not be included in the determination of predominant activity but must be included in the compliance calculation.

(ii) You must use liters (gal) of solids used as a measure of relative surface coating activity over a representative period of operation. You may estimate the relative volume of coating solids used from parameters other than coating consumption and volume solids content (*e.g.,* design specifications for the parts or products coated and the number of items produced). The determination of predominant activity must accurately reflect current and projected coating operations and must be verifiable through appropriate documentation. The use of parameters other than coating consumption and volume solids content must be approved by the Administrator. You may use data for any reasonable time period of at least 1 year in determining the relative amount of coating activity, as long as they represent the way the source will continue to operate in the future and are approved by the Administrator. You must determine the predominant activity at your facility and submit the results of that determination with the initial notification required by §63.3910(b). You must also determine predominant activity annually and include the determination in the next semi-annual compliance report required by §63.3920(a).

(3) You may comply with a facility-specific emission limit calculated from the relative amount of coating activity that is subject to each emission limit. If you elect to comply using the facility-specific emission limit alternative, then compliance with the facility-specific emission limit and the emission limitations in this subpart for all surface coating operations constitutes compliance with this and other applicable surface coating NESHAP. The procedures for calculating the facility-specific emission limit are specified in §63.3890. In calculating a facility-specific emission limit, you must include coating activities that meet the applicability criteria of other surface coating NESHAP and constitute more than 1 percent of total coating activities at your facility. You must not consider any surface coating activity that is subject to the Surface Coating of Automobiles and Light-Duty Trucks NESHAP (40 CFR part 63, subpart IIII) in determining a facility-specific emission limit for your facility. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than 1 percent of total coating activities need not be included in the calculation of the facility-specific emission limit but must be included in the compliance calculations.

[69 FR 157, Jan. 2, 2004, as amended at 69 FR 22660, Apr. 26, 2004; 71 FR 76927, Dec. 22, 2006]

§ 63.3882 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, and existing affected source within each of the four subcategories listed in §63.3881(a).

(b) The affected source is the collection of all of the items listed in paragraphs (b)(1) through (4) of this section that are used for surface coating of miscellaneous metal parts and products within each subcategory.

(1) All coating operations as defined in §63.3981;

(2) All storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed;

(3) All manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials; and

(4) All storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

(c) An affected source is a new affected source if you commenced its construction after August 13, 2002 and the construction is of a completely new miscellaneous metal parts and products surface coating facility where previously no miscellaneous metal parts and products surface coating facility had existed.

(d) An affected source is reconstructed if it meets the criteria as defined in §63.2.

(e) An affected source is existing if it is not new or reconstructed.

§ 63.3883 When do I have to comply with this subpart?

The date by which you must comply with this subpart is called the compliance date. The compliance date for each type of affected source is specified in paragraphs (a) through (c) of this section. The compliance date begins the initial compliance period during which you conduct the initial compliance demonstration described in §§63.3940, 63.3950, and 63.3960.

(a) For a new or reconstructed affected source, the compliance date is the applicable date in paragraph (a)(1) or (2) of this section:

(1) If the initial startup of your new or reconstructed affected source is before January 2, 2004, the compliance date is January 2, 2004.

(2) If the initial startup of your new or reconstructed affected source occurs after January 2, 2004, the compliance date is the date of initial startup of your affected source.

(b) For an existing affected source, the compliance date is the date 3 years after January 2, 2004.

(c) For an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP emissions, the compliance date is specified in paragraphs (c)(1) and (2) of this section.

(1) For any portion of the source that becomes a new or reconstructed affected source subject to this subpart, the compliance date is the date of initial startup of the affected source or January 2, 2004, whichever is later.

(2) For any portion of the source that becomes an existing affected source subject to this subpart, the compliance date is the date 1 year after the area source becomes a major source or 3 years after January 2, 2004, whichever is later.

(d) You must meet the notification requirements in §63.3910 according to the dates specified in that section and in subpart A of this part. Some of the notifications must be submitted before the compliance dates described in paragraphs (a) through (c) of this section.

Emission Limitations

§ 63.3890 What emission limits must I meet?

(a) For a new or reconstructed affected source, you must limit organic HAP emissions to the atmosphere from the affected source to the applicable limit specified in paragraphs (a)(1) through (5) of this section, except as specified in paragraph (c) of this section, determined according to the requirements in §63.3941, §63.3951, or §63.3961.

(1) For each new general use coating affected source, limit organic HAP emissions to no more than 0.23 kilograms (kg) (1.9 pound (lb)) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(2) For each new high performance coating affected source, limit organic HAP emissions to no more than 3.3 kg (27.5 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(3) For each new magnet wire coating affected source, limit organic HAP emissions to no more than 0.050 kg (0.44 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(4) For each new rubber-to-metal coating affected source, limit organic HAP emissions to no more than 0.81 kg (6.8 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(5) For each new extreme performance fluoropolymer coating affected source, limit organic HAP emissions to no more than 1.5 kg (12.4 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(b) For an existing affected source, you must limit organic HAP emissions to the atmosphere from the affected source to the applicable limit specified in paragraphs (b)(1) through (5) of this section, except as specified in paragraph (c) of this section, determined according to the requirements in §63.3941, §63.3951, or §63.3961.

(1) For each existing general use coating affected source, limit organic HAP emissions to no more than 0.31 kg (2.6 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(2) For each existing high performance coating affected source, limit organic HAP emissions to no more than 3.3 kg (27.5 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(3) For each existing magnet wire coating affected source, limit organic HAP emissions to no more than 0.12 kg (1.0 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(4) For each existing rubber-to-metal coating affected source, limit organic HAP emissions to no more than 4.5 kg (37.7 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(5) For each existing extreme performance fluoropolymer coating affected source, limit organic HAP emissions to no more than 1.5 kg (12.4 lbs) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

(c) If your facility's surface coating operations meet the applicability criteria of more than one of the subcategory emission limits specified in paragraphs (a) or (b) of this section, you may comply separately

with each subcategory emission limit or comply using one of the alternatives in paragraph (c)(1) or (2) of this section.

(1) If the general use or magnet wire surface coating operations subject to only one of the emission limits specified in paragraphs (a)(1), (3), (b)(1), or (3) of this section account for 90 percent or more of the surface coating activity at your facility (*i.e.,* it is the predominant activity at your facility), then compliance with that one emission limitations in this subpart for all surface coating operations constitutes compliance with the other applicable emission limits. You must use liters (gal) of solids used as a measure of relative surface coating activity over a representative period of operation. You may estimate the relative volume of coating solids used from parameters other than coating consumption and volume solids content (*e.g.,* design specifications for the parts or products coated and the number of items produced). The determination of predominant activity must accurately reflect current and projected coating operations and must be verifiable through appropriate documentation. The use of parameters other than coating consumption and volume solids content must be approved by the Administrator. You may use data for any reasonable time period of at least 1 year in determining the relative amount of coating activity, as long as they represent the way the source will continue to operate in the future and are approved by the Administrator. You must determine the predominant activity at your facility and submit the results of that determination with the initial notification required by §63.3910(b). Additionally, you must determine the facility's predominant activity annually and include the determination in the next semi-annual compliance report required by §63.3920(a).

(2) You may calculate and comply with a facility-specific emission limit as described in paragraphs (c)(2)(i) through (iii) of this section. If you elect to comply using the facility-specific emission limit alternative, then compliance with the facility-specific emission limit and the emission limitations in this subpart for all surface coating operations constitutes compliance with this and other applicable surface coating NESHAP. In calculating a facility-specific emission limit, you must include coating activities that meet the applicability criteria of the other subcategories and constitute more than 1 percent of total coating activities. Coating activities that meet the applicability criteria of other surface coating NESHAP but comprise less than 1 percent of coating activities need not be included in the determination of predominant activity but must be included in the compliance calculation.

(i) You are required to calculate the facility-specific emission limit for your facility when you submit the notification of compliance status required in §63.3910(c), and on a monthly basis afterward using the coating data for the relevant 12-month compliance period.

(ii) Use Equation 1 of this section to calculate the facility-specific emission limit for your surface coating operations for each 12-month compliance period.

$$\textit{Facility-Specific}\ \text{Emission Limit} = \frac{\sum_{i=1}^{n}(\text{Limit}_i)(Solids_i)}{\sum_{i=1}^{n}(Solids_i)} \qquad (Eq.\ 1)$$

Where:

Facility-specific emission limit = Facility-specific emission limit for each 12-month compliance period, kg (lb) organic HAP per kg (lb) coating solids used.

Limit_i= The new source or existing source emission limit applicable to coating operation, i, included in the facility-specific emission limit, converted to kg (lb) organic HAP per kg (lb) coating solids used, if the emission limit is not already in those units. All emission limits included in the facility-specific emission limit must be in the same units.

$Solids_i$= The liters (gal) of solids used in coating operation, i, in the 12-month compliance period that is subject to emission limit, i. You may estimate the volume of coating solids used from parameters other than coating consumption and volume solids content (*e.g.,* design specifications for the parts or products coated and the number of items produced). The use of parameters other than coating consumption and volume solids content must be approved by the Administrator.

n = The number of different coating operations included in the facility-specific emission limit.

(iii) If you need to convert an emission limit in another surface coating NESHAP from kg (lb) organic HAP per kg (lb) coating solids used to kg (lb) organic HAP per liter (gal) coating solids used, you must use the default solids density of 1.26 kg solids per liter coating solids (10.5 lb solids per gal solids).

§ 63.3891 What are my options for meeting the emission limits?

You must include all coatings (as defined in §63.3981), thinners and/or other additives, and cleaning materials used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable emission limit in §63.3890. To make this determination, you must use at least one of the three compliance options listed in paragraphs (a) through (c) of this section. You may apply any of the compliance options to an individual coating operation, or to multiple coating operations as a group, or to the entire affected source. You may use different compliance options for different coating operations, or at different times on the same coating operation. You may employ different compliance options when different coatings are applied to the same part, or when the same coating is applied to different parts. However, you may not use different compliance options at the same time on the same coating operation. If you switch between compliance options for any coating operation or group of coating operations, you must document this switch as required by §63.3930(c), and you must report it in the next semiannual compliance report required in §63.3920.

(a) *Compliant material option.* Demonstrate that the organic HAP content of each coating used in the coating operation(s) is less than or equal to the applicable emission limit in §63.3890, and that each thinner and/or other additive, and cleaning material used contains no organic HAP. You must meet all the requirements of §§63.3940, 63.3941, and 63.3942 to demonstrate compliance with the applicable emission limit using this option.

(b) *Emission rate without add-on controls option.* Demonstrate that, based on the coatings, thinners and/or other additives, and cleaning materials used in the coating operation(s), the organic HAP emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.3890, calculated as a rolling 12-month emission rate and determined on a monthly basis. You must meet all the requirements of §§63.3950, 63.3951, and 63.3952 to demonstrate compliance with the emission limit using this option.

(c) *Emission rate with add-on controls option.* Demonstrate that, based on the coatings, thinners and/or other additives, and cleaning materials used in the coating operation(s), and the emissions reductions achieved by emission capture systems and add-on controls, the organic HAP emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.3890, calculated as a rolling 12-month emission rate and determined on a monthly basis. If you use this compliance option, you must also demonstrate that all emission capture systems and add-on control devices for the coating operation(s) meet the operating limits required in §63.3892, except for solvent recovery systems for which you conduct liquid-liquid material balances according to §63.3961(j), and that you meet the work practice standards required in §63.3893. You must meet all the requirements of §§63.3960 through 63.3968 to demonstrate compliance with the emission limits, operating limits, and work practice standards using this option.

§ 63.3892 What operating limits must I meet?

(a) For any coating operation(s) on which you use the compliant material option or the emission rate without add-on controls option, you are not required to meet any operating limits.

(b) For any controlled coating operation(s) on which you use the emission rate with add-on controls option, except those for which you use a solvent recovery system and conduct a liquid-liquid material balance according to §63.3961(j), you must meet the operating limits specified in Table 1 to this subpart. These operating limits apply to the emission capture and control systems on the coating operation(s) for which you use this option, and you must establish the operating limits during the performance test according to the requirements in §63.3967. You must meet the operating limits at all times after you establish them.

(c) If you use an add-on control device other than those listed in Table 1 to this subpart, or wish to monitor an alternative parameter and comply with a different operating limit, you must apply to the Administrator for approval of alternative monitoring under §63.8(f).

§ 63.3893 What work practice standards must I meet?

(a) For any coating operation(s) on which you use the compliant material option or the emission rate without add-on controls option, you are not required to meet any work practice standards.

(b) If you use the emission rate with add-on controls option, you must develop and implement a work practice plan to minimize organic HAP emissions from the storage, mixing, and conveying of coatings, thinners and/or other additives, and cleaning materials used in, and waste materials generated by the controlled coating operation(s) for which you use this option; or you must meet an alternative standard as provided in paragraph (c) of this section. The plan must specify practices and procedures to ensure that, at a minimum, the elements specified in paragraphs (b)(1) through (5) of this section are implemented.

(1) All organic-HAP-containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be stored in closed containers.

(2) Spills of organic-HAP-containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be minimized.

(3) Organic-HAP-containing coatings, thinners and/or other additives, cleaning materials, and waste materials must be conveyed from one location to another in closed containers or pipes.

(4) Mixing vessels which contain organic-HAP-containing coatings and other materials must be closed except when adding to, removing, or mixing the contents.

(5) Emissions of organic HAP must be minimized during cleaning of storage, mixing, and conveying equipment.

(c) As provided in §63.6(g), we, the U.S. Environmental Protection Agency, may choose to grant you permission to use an alternative to the work practice standards in this section.

General Compliance Requirements

§ 63.3900 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations in this subpart as specified in paragraphs (a)(1) and (2) of this section.

(1) Any coating operation(s) for which you use the compliant material option or the emission rate without add-on controls option, as specified in §63.3891(a) and (b), must be in compliance with the applicable emission limit in §63.3890 at all times.

(2) Any coating operation(s) for which you use the emission rate with add-on controls option, as specified in §63.3891(c), must be in compliance with the emission limitations as specified in paragraphs (a)(2)(i) through (iii) of this section.

(i) The coating operation(s) must be in compliance with the applicable emission limit in §63.3890 at all times except during periods of startup, shutdown, and malfunction.

(ii) The coating operation(s) must be in compliance with the operating limits for emission capture systems and add-on control devices required by §63.3892 at all times except during periods of startup, shutdown, and malfunction, and except for solvent recovery systems for which you conduct liquid-liquid material balances according to §63.3961(j).

(iii) The coating operation(s) must be in compliance with the work practice standards in §63.3893 at all times.

(b) You must always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subpart, according to the provisions in §63.6(e)(1)(i).

(c) If your affected source uses an emission capture system and add-on control device, you must develop a written startup, shutdown, and malfunction plan according to the provisions in §63.6(e)(3). The plan must address the startup, shutdown, and corrective actions in the event of a malfunction of the emission capture system or the add-on control device. The plan must also address any coating operation equipment that may cause increased emissions or that would affect capture efficiency if the process equipment malfunctions, such as conveyors that move parts among enclosures.

[69 FR 157, Jan. 2, 2004, as amended at 71 FR 20465, Apr. 20, 2006]

§ 63.3901 What parts of the General Provisions apply to me?

Table 2 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

Notifications, Reports, and Records

§ 63.3910 What notifications must I submit?

(a) *General.* You must submit the notifications in §§63.7(b) and (c), 63.8(f)(4), and 63.9(b) through (e) and (h) that apply to you by the dates specified in those sections, except as provided in paragraphs (b) and (c) of this section.

(b) *Initial Notification.* You must submit the initial notification required by §63.9(b) for a new or reconstructed affected source no later than 120 days after initial startup or 120 days after January 2, 2004, whichever is later. For an existing affected source, you must submit the initial notification no later than 1 year after January 2, 2004. If you are using compliance with the Surface Coating of Automobiles and Light-Duty Trucks NESHAP (subpart IIII of this part) as provided for under §63.3881(d) to constitute

compliance with this subpart for any or all of your metal parts coating operations, then you must include a statement to this effect in your initial notification, and no other notifications are required under this subpart in regard to those metal parts coating operations. If you are complying with another NESHAP that constitutes the predominant activity at your facility under §63.3881(e)(2) to constitute compliance with this subpart for your metal parts coating operations, then you must include a statement to this effect in your initial notification, and no other notifications are required under this subpart in regard to those metal parts coating operations.

(c) *Notification of compliance status.* You must submit the notification of compliance status required by §63.9(h) no later than 30 calendar days following the end of the initial compliance period described in §§63.3940, 63.3950, or 63.3960 that applies to your affected source. The notification of compliance status must contain the information specified in paragraphs (c)(1) through (11) of this section and in §63.9(h).

(1) Company name and address.

(2) 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) Date of the report and beginning and ending dates of the reporting period. The reporting period is the initial compliance period described in §§63.3940, 63.3950, or 63.3960 that applies to your affected source.

(4) Identification of the compliance option or options specified in §63.3891 that you used on each coating operation in the affected source during the initial compliance period.

(5) Statement of whether or not the affected source achieved the emission limitations for the initial compliance period.

(6) If you had a deviation, include the information in paragraphs (c)(6)(i) and (ii) of this section.

(i) A description and statement of the cause of the deviation.

(ii) If you failed to meet the applicable emission limit in §63.3890, include all the calculations you used to determine the kg (lb) of organic HAP emitted per liter (gal) coating solids used. You do not need to submit information provided by the materials' suppliers or manufacturers, or test reports.

(7) For each of the data items listed in paragraphs (c)(7)(i) through (iv) of this section that is required by the compliance option(s) you used to demonstrate compliance with the emission limit, include an example of how you determined the value, including calculations and supporting data. Supporting data may include a copy of the information provided by the supplier or manufacturer of the example coating or material, or a summary of the results of testing conducted according to §63.3941(a), (b), or (c). You do not need to submit copies of any test reports.

(i) Mass fraction of organic HAP for one coating, for one thinner and/or other additive, and for one cleaning material.

(ii) Volume fraction of coating solids for one coating.

(iii) Density for one coating, one thinner and/or other additive, and one leaning material, except that if you use the compliant material option, only the example coating density is required.

(iv) The amount of waste materials and the mass of organic HAP contained in the waste materials for which you are claiming an allowance in Equation 1 of §63.3951.

(8) The calculation of kg (lb) of organic HAP emitted per liter (gal) coating solids used for the compliance option(s) you used, as specified in paragraphs (c)(8)(i) through (iii) of this section.

(i) For the compliant material option, provide an example calculation of the organic HAP content for one coating, using Equation 2 of §63.3941.

(ii) For the emission rate without add-on controls option, provide the calculation of the total mass of organic HAP emissions for each month; the calculation of the total volume of coating solids used each month; and the calculation of the 12-month organic HAP emission rate using Equations 1 and 1A through 1C, 2, and 3, respectively, of §63.3951.

(iii) For the emission rate with add-on controls option, provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month, using Equations 1 and 1A through 1C of §63.3951; the calculation of the total volume of coating solids used each month using Equation 2 of §63.3951; the mass of organic HAP emission reduction each month by emission capture systems and add-on control devices using Equations 1 and 1A through 1D of §63.3961 and Equations 2, 3, and 3A through 3C of §63.3961 as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of §63.3961; and the calculation of the 12-month organic HAP emission rate using Equation 5 of §63.3961.

(9) For the emission rate with add-on controls option, you must include the information specified in paragraphs (c)(9)(i) through (iv) of this section, except that the requirements in paragraphs (c)(9)(i) through (iii) of this section do not apply to solvent recovery systems for which you conduct liquid-liquid material balances according to §63.3961(j).

(i) For each emission capture system, a summary of the data and copies of the calculations supporting the determination that the emission capture system is a permanent total enclosure (PTE) or a measurement of the emission capture system efficiency. Include a description of the protocol followed for measuring capture efficiency, summaries of any capture efficiency tests conducted, and any calculations supporting the capture efficiency determination. If you use the data quality objective (DQO) or lower confidence limit (LCL) approach, you must also include the statistical calculations to show you meet the DQO or LCL criteria in appendix A to subpart KK of this part. You do not need to submit complete test reports.

(ii) A summary of the results of each add-on control device performance test. You do not need to submit complete test reports.

(iii) A list of each emission capture system's and add-on control device's operating limits and a summary of the data used to calculate those limits.

(iv) A statement of whether or not you developed and implemented the work practice plan required by §63.3893.

(10) If you are complying with a single emission limit representing the predominant activity under §63.3890(c)(1), include the calculations and supporting information used to demonstrate that this emission limit represents the predominant activity as specified in §63.3890(c)(1).

(11) If you are complying with a facility-specific emission limit under §63.3890(c)(2), include the calculation of the facility-specific emission limit and any supporting information as specified in §63.3890(c)(2).

[69 FR 157, Jan. 2, 2004, as amended at 69 FR 22660, Apr. 26, 2004]

§ 63.3920 What reports must I submit?

(a) *Semiannual compliance reports.* You must submit semiannual compliance reports for each affected source according to the requirements of paragraphs (a)(1) through (7) of this section. The semiannual compliance reporting requirements may be satisfied by reports required under other parts of the Clean Air Act (CAA), as specified in paragraph (a)(2) of this section.

(1) *Dates.* Unless the Administrator has approved or agreed to a different schedule for submission of reports under §63.10(a), you must prepare and submit each semiannual compliance report according to the dates specified in paragraphs (a)(1)(i) through (iv) of this section. Note that the information reported for each of the months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

(i) The first semiannual compliance report must cover the first semiannual reporting period which begins the day after the end of the initial compliance period described in §63.3940, §63.3950, or §63.3960 that applies to your affected source and ends on June 30 or December 31, whichever date is the first date following the end of the initial compliance period.

(ii) Each subsequent semiannual compliance report must cover the subsequent semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(iii) Each semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(iv) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the date specified in paragraph (a)(1)(iii) of this section.

(2) *Inclusion with title V report.* Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a semiannual compliance report pursuant to this section along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the semiannual compliance report includes all required information concerning deviations from any emission limitation in this subpart, its submission will be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a semiannual compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.

(3) *General requirements.* The semiannual compliance report must contain the information specified in paragraphs (a)(3)(i) through (vii) of this section, and the information specified in paragraphs (a)(4) through (7) and (c)(1) of this section that is applicable to your affected source.

(i) Company name and address.

(ii) 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.

(iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31. Note that the information reported for each of the 6 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

(iv) Identification of the compliance option or options specified in §63.3891 that you used on each coating operation during the reporting period. If you switched between compliance options during the reporting period, you must report the beginning and ending dates for each option you used.

(v) If you used the emission rate without add-on controls or the emission rate with add-on controls compliance option (§63.3891(b) or (c)), the calculation results for each rolling 12-month organic HAP emission rate during the 6-month reporting period.

(vi) If you used the predominant activity alternative (§63.3890(c)(1)), include the annual determination of predominant activity if it was not included in the previous semi-annual compliance report.

(vii) If you used the facility-specific emission limit alternative (§63.3890(c)(2)), include the calculation of the facility-specific emission limit for each 12-month compliance period during the 6-month reporting period.

(4) *No deviations.* If there were no deviations from the emission limitations in §§63.3890, 63.3892, and 63.3893 that apply to you, the semiannual compliance report must include a statement that there were no deviations from the emission limitations during the reporting period. If you used the emission rate with add-on controls option and there were no periods during which the continuous parameter monitoring systems (CPMS) were out-of-control as specified in §63.8(c)(7), the semiannual compliance report must include a statement that there were no periods during which the CPMS were out-of-control during the reporting period.

(5) *Deviations: Compliant material option.* If you used the compliant material option and there was a deviation from the applicable organic HAP content requirements in §63.3890, the semiannual compliance report must contain the information in paragraphs (a)(5)(i) through (iv) of this section.

(i) Identification of each coating used that deviated from the applicable emission limit, and each thinner and/or other additive, and cleaning material used that contained organic HAP, and the dates and time periods each was used.

(ii) The calculation of the organic HAP content (using Equation 2 of §63.3941) for each coating identified in paragraph (a)(5)(i) of this section. You do not need to submit background data supporting this calculation (*e.g.,* information provided by coating suppliers or manufacturers, or test reports).

(iii) The determination of mass fraction of organic HAP for each thinner and/or other additive, and cleaning material identified in paragraph (a)(5)(i) of this section. You do not need to submit background data supporting this calculation (*e.g.,* information provided by material suppliers or manufacturers, or test reports).

(iv) A statement of the cause of each deviation.

(6) *Deviations: Emission rate without add-on controls option.* If you used the emission rate without add-on controls option and there was a deviation from the applicable emission limit in §63.3890, the semiannual compliance report must contain the information in paragraphs (a)(6)(i) through (iii) of this section.

(i) The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the applicable emission limit in §63.3890.

(ii) The calculations used to determine the 12-month organic HAP emission rate for the compliance period in which the deviation occurred. You must submit the calculations for Equations 1, 1A through 1C, 2, and 3 of §63.3951; and if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4). You do not need to submit background data supporting these calculations (*e.g.,* information provided by materials suppliers or manufacturers, or test reports).

(iii) A statement of the cause of each deviation.

(7) *Deviations: Emission rate with add-on controls option.* If you used the emission rate with add-on controls option and there was a deviation from an emission limitation (including any periods when emissions bypassed the add-on control device and were diverted to the atmosphere), the semiannual compliance report must contain the information in paragraphs (a)(7)(i) through (xiv) of this section. This includes periods of startup, shutdown, and malfunction during which deviations occurred.

(i) The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the applicable emission limit in §63.3890.

(ii) The calculations used to determine the 12-month organic HAP emission rate for each compliance period in which a deviation occurred. You must provide the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1 and 1A through 1C of §63.3951; and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4); the calculation of the total volume of coating solids used each month using Equation 2 of §63.3951; the calculation of the mass of organic HAP emission reduction each month by emission capture systems and add-on control devices using Equations 1 and 1A through 1D of §63.3961, and Equations 2, 3, and 3A through 3C of §63.3961, as applicable; the calculation of the total mass of organic HAP emissions each month using Equation 4 of §63.3961; and the calculation of the 12-month organic HAP emission rate using Equation 5 of §63.3961. You do not need to submit the background data supporting these calculations (*e.g.,* information provided by materials suppliers or manufacturers, or test reports).

(iii) The date and time that each malfunction started and stopped.

(iv) A brief description of the CPMS.

(v) The date of the latest CPMS certification or audit.

(vi) The date and time that each CPMS was inoperative, except for zero (low-level) and high-level checks.

(vii) The date, time, and duration that each CPMS was out-of-control, including the information in §63.8(c)(8).

(viii) The date and time period of each deviation from an operating limit in Table 1 to this subpart; date and time period of any bypass of the add-on control device; and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(ix) A summary of the total duration of each deviation from an operating limit in Table 1 to this subpart and each bypass of the add-on control device during the semiannual reporting period, and the total duration as a percent of the total source operating time during that semiannual reporting period.

(x) A breakdown of the total duration of the deviations from the operating limits in Table 1 of this subpart and bypasses of the add-on control device during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(xi) A summary of the total duration of CPMS downtime during the semiannual reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that semiannual reporting period.

(xii) A description of any changes in the CPMS, coating operation, emission capture system, or add-on control device since the last semiannual reporting period.

(xiii) For each deviation from the work practice standards, a description of the deviation, the date and time period of the deviation, and the actions you took to correct the deviation.

(xiv) A statement of the cause of each deviation.

(b) *Performance test reports.* If you use the emission rate with add-on controls option, you must submit reports of performance test results for emission capture systems and add-on control devices no later than 60 days after completing the tests as specified in §63.10(d)(2).

(c) *Startup, shutdown, malfunction reports.* If you used the emission rate with add-on controls option and you had a startup, shutdown, or malfunction during the semiannual reporting period, you must submit the reports specified in paragraphs (c)(1) and (2) of this section.

(1) If your actions were consistent with your startup, shutdown, and malfunction plan, you must include the information specified in §63.10(d) in the semiannual compliance report required by paragraph (a) of this section.

(2) If your actions were not consistent with your startup, shutdown, and malfunction plan, you must submit an immediate startup, shutdown, and malfunction report as described in paragraphs (c)(2)(i) and (ii) of this section.

(i) You must describe the actions taken during the event in a report delivered by facsimile, telephone, or other means to the Administrator within 2 working days after starting actions that are inconsistent with the plan.

(ii) You must submit a letter to the Administrator within 7 working days after the end of the event, unless you have made alternative arrangements with the Administrator as specified in §63.10(d)(5)(ii). The letter must contain the information specified in §63.10(d)(5)(ii).

§ 63.3930 What records must I keep?

You must collect and keep records of the data and information specified in this section. Failure to collect and keep these records is a deviation from the applicable standard.

(a) A copy of each notification and report that you submitted to comply with this subpart, and the documentation supporting each notification and report. If you are using the predominant activity alternative under §63.3890(c), you must keep records of the data and calculations used to determine the predominant activity. If you are using the facility-specific emission limit alternative under §63.3890(c), you must keep records of the data used to calculate the facility-specific emission limit for the initial compliance demonstration. You must also keep records of any data used in each annual predominant activity determination and in the calculation of the facility-specific emission limit for each 12-month compliance period included in the semi-annual compliance reports.

(b) A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP and density for each coating, thinner and/or other additive, and cleaning material, and the volume fraction of

coating solids for each coating. If you conducted testing to determine mass fraction of organic HAP, density, or volume fraction of coating solids, you must keep a copy of the complete test report. If you use information provided to you by the manufacturer or supplier of the material that was based on testing, you must keep the summary sheet of results provided to you by the manufacturer or supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier.

(c) For each compliance period, the records specified in paragraphs (c)(1) through (4) of this section.

(1) A record of the coating operations on which you used each compliance option and the time periods (beginning and ending dates and times) for each option you used.

(2) For the compliant material option, a record of the calculation of the organic HAP content for each coating, using Equation 2 of §63.3941.

(3) For the emission rate without add-on controls option, a record of the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1, 1A through 1C, and 2 of §63.3951; and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4); the calculation of the total volume of coating solids used each month using Equation 2 of §63.3951; and the calculation of each 12-month organic HAP emission rate using Equation 3 of §63.3951.

(4) For the emission rate with add-on controls option, records of the calculations specified in paragraphs (c)(4)(i) through (v) of this section.

(i) The calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1 and 1A through 1C of §63.3951 and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4);

(ii) The calculation of the total volume of coating solids used each month using Equation 2 of §63.3951;

(iii) The calculation of the mass of organic HAP emission reduction by emission capture systems and add-on control devices using Equations 1 and 1A through 1D of §63.3961 and Equations 2, 3, and 3A through 3C of §63.3961, as applicable;

(iv) The calculation of each month's organic HAP emission rate using Equation 4 of §63.3961; and

(v) The calculation of each 12-month organic HAP emission rate using Equation 5 of §63.3961.

(d) A record of the name and volume of each coating, thinner and/or other additive, and cleaning material used during each compliance period. If you are using the compliant material option for all coatings at the source, you may maintain purchase records for each material used rather than a record of the volume used.

(e) A record of the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each compliance period unless the material is tracked by weight.

(f) A record of the volume fraction of coating solids for each coating used during each compliance period.

(g) If you use either the emission rate without add-on controls or the emission rate with add-on controls compliance option, the density for each coating, thinner and/or other additive, and cleaning material used during each compliance period.

(h) If you use an allowance in Equation 1 of §63.3951 for organic HAP contained in waste materials sent to or designated for shipment to a treatment, storage, and disposal facility (TSDF) according to §63.3951(e)(4), you must keep records of the information specified in paragraphs (h)(1) through (3) of this section.

(1) The name and address of each TSDF to which you sent waste materials for which you use an allowance in Equation 1 of §63.3951; a statement of which subparts under 40 CFR parts 262, 264, 265, and 266 apply to the facility; and the date of each shipment.

(2) Identification of the coating operations producing waste materials included in each shipment and the month or months in which you used the allowance for these materials in Equation 1 of §63.3951.

(3) The methodology used in accordance with §63.3951(e)(4) to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each month; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.

(i) [Reserved]

(j) You must keep records of the date, time, and duration of each deviation.

(k) If you use the emission rate with add-on controls option, you must keep the records specified in paragraphs (k)(1) through (8) of this section.

(1) For each deviation, a record of whether the deviation occurred during a period of startup, shutdown, or malfunction.

(2) The records in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) The records required to show continuous compliance with each operating limit specified in Table 1 to this subpart that applies to you.

(4) For each capture system that is a PTE, the data and documentation you used to support a determination that the capture system meets the criteria in Method 204 of appendix M to 40 CFR part 51 for a PTE and has a capture efficiency of 100 percent, as specified in §63.3965(a).

(5) For each capture system that is not a PTE, the data and documentation you used to determine capture efficiency according to the requirements specified in §§63.3964 and 63.3965(b) through (e), including the records specified in paragraphs (k)(5)(i) through (iii) of this section that apply to you.

(i) *Records for a liquid-to-uncaptured gas protocol using a temporary total enclosure or building enclosure.* Records of the mass of total volatile hydrocarbon (TVH) as measured by Method 204A or 204F of appendix M to 40 CFR part 51 for each material used in the coating operation, and the total TVH for all materials used during each capture efficiency test run, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run, as measured by Method 204D or 204E of appendix M to 40 CFR part 51, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of appendix M to 40 CFR part 51 for either a temporary total enclosure or a building enclosure.

(ii) *Records for a gas-to-gas protocol using a temporary total enclosure or a building enclosure.* Records of the mass of TVH emissions captured by the emission capture system as measured by Method 204B or 204C of appendix M to 40 CFR part 51 at the inlet to the add-on control device, including a copy of the test report. Records of the mass of TVH emissions not captured by the capture system that exited the temporary total enclosure or building enclosure during each capture efficiency test run as measured by Method 204D or 204E of appendix M to 40 CFR part 51, including a copy of the test report. Records documenting that the enclosure used for the capture efficiency test met the criteria in Method 204 of appendix M to 40 CFR part 51 for either a temporary total enclosure or a building enclosure.

(iii) *Records for an alternative protocol.* Records needed to document a capture efficiency determination using an alternative method or protocol as specified in §63.3965(e), if applicable.

(6) The records specified in paragraphs (k)(6)(i) and (ii) of this section for each add-on control device organic HAP destruction or removal efficiency determination as specified in §63.3966.

(i) Records of each add-on control device performance test conducted according to §§63.3964 and 63.3966.

(ii) Records of the coating operation conditions during the add-on control device performance test showing that the performance test was conducted under representative operating conditions.

(7) Records of the data and calculations you used to establish the emission capture and add-on control device operating limits as specified in §63.3967 and to document compliance with the operating limits as specified in Table 1 to this subpart.

(8) A record of the work practice plan required by §63.3893 and documentation that you are implementing the plan on a continuous basis.

§ 63.3931 In what form and for how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review, according to §63.10(b)(1). Where appropriate, the records may be maintained as electronic spreadsheets or as a database.

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). You may keep the records off-site for the remaining 3 years.

Compliance Requirements for the Compliant Material Option

§ 63.3940 By what date must I conduct the initial compliance demonstration?

You must complete the initial compliance demonstration for the initial compliance period according to the requirements in §63.3941. The initial compliance period begins on the applicable compliance date specified in §63.3883 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through that month plus the next 12 months. The initial compliance demonstration includes the calculations according to §63.3941 and supporting documentation showing that during the initial compliance period, you used no coating with an organic HAP content that exceeded the applicable

emission limit in §63.3890, and that you used no thinners and/or other additives, or cleaning materials that contained organic HAP as determined according to §63.3941(a).

§ 63.3941 How do I demonstrate initial compliance with the emission limitations?

You may use the compliant material option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You must use either the emission rate without add-on controls option or the emission rate with add-on controls option for any coating operation in the affected source for which you do not use this option. To demonstrate initial compliance using the compliant material option, the coating operation or group of coating operations must use no coating with an organic HAP content that exceeds the applicable emission limits in §63.3890 and must use no thinner and/or other additive, or cleaning material that contains organic HAP as determined according to this section. Any coating operation for which you use the compliant material option is not required to meet the operating limits or work practice standards required in §§63.3892 and 63.3893, respectively. You must conduct a separate initial compliance demonstration for each general use, high performance, magnet wire, rubber-to-metal, and extreme performance fluoropolymer coating operation unless you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c). If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. You must meet all the requirements of this section. Use the procedures in this section on each coating, thinner and/or other additive, and cleaning material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. You do not need to redetermine the organic HAP content of coatings, thinners and/or other additives, and cleaning materials that are reclaimed on-site (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the coating operation for which you use the compliant material option, provided these materials in their condition as received were demonstrated to comply with the compliant material option.

(a) *Determine the mass fraction of organic HAP for each material used.* You must determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during the compliance period by using one of the options in paragraphs (a)(1) through (5) of this section.

(1) *Method 311 (appendix A to 40 CFR part 63).* You may use Method 311 for determining the mass fraction of organic HAP. Use the procedures specified in paragraphs (a)(1)(i) and (ii) of this section when performing a Method 311 test.

(i) Count each organic HAP that is measured to be present at 0.1 percent by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not have to count it. Express the mass fraction of each organic HAP you count as a value truncated to four places after the decimal point (*e.g.,* 0.3791).

(ii) Calculate the total mass fraction of organic HAP in the test material by adding up the individual organic HAP mass fractions and truncating the result to three places after the decimal point (*e.g.,* 0.763).

(2) *Method 24 (appendix A to 40 CFR part 60).* For coatings, you may use Method 24 to determine the mass fraction of nonaqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may use the alternative method contained in appendix A to subpart PPPP of this part, rather than Method 24. You may use the volatile fraction that is emitted, as measured by the alternative method in appendix A to subpart PPPP of this part, as a substitute for the mass fraction of organic HAP.

(3) *Alternative method.* You may use an alternative test method for determining the mass fraction of organic HAP once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval.

(4) *Information from the supplier or manufacturer of the material.* You may rely on information other than that generated by the test methods specified in paragraphs (a)(1) through (3) of this section, such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. For example, if toluene (not an OSHA carcinogen) is 0.5 percent of the material by mass, you do not have to count it. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may rely on manufacturer's data that expressly states the organic HAP or volatile matter mass fraction emitted. If there is a disagreement between such information and results of a test conducted according to paragraphs (a)(1) through (3) of this section, then the test method results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(5) *Solvent blends.* Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP which must be counted toward the total organic HAP mass fraction of the materials. When test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 3 or 4 to this subpart. If you use the tables, you must use the values in Table 3 for all solvent blends that match Table 3 entries according to the instructions for Table 3, and you may use Table 4 only if the solvent blends in the materials you use do not match any of the solvent blends in Table 3 and you know only whether the blend is aliphatic or aromatic. However, if the results of a Method 311 (appendix A to 40 CFR part 63) test indicate higher values than those listed on Table 3 or 4 to this subpart, the Method 311 results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(b) *Determine the volume fraction of coating solids for each coating.* You must determine the volume fraction of coating solids (liters (gal) of coating solids per liter (gal) of coating) for each coating used during the compliance period by a test, by information provided by the supplier or the manufacturer of the material, or by calculation, as specified in paragraphs (b)(1) through (4) of this section. If test results obtained according to paragraph (b)(1) of this section do not agree with the information obtained under paragraph (b)(3) or (4) of this section, the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(1) *ASTM Method D2697–86 (Reapproved 1998) or ASTM Method D6093–97 (Reapproved 2003).* You may use ASTM Method D2697–86 (Reapproved 1998), “Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings” (incorporated by reference, see §63.14), or ASTM Method D6093–97 (Reapproved 2003), “Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer” (incorporated by reference, see §63.14), to determine the volume fraction of coating solids for each coating. Divide the nonvolatile volume percent obtained with the methods by 100 to calculate volume fraction of coating solids.

(2) *Alternative method.* You may use an alternative test method for determining the solids content of each coating once the Administrator has approved it. You must follow the procedure in §63.7(f) to submit an alternative test method for approval.

(3) *Information from the supplier or manufacturer of the material.* You may obtain the volume fraction of coating solids for each coating from the supplier or manufacturer.

(4) *Calculation of volume fraction of coating solids.* You may determine the volume fraction of coating solids using Equation 1 of this section:

$$V_s = 1 - \frac{m_{volatiles}}{D_{avg}} \qquad (Eq.\ 1)$$

Where:

V_s= Volume fraction of coating solids, liters (gal) coating solids per liter (gal) coating.

$m_{volatiles}$= Total volatile matter content of the coating, including HAP, volatile organic compounds (VOC), water, and exempt compounds, determined according to Method 24 in appendix A of 40 CFR part 60, grams volatile matter per liter coating.

D_{avg}= Average density of volatile matter in the coating, grams volatile matter per liter volatile matter, determined from test results using ASTM Method D1475–98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products” (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If there is disagreement between ASTM Method D1475–98 test results and other information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(c) *Determine the density of each coating.* Determine the density of each coating used during the compliance period from test results using ASTM Method D1475–98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products” (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or specific gravity data for pure chemicals. If there is disagreement between ASTM Method D1475–98 test results and the supplier's or manufacturer's information, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(d) *Determine the organic HAP content of each coating.* Calculate the organic HAP content, kg (lb) of organic HAP emitted per liter (gal) coating solids used, of each coating used during the compliance period using Equation 2 of this section:

$$H_c = \frac{(D_c)(W_c)}{V_s} \qquad (Eq.\ 2)$$

Where:

H_c= Organic HAP content of the coating, kg organic HAP emitted per liter (gal) coating solids used.

D_c= Density of coating, kg coating per liter (gal) coating, determined according to paragraph (c) of this section.

W_c= Mass fraction of organic HAP in the coating, kg organic HAP per kg coating, determined according to paragraph (a) of this section.

V_s= Volume fraction of coating solids, liter (gal) coating solids per liter (gal) coating, determined according to paragraph (b) of this section.

(e) *Compliance demonstration.* The calculated organic HAP content for each coating used during the initial compliance period must be less than or equal to the applicable emission limit in §63.3890; and each thinner and/or other additive, and cleaning material used during the initial compliance period must contain

no organic HAP, determined according to paragraph (a) of this section. You must keep all records required by §§63.3930 and 63.3931. As part of the notification of compliance status required in §63.3910, you must identify the coating operation(s) for which you used the compliant material option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in §63.3890, and you used no thinners and/or other additives, or cleaning materials that contained organic HAP, determined according to the procedures in paragraph (a) of this section.

§ 63.3942 How do I demonstrate continuous compliance with the emission limitations?

(a) For each compliance period to demonstrate continuous compliance, you must use no coating for which the organic HAP content (determined using Equation 2 of §63.3941) exceeds the applicable emission limit in §63.3890, and use no thinner and/or other additive, or cleaning material that contains organic HAP, determined according to §63.3941(a). A compliance period consists of 12 months. Each month, after the end of the initial compliance period described in §63.3940, is the end of a compliance period consisting of that month and the preceding 11 months. If you are complying with a facility-specific emission limit under §63.3890(c), you must also perform the calculation using Equation 1 in §63.3890(c)(2) on a monthly basis using the data from the previous 12 months of operation.

(b) If you choose to comply with the emission limitations by using the compliant material option, the use of any coating, thinner and/or other additive, or cleaning material that does not meet the criteria specified in paragraph (a) of this section is a deviation from the emission limitations that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(5).

(c) As part of each semiannual compliance report required by §63.3920, you must identify the coating operation(s) for which you used the compliant material option. If there were no deviations from the applicable emission limit in §63.3890, submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the reporting period because you used no coatings for which the organic HAP content exceeded the applicable emission limit in §63.3890, and you used no thinner and/or other additive, or cleaning material that contained organic HAP, determined according to §63.3941(a).

(d) You must maintain records as specified in §§63.3930 and 63.3931.

Compliance Requirements for the Emission Rate Without Add-On Controls Option

§ 63.3950 By what date must I conduct the initial compliance demonstration?

You must complete the initial compliance demonstration for the initial compliance period according to the requirements of §63.3951. The initial compliance period begins on the applicable compliance date specified in §63.3883 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You must determine the mass of organic HAP emissions and volume of coating solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the calculations according to §63.3951 and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in §63.3890.

§ 63.3951 How do I demonstrate initial compliance with the emission limitations?

You may use the emission rate without add-on controls option for any individual coating operation, for any group of coating operations in the affected source, or for all the coating operations in the affected source. You must use either the compliant material option or the emission rate with add-on controls option for any coating operation in the affected source for which you do not use this option. To demonstrate initial compliance using the emission rate without add-on controls option, the coating operation or group of coating operations must meet the applicable emission limit in §63.3890, but is not required to meet the operating limits or work practice standards in §§63.3892 and 63.3893, respectively. You must conduct a separate initial compliance demonstration for each general use, magnet wire, rubber-to-metal, and extreme performance fluoropolymer coating operation unless you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c). If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. You must meet all the requirements of this section. When calculating the organic HAP emission rate according to this section, do not include any coatings, thinners and/or other additives, or cleaning materials used on coating operations for which you use the compliant material option or the emission rate with add-on controls option. You do not need to redetermine the mass of organic HAP in coatings, thinners and/or other additives, or cleaning materials that have been reclaimed on-site (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the coating operation for which you use the emission rate without add-on controls option. If you use coatings, thinners and/or other additives, or cleaning materials that have been reclaimed on-site, the amount of each used in a month may be reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed.

(a) *Determine the mass fraction of organic HAP for each material.* Determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each month according to the requirements in §63.3941(a).

(b) *Determine the volume fraction of coating solids.* Determine the volume fraction of coating solids (liter (gal) of coating solids per liter (gal) of coating) for each coating used during each month according to the requirements in §63.3941(b).

(c) *Determine the density of each material.* Determine the density of each liquid coating, thinner and/or other additive, and cleaning material used during each month from test results using ASTM Method D1475–98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products” (incorporated by reference, see §63.14), information from the supplier or manufacturer of the material, or reference sources providing density or specific gravity data for pure materials. If you are including powder coatings in the compliance determination, determine the density of powder coatings, using ASTM Method D5965–02, “Standard Test Methods for Specific Gravity of Coating Powders” (incorporated by reference, see §63.14), or information from the supplier. If there is disagreement between ASTM Method D1475–98 or ASTM Method D5965–02 test results and other such information sources, the test results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine material density. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C, and 2 of this section.

(d) *Determine the volume of each material used.* Determine the volume (liters) of each coating, thinner and/or other additive, and cleaning material used during each month by measurement or usage records. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine the volume of each material used. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, and 1C of this section.

(e) *Calculate the mass of organic HAP emissions.* The mass of organic HAP emissions is the combined mass of organic HAP contained in all coatings, thinners and/or other additives, and cleaning materials

used during each month minus the organic HAP in certain waste materials. Calculate the mass of organic HAP emissions using Equation 1 of this section.

$$H_e = A + B + C - R_w \qquad (Eq.\ 1)$$

Where:

H_e= Total mass of organic HAP emissions during the month, kg.

A = Total mass of organic HAP in the coatings used during the month, kg, as calculated in Equation 1A of this section.

B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg, as calculated in Equation 1B of this section.

C = Total mass of organic HAP in the cleaning materials used during the month, kg, as calculated in Equation 1C of this section.

R_w= Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, kg, determined according to paragraph (e)(4) of this section. (You may assign a value of zero to $R_w$if you do not wish to use this allowance.)

(1) Calculate the kg organic HAP in the coatings used during the month using Equation 1A of this section:

$$A = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i}) \qquad (Eq.\ 1A)$$

Where:

A = Total mass of organic HAP in the coatings used during the month, kg.

$Vol_{c,i}$= Total volume of coating, i, used during the month, liters.

$D_{c,i}$= Density of coating, i, kg coating per liter coating.

$W_{c,i}$= Mass fraction of organic HAP in coating, i, kg organic HAP per kg coating. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.

m = Number of different coatings used during the month.

(2) Calculate the kg of organic HAP in the thinners and/or other additives used during the month using Equation 1B of this section:

$$B = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j}) \qquad (Eq.\ 1B)$$

Where:

B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg.

$Vol_{t,j}$= Total volume of thinner and/or other additive, j, used during the month, liters.

$D_{t,j}$= Density of thinner and/or other additive, j, kg per liter.

$W_{t,j}$= Mass fraction of organic HAP in thinner and/or other additive, j, kg organic HAP per kg thinner and/or other additive. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.

n = Number of different thinners and/or other additives used during the month.

(3) Calculate the kg organic HAP in the cleaning materials used during the month using Equation 1C of this section:

$$C = \sum_{k=1}^{p} \left(Vol_{s,k}\right)\left(D_{s,k}\right)\left(W_{s,k}\right) \qquad (Eq.\ 1C)$$

Where:

C = Total mass of organic HAP in the cleaning materials used during the month, kg.

$Vol_{s,k}$= Total volume of cleaning material, k, used during the month, liters.

$D_{s,k}$= Density of cleaning material, k, kg per liter.

$W_{s,k}$= Mass fraction of organic HAP in cleaning material, k, kg organic HAP per kg material.

p = Number of different cleaning materials used during the month.

(4) If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 1 of this section, then you must determine the mass according to paragraphs (e)(4)(i) through (iv) of this section.

(i) You may only include waste materials in the determination that are generated by coating operations in the affected source for which you use Equation 1 of this section and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. You may not include organic HAP contained in wastewater.

(ii) You must determine either the amount of the waste materials sent to a TSDF during the month or the amount collected and stored during the month and designated for future transport to a TSDF. Do not include in your determination any waste materials sent to a TSDF during a month if you have already included them in the amount collected and stored during that month or a previous month.

(iii) Determine the total mass of organic HAP contained in the waste materials specified in paragraph (e)(4)(ii) of this section.

(iv) You must document the methodology you use to determine the amount of waste materials and the total mass of organic HAP they contain, as required in §63.3930(h). If waste manifests include this information, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.

(f) *Calculate the total volume of coating solids used.* Determine the total volume of coating solids used, liters, which is the combined volume of coating solids for all the coatings used during each month, using Equation 2 of this section:

$$V_{st} = \sum_{i=1}^{m} \left(Vol_{c,i}\right)\left(V_{s,i}\right) \qquad (Eq.\ 2)$$

Where:

V_{st}= Total volume of coating solids used during the month, liters.

$Vol_{c,i}$= Total volume of coating, i, used during the month, liters.

$V_{s,i}$= Volume fraction of coating solids for coating, i, liter solids per liter coating, determined according to §63.3941(b).

m = Number of coatings used during the month.

(g) *Calculate the organic HAP emission rate.* Calculate the organic HAP emission rate for the compliance period, kg (lb) organic HAP emitted per liter (gal) coating solids used, using Equation 3 of this section:

$$H_{yr} = \frac{\sum_{y=1}^{n} H_e}{\sum_{y=1}^{n} V_{st}} \qquad (Eq.\ 3)$$

Where:

H_{yr}= Average organic HAP emission rate for the compliance period, kg organic HAP emitted per liter coating solids used.

H_e= Total mass of organic HAP emissions from all materials used during month, y, kg, as calculated by Equation 1 of this section.

V_{st}= Total volume of coating solids used during month, y, liters, as calculated by Equation 2 of this section.

y = Identifier for months.

n = Number of full or partial months in the compliance period (for the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13; for all following compliance periods, n equals 12).

(h) *Compliance demonstration.* The organic HAP emission rate for the initial compliance period calculated using Equation 3 of this section must be less than or equal to the applicable emission limit for each subcategory in §63.3890 or the predominant activity or facility-specific emission limit allowed in §63.3890(c). You must keep all records as required by §§63.3930 and 63.3931. As part of the notification of compliance status required by §63.3910, you must identify the coating operation(s) for which you used the emission rate without add-on controls option and submit a statement that the coating operation(s) was

(were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in §63.3890, determined according to the procedures in this section.

§ 63.3952 How do I demonstrate continuous compliance with the emission limitations?

(a) To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to §63.3951(a) through (g), must be less than or equal to the applicable emission limit in §63.3890. A compliance period consists of 12 months. Each month after the end of the initial compliance period described in §63.3950 is the end of a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in §63.3951(a) through (g) on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility-specific emission limit under §63.3890(c), you must also perform the calculation using Equation 1 in §63.3890(c)(2) on a monthly basis using the data from the previous 12 months of operation.

(b) If the organic HAP emission rate for any 12-month compliance period exceeded the applicable emission limit in §63.3890, this is a deviation from the emission limitation for that compliance period and must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(6).

(c) As part of each semiannual compliance report required by §63.3920, you must identify the coating operation(s) for which you used the emission rate without add-on controls option. If there were no deviations from the emission limitations, you must submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in §63.3890, determined according to §63.3951(a) through (g).

(d) You must maintain records as specified in §§63.3930 and 63.3931.

Compliance Requirements for the Emission Rate With Add-On Controls Option

§ 63.3960 By what date must I conduct performance tests and other initial compliance demonstrations?

(a) *New and reconstructed affected sources.* For a new or reconstructed affected source, you must meet the requirements of paragraphs (a)(1) through (4) of this section.

(1) All emission capture systems, add-on control devices, and CPMS must be installed and operating no later than the applicable compliance date specified in §63.3883. Except for solvent recovery systems for which you conduct liquid-liquid material balances according to §63.3961(j), you must conduct a performance test of each capture system and add-on control device according to §§63.3964, 63.3965, and 63.3966 and establish the operating limits required by §63.3892 no later than 180 days after the applicable compliance date specified in §63.3883. For a solvent recovery system for which you conduct liquid-liquid material balances according to §63.3961(j), you must initiate the first material balance no later than the applicable compliance date specified in §63.3883. For magnet wire coating operations you may, with approval, conduct a performance test of one representative magnet wire coating machine for each group of identical or very similar magnet wire coating machines.

(2) You must develop and begin implementing the work practice plan required by §63.3893 no later than the compliance date specified in §63.3883.

(3) You must complete the initial compliance demonstration for the initial compliance period according to the requirements of §63.3961. The initial compliance period begins on the applicable compliance date specified in §63.3883 and ends on the last day of the 12th month following the compliance date. If the

compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You must determine the mass of organic HAP emissions and volume of coatings solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the results of emission capture system and add-on control device performance tests conducted according to §§63.3964, 63.3965, and 63.3966; results of liquid-liquid material balances conducted according to §63.3961(j); calculations according to §63.3961 and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in §63.3890; the operating limits established during the performance tests and the results of the continuous parameter monitoring required by §63.3968; and documentation of whether you developed and implemented the work practice plan required by §63.3893.

(4) You do not need to comply with the operating limits for the emission capture system and add-on control device required by §63.3892 until after you have completed the performance tests specified in paragraph (a)(1) of this section. Instead, you must maintain a log detailing the operation and maintenance of the emission capture system, add-on control device, and continuous parameter monitors during the period between the compliance date and the performance test. You must begin complying with the operating limits for your affected source on the date you complete the performance tests specified in paragraph (a)(1) of this section. For magnet wire coating operations, you must begin complying with the operating limits for all identical or very similar magnet wire coating machines on the date you complete the performance test of a representative magnet wire coating machine. The requirements in this paragraph (a)(4) do not apply to solvent recovery systems for which you conduct liquid-liquid material balances according to the requirements in §63.3961(j).

(b) *Existing affected sources.* For an existing affected source, you must meet the requirements of paragraphs (b)(1) through (3) of this section.

(1) All emission capture systems, add-on control devices, and CPMS must be installed and operating no later than the applicable compliance date specified in §63.3883. Except for magnet wire coating operations and solvent recovery systems for which you conduct liquid-liquid material balances according to §63.3961(j), you must conduct a performance test of each capture system and add-on control device according to the procedures in §§63.3964, 63.3965, and 63.3966 and establish the operating limits required by §63.3892 no later than the compliance date specified in §63.3883. For magnet wire coating operations, you may, with approval, conduct a performance test of a single magnet wire coating machine that represents identical or very similar magnet wire coating machines. For a solvent recovery system for which you conduct liquid-liquid material balances according to §63.3961(j), you must initiate the first material balance no later than the compliance date specified in §63.3883.

(2) You must develop and begin implementing the work practice plan required by §63.3893 no later than the compliance date specified in §63.3883.

(3) You must complete the initial compliance demonstration for the initial compliance period according to the requirements of §63.3961. The initial compliance period begins on the applicable compliance date specified in §63.3883 and ends on the last day of the 12th month following the compliance date. If the compliance date occurs on any day other than the first day of a month, then the initial compliance period extends through the end of that month plus the next 12 months. You must determine the mass of organic HAP emissions and volume of coatings solids used each month and then calculate an organic HAP emission rate at the end of the initial compliance period. The initial compliance demonstration includes the results of emission capture system and add-on control device performance tests conducted according to §§63.3964, 63.3965, and 63.3966; results of liquid-liquid material balances conducted according to §63.3961(j); calculations according to §63.3961 and supporting documentation showing that during the initial compliance period the organic HAP emission rate was equal to or less than the applicable emission limit in §63.3890; the operating limits established during the performance tests and the results of the

continuous parameter monitoring required by §63.3968; and documentation of whether you developed and implemented the work practice plan required by §63.3893.

(c) You are not required to conduct an initial performance test to determine capture efficiency or destruction efficiency of a capture system or control device if you receive approval to use the results of a performance test that has been previously conducted on that capture system or control device. Any such previous tests must meet the conditions described in paragraphs (c)(1) through (3) of this section.

(1) The previous test must have been conducted using the methods and conditions specified in this subpart.

(2) Either no process or equipment changes have been made since the previous test was performed or the owner or operator must be able to demonstrate that the results of the performance test, reliably demonstrate compliance despite process or equipment changes.

(3) Either the required operating parameters were established in the previous test or sufficient data were collected in the previous test to establish the required operating parameters.

§ 63.3961 How do I demonstrate initial compliance?

(a) You may use the emission rate with add-on controls option for any coating operation, for any group of coating operations in the affected source, or for all of the coating operations in the affected source. You may include both controlled and uncontrolled coating operations in a group for which you use this option. You must use either the compliant material option or the emission rate without add-on controls option for any coating operation in the affected source for which you do not use the emission rate with add-on controls option. To demonstrate initial compliance, the coating operation(s) for which you use the emission rate with add-on controls option must meet the applicable emission limitations in §§63.3890, 63.3892, and 63.3893. You must conduct a separate initial compliance demonstration for each general use, magnet wire, rubber-to-metal, and extreme performance fluoropolymer coating operation, unless you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.3890(c). If you are demonstrating compliance with a predominant activity or facility-specific emission limit as provided in §63.4490(c), you must demonstrate that all coating operations included in the predominant activity determination or calculation of the facility-specific emission limit comply with that limit. You must meet all the requirements of this section. When calculating the organic HAP emission rate according to this section, do not include any coatings, thinners and/or other additives, or cleaning materials used on coating operations for which you use the compliant material option or the emission rate without add-on controls option. You do not need to redetermine the mass of organic HAP in coatings, thinners and/or other additives, or cleaning materials that have been reclaimed onsite (or reclaimed off-site if you have documentation showing that you received back the exact same materials that were sent off-site) and reused in the coatings operation(s) for which you use the emission rate with add-on controls option. If you use coatings, thinners and/or other additives, or cleaning materials that have been reclaimed on-site, the amount of each used in a month may be reduced by the amount of each that is reclaimed. That is, the amount used may be calculated as the amount consumed to account for materials that are reclaimed.

(b) *Compliance with operating limits.* Except as provided in §63.3960(a)(4), and except for solvent recovery systems for which you conduct liquid-liquid material balances according to the requirements of paragraph (j) of this section, you must establish and demonstrate continuous compliance during the initial compliance period with the operating limits required by §63.3892, using the procedures specified in §§63.3967 and 63.3968.

(c) *Compliance with work practice requirements.* You must develop, implement, and document your implementation of the work practice plan required by §63.3893 during the initial compliance period, as specified in §63.3930.

(d) *Compliance with emission limits.* You must follow the procedures in paragraphs (e) through (n) of this section to demonstrate compliance with the applicable emission limit in §63.3890 for each affected source in each subcategory.

(e) *Determine the mass fraction of organic HAP, density, volume used, and volume fraction of coating solids.* Follow the procedures specified in §63.3951(a) through (d) to determine the mass fraction of organic HAP, density, and volume of each coating, thinner and/or other additive, and cleaning material used during each month; and the volume fraction of coating solids for each coating used during each month.

(f) *Calculate the total mass of organic HAP emissions before add-on controls.* Using Equation 1 of §63.3951, calculate the total mass of organic HAP emissions before add-on controls from all coatings, thinners and/or other additives, and cleaning materials used during each month in the coating operation or group of coating operations for which you use the emission rate with add-on controls option.

(g) *Calculate the organic HAP emission reduction for each controlled coating operation.* Determine the mass of organic HAP emissions reduced for each controlled coating operation during each month. The emission reduction determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add-on control device. Use the procedures in paragraph (h) of this section to calculate the mass of organic HAP emission reduction for each controlled coating operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances. For each controlled coating operation using a solvent recovery system for which you conduct a liquid-liquid material balance, use the procedures in paragraph (j) of this section to calculate the organic HAP emission reduction.

(h) *Calculate the organic HAP emission reduction for each controlled coating operation not using liquid-liquid material balance.* Use Equation 1 of this section to calculate the organic HAP emission reduction for each controlled coating operation using an emission capture system and add-on control device other than a solvent recovery system for which you conduct liquid-liquid material balances. The calculation applies the emission capture system efficiency and add-on control device efficiency to the mass of organic HAP contained in the coatings, thinners and/or other additives, and cleaning materials that are used in the coating operation served by the emission capture system and add-on control device during each month. You must assume zero efficiency for the emission capture system and add-on control device for any period of time a deviation specified in §63.3963(c) or (d) occurs in the controlled coating operation, including a deviation during a period of startup, shutdown, or malfunction, unless you have other data indicating the actual efficiency of the emission capture system and add-on control device and the use of these data is approved by the Administrator. Equation 1 of this section treats the materials used during such a deviation as if they were used on an uncontrolled coating operation for the time period of the deviation.

$$H_C = \left(A_C + B_C + C_C - R_W - H_{UNC}\right)\left(\frac{CE}{100} \times \frac{DRE}{100}\right) \qquad (Eq.\ 1)$$

Where:

H_C= Mass of organic HAP emission reduction for the controlled coating operation during the month, kg.

A_C= Total mass of organic HAP in the coatings used in the controlled coating operation during the month, kg, as calculated in Equation 1A of this section.

B_C= Total mass of organic HAP in the thinners and/or other additives used in the controlled coating operation during the month, kg, as calculated in Equation 1B of this section.

C_C= Total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg, as calculated in Equation 1C of this section.

R_W= Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg, determined according to §63.3951(e)(4). (You may assign a value of zero to $R_W$if you do not wish to use this allowance.)

H_{UNC}= Total mass of organic HAP in the coatings, thinners and/or other additives, and cleaning materials used during all deviations specified in §63.3963(c) and (d) that occurred during the month in the controlled coating operation, kg, as calculated in Equation 1D of this section.

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent. Use the test methods and procedures specified in §§63.3964 and 63.3965 to measure and record capture efficiency.

DRE = Organic HAP destruction or removal efficiency of the add-on control device, percent. Use the test methods and procedures in §§63.3964 and 63.3966 to measure and record the organic HAP destruction or removal efficiency.

(1) Calculate the mass of organic HAP in the coatings used in the controlled coating operation, kg (lb), using Equation 1A of this section:

$$A_C = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i}) \qquad (Eq.\ 1A)$$

Where:

A_C= Total mass of organic HAP in the coatings used in the controlled coating operation during the month, kg.

$Vol_{c,i}$= Total volume of coating, i, used during the month, liters.

$D_{c,i}$= Density of coating, i, kg per liter.

$W_{c,i}$= Mass fraction of organic HAP in coating, i, kg per kg. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.

m = Number of different coatings used.

(2) Calculate the mass of organic HAP in the thinners and/or other additives used in the controlled coating operation, kg (lb), using Equation 1B of this section:

$$B_C = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j}) \qquad (Eq.\ 1B)$$

Where:

B_C= Total mass of organic HAP in the thinners and/or other additives used in the controlled coating operation during the month, kg.

$Vol_{t,j}$= Total volume of thinner and/or other additive, j, used during the month, liters.

$D_{t,j}$= Density of thinner and/or other additive, j, kg per liter.

$W_{t,j}$= Mass fraction of organic HAP in thinner and/or other additive, j, kg per kg. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.

n = Number of different thinners and/or other additives used.

(3) Calculate the mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg (lb), using Equation 1C of this section:

$$C_C = \sum_{k=1}^{p} (Vol_{s,k})(D_{s,k})(W_{s,k}) \qquad (Eq.\ 1C)$$

Where:

C_C= Total mass of organic HAP in the cleaning materials used in the controlled coating operation during the month, kg.

$Vol_{s,k}$= Total volume of cleaning material, k, used during the month, liters.

$D_{s,k}$= Density of cleaning material, k, kg per liter.

$W_{s,k}$= Mass fraction of organic HAP in cleaning material, k, kg per kg.

p = Number of different cleaning materials used.

(4) Calculate the mass of organic HAP in the coatings, thinners and/or other additives, and cleaning materials used in the controlled coating operation during deviations specified in §63.3963(c) and (d), using Equation 1D of this section:

$$H_{UNC} = \sum_{k=1}^{q} (Vol_k)(D_k)(W_k) \qquad (Eq.\ 1D)$$

Where:

H_{UNC}= Total mass of organic HAP in the coatings, thinners and/or other additives, and cleaning materials used during all deviations specified in §63.3963(c) and (d) that occurred during the month in the controlled coating operation, kg.

Vol_h= Total volume of coating, thinner and/or other additive, or cleaning material, h, used in the controlled coating operation during deviations, liters.

D_h= Density of coating, thinner and/or other additives, or cleaning material, h, kg per liter.

W_h= Mass fraction of organic HAP in coating, thinner and/or other additives, or cleaning material, h, kg organic HAP per kg coating. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.

q = Number of different coatings, thinners and/or other additives, and cleaning materials used.

(i) [Reserved]

(j) *Calculate the organic HAP emission reduction for each controlled coating operation using liquid-liquid material balances.* For each controlled coating operation using a solvent recovery system for which you conduct liquid-liquid material balances, calculate the organic HAP emission reduction by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the coatings, thinners and/or other additives, and cleaning materials that are used in the coating operation controlled by the solvent recovery system during each month. Perform a liquid-liquid material balance for each month as specified in paragraphs (j)(1) through (6) of this section. Calculate the mass of organic HAP emission reduction by the solvent recovery system as specified in paragraph (j)(7) of this section.

(1) For each solvent recovery system, install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system each month. The device must be initially certified by the manufacturer to be accurate to within ±2.0 percent of the mass of volatile organic matter recovered.

(2) For each solvent recovery system, determine the mass of volatile organic matter recovered for the month, based on measurement with the device required in paragraph (j)(1) of this section.

(3) Determine the mass fraction of volatile organic matter for each coating, thinner and/or other additive, and cleaning material used in the coating operation controlled by the solvent recovery system during the month, kg volatile organic matter per kg coating. You may determine the volatile organic matter mass fraction using Method 24 of 40 CFR part 60, appendix A, or an EPA approved alternative method, or you may use information provided by the manufacturer or supplier of the coating. In the event of any inconsistency between information provided by the manufacturer or supplier and the results of Method 24 of 40 CFR part 60, appendix A, or an approved alternative method, the test method results will take precedence unless, after consultation you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct.

(4) Determine the density of each coating, thinner and/or other additive, and cleaning material used in the coating operation controlled by the solvent recovery system during the month, kg per liter, according to §63.3951(c).

(5) Measure the volume of each coating, thinner and/or other additive, and cleaning material used in the coating operation controlled by the solvent recovery system during the month, liters.

(6) Each month, calculate the solvent recovery system's volatile organic matter collection and recovery efficiency, using Equation 2 of this section:

$$R_V = 100 \frac{M_{VR}}{\sum_{i=1}^{m} Vol_i D_i WV_{c,i} + \sum_{j=1}^{n} Vol_j D_j WV_{t,j} + \sum_{k=1}^{p} Vol_k D_k WV_{s,k}} \qquad (Eq.\ 2)$$

Where:

R_V= Volatile organic matter collection and recovery efficiency of the solvent recovery system during the month, percent.

M_{VR}= Mass of volatile organic matter recovered by the solvent recovery system during the month, kg.

Vol_i= Volume of coating, i, used in the coating operation controlled by the solvent recovery system during the month, liters.

D_i= Density of coating, i, kg per liter.

$WV_{c,i}$= Mass fraction of volatile organic matter for coating, i, kg volatile organic matter per kg coating. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.

Vol_j= Volume of thinner and/or other additive, j, used in the coating operation controlled by the solvent recovery system during the month, liters.

D_j= Density of thinner and/or other additive, j, kg per liter.

$WV_{t,j}$= Mass fraction of volatile organic matter for thinner and/or other additive, j, kg volatile organic matter per kg thinner and/or other additive. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.

Vol_k= Volume of cleaning material, k, used in the coating operation controlled by the solvent recovery system during the month, liters.

D_k= Density of cleaning material, k, kg per liter.

$WV_{s,k}$= Mass fraction of volatile organic matter for cleaning material, k, kg volatile organic matter per kg cleaning material.

m = Number of different coatings used in the coating operation controlled by the solvent recovery system during the month.

n = Number of different thinners and/or other additives used in the coating operation controlled by the solvent recovery system during the month.

p = Number of different cleaning materials used in the coating operation controlled by the solvent recovery system during the month.

(7) Calculate the mass of organic HAP emission reduction for the coating operation controlled by the solvent recovery system during the month, using Equation 3 of this section and according to paragraphs (j)(7)(i) through (iii) of this section:

$$H_{CSR} = \left(A_{CSR} + B_{CSR} + C_{CSR}\right)\left(\frac{R_V}{100}\right) \qquad (Eq.\ 3)$$

Where:

H_{CSR}= Mass of organic HAP emission reduction for the coating operation controlled by the solvent recovery system using a liquid-liquid material balance during the month, kg.

A_{CSR}= Total mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 3A of this section.

B_{CSR}= Total mass of organic HAP in the thinners and/or other additives used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 3B of this section.

C_{CSR}= Total mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system, kg, calculated using Equation 3C of this section.

R_V= Volatile organic matter collection and recovery efficiency of the solvent recovery system, percent, from Equation 2 of this section.

(i) Calculate the mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system, kg, using Equation 3A of this section.

$$A_{CSR} = \sum_{i=1}^{m} (Vol_{c,i})(D_{c,i})(W_{c,i}) \qquad (Eq.\ 3A)$$

Where:

A_{CSR}= Total mass of organic HAP in the coatings used in the coating operation controlled by the solvent recovery system during the month, kg.

$Vol_{c,i}$= Total volume of coating, i, used during the month in the coating operation controlled by the solvent recovery system, liters.

$D_{c,i}$= Density of coating, i, kg per liter.

$W_{c,i}$= Mass fraction of organic HAP in coating, i, kg organic HAP per kg coating. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.

m = Number of different coatings used.

(ii) Calculate the mass of organic HAP in the thinners and/or other additives used in the coating operation controlled by the solvent recovery system, kg, using Equation 3B of this section:

$$B_{CSR} = \sum_{j=1}^{n} (Vol_{t,j})(D_{t,j})(W_{t,j}) \qquad (Eq.\ 3B)$$

Where:

B_{CSR}= Total mass of organic HAP in the thinners and/or other additives used in the coating operation controlled by the solvent recovery system during the month, kg.

$Vol_{t,j}$= Total volume of thinner and/or other additive, j, used during the month in the coating operation controlled by the solvent recovery system, liters.

$D_{t,j}$= Density of thinner and/or other additive, j, kg per liter.

$W_{t,j}$= Mass fraction of organic HAP in thinner and/or other additive, j, kg lb organic HAP per kg thinner and/or other additive. For reactive adhesives as defined in §63.3981, use the mass fraction of organic HAP that is emitted as determined using the method in appendix A to subpart PPPP of this part.

n = Number of different thinners and/or other additives used.

(iii) Calculate the mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system during the month, kg, using Equation 3C of this section:

$$C_{CSR} = \sum_{k=1}^{p} \left(Vol_{s,k}\right)\left(D_{s,k}\right)\left(W_{s,k}\right) \qquad (Eq.\ 3C)$$

Where:

C_{CSR}= Total mass of organic HAP in the cleaning materials used in the coating operation controlled by the solvent recovery system during the month, kg.

$Vol_{s,k}$= Total volume of cleaning material, k, used during the month in the coating operation controlled by the solvent recovery system, liters.

$D_{s,k}$= Density of cleaning material, k, kg per liter.

$W_{s,k}$= Mass fraction of organic HAP in cleaning material, k, kg organic HAP per kg cleaning material.

p = Number of different cleaning materials used.

(k) *Calculate the total volume of coating solids used.* Determine the total volume of coating solids used, liters, which is the combined volume of coating solids for all the coatings used during each month in the coating operation or group of coating operations for which you use the emission rate with add-on controls option, using Equation 2 of §63.3951.

(l) *Calculate the mass of organic HAP emissions for each month.* Determine the mass of organic HAP emissions, kg, during each month, using Equation 4 of this section:

$$H_{HAP} = H_e - \sum_{i=1}^{q}\left(H_{c,i}\right) - \sum_{j=1}^{r}\left(H_{CSR,j}\right) \qquad (Eq.\ 4)$$

where:

H_{HAP}= Total mass of organic HAP emissions for the month, kg.

H_e= Total mass of organic HAP emissions before add-on controls from all the coatings, thinners and/or other additives, and cleaning materials used during the month, kg, determined according to paragraph (f) of this section.

$H_{C,i}$= Total mass of organic HAP emission reduction for controlled coating operation, i, not using a liquid-liquid material balance, during the month, kg, from Equation 1 of this section.

$H_{CSR,j}$= Total mass of organic HAP emission reduction for coating operation, j, controlled by a solvent recovery system using a liquid-liquid material balance, during the month, kg, from Equation 3 of this section.

q = Number of controlled coating operations not controlled by a solvent recovery system using a liquid-liquid material balance.

r = Number of coating operations controlled by a solvent recovery system using a liquid-liquid material balance.

(m) *Calculate the organic HAP emission rate for the compliance period.* Determine the organic HAP emission rate for the compliance period, kg (lb) of organic HAP emitted per liter (gal) coating solids used, using Equation 5 of this section:

$$H_{annual} = \frac{\sum_{y=1}^{n} H_{HAP,y}}{\sum_{y=1}^{n} V_{st,y}} \qquad (Eq.\ 5)$$

Where:

H_{annual}= Organic HAP emission rate for the compliance period, kg organic HAP emitted per liter coating solids used.

$H_{HAP,y}$= Organic HAP emissions for month, y, kg, determined according to Equation 4 of this section.

$V_{st,y}$= Total volume of coating solids used during month, y, liters, from Equation 2 of §63.3951.

y = Identifier for months.

n = Number of full or partial months in the compliance period (for the initial compliance period, n equals 12 if the compliance date falls on the first day of a month; otherwise n equals 13; for all following compliance periods, n equals 12).

(n) *Compliance demonstration.* The organic HAP emission rate for the initial compliance period, calculated using Equation 5 of this section, must be less than or equal to the applicable emission limit for each subcategory in §63.3890 or the predominant activity or facility-specific emission limit allowed in §63.3890(c). You must keep all records as required by §§63.3930 and 63.3931. As part of the notification of compliance status required by §63.3910, you must identify the coating operation(s) for which you used the emission rate with add-on controls option and submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the initial compliance period because the organic HAP emission rate was less than or equal to the applicable emission limit in §63.3890, and you achieved the operating limits required by §63.3892 and the work practice standards required by §63.3893.

§ 63.3962 [Reserved]

§ 63.3963 How do I demonstrate continuous compliance with the emission limitations?

(a) To demonstrate continuous compliance with the applicable emission limit in §63.3890, the organic HAP emission rate for each compliance period, determined according to the procedures in §63.3961, must be equal to or less than the applicable emission limit in §63.3890. A compliance period consists of 12 months. Each month after the end of the initial compliance period described in §63.3960 is the end of a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in §63.3961 on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility-specific emission limit under §63.3890(c), you must also perform the calculation using Equation 1 in §63.3890(c)(2) on a monthly basis using the data from the previous 12 months of operation.

(b) If the organic HAP emission rate for any 12-month compliance period exceeded the applicable emission limit in §63.3890, this is a deviation from the emission limitation for that compliance period that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(7).

(c) You must demonstrate continuous compliance with each operating limit required by §63.3892 that applies to you, as specified in Table 1 to this subpart, when the coating line is in operation.

(1) If an operating parameter is out of the allowed range specified in Table 1 to this subpart, this is a deviation from the operating limit that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(7).

(2) If an operating parameter deviates from the operating limit specified in Table 1 to this subpart, then you must assume that the emission capture system and add-on control device were achieving zero efficiency during the time period of the deviation, unless you have other data indicating the actual efficiency of the emission capture system and add-on control device and the use of these data is approved by the Administrator.

(d) You must meet the requirements for bypass lines in §63.3968(b) for controlled coating operations for which you do not conduct liquid-liquid material balances. If any bypass line is opened and emissions are diverted to the atmosphere when the coating operation is running, this is a deviation that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(7). For the purposes of completing the compliance calculations specified in §§63.3961(h), you must treat the materials used during a deviation on a controlled coating operation as if they were used on an uncontrolled coating operation for the time period of the deviation as indicated in Equation 1 of §63.3961.

(e) You must demonstrate continuous compliance with the work practice standards in §63.3893. If you did not develop a work practice plan, or you did not implement the plan, or you did not keep the records required by §63.3930(k)(8), this is a deviation from the work practice standards that must be reported as specified in §§63.3910(c)(6) and 63.3920(a)(7).

(f) As part of each semiannual compliance report required in §63.3920, you must identify the coating operation(s) for which you used the emission rate with add-on controls option. If there were no deviations from the emission limitations, submit a statement that you were in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in §63.3890, and you achieved the operating limits required by §63.3892 and the work practice standards required by §63.3893 during each compliance period.

(g)—(i) [Reserved]

(j) You must maintain records as specified in §§63.3930 and 63.3931.

[69 FR 157, Jan. 2, 2004, as amended at 71 FR 20465, Apr. 20, 2006]

§ 63.3964 What are the general requirements for performance tests?

(a) You must conduct each performance test required by §63.3960 according to the requirements in §63.7(e)(1) and under the conditions in this section, unless you obtain a waiver of the performance test according to the provisions in §63.7(h).

(1) *Representative coating operation operating conditions.* You must conduct the performance test under representative operating conditions for the coating operation. Operations during periods of startup, shutdown, or malfunction and during periods of nonoperation do not constitute representative conditions.

You must record the process information that is necessary to document operating conditions during the test and explain why the conditions represent normal operation.

(2) *Representative emission capture system and add-on control device operating conditions.* You must conduct the performance test when the emission capture system and add-on control device are operating at a representative flow rate, and the add-on control device is operating at a representative inlet concentration. You must record information that is necessary to document emission capture system and add-on control device operating conditions during the test and explain why the conditions represent normal operation.

(b) You must conduct each performance test of an emission capture system according to the requirements in §63.3965. You must conduct each performance test of an add-on control device according to the requirements in §63.3966.

§ 63.3965 How do I determine the emission capture system efficiency?

You must use the procedures and test methods in this section to determine capture efficiency as part of the performance test required by §63.3960.

(a) *Assuming 100 percent capture efficiency.* You may assume the capture system efficiency is 100 percent if both of the conditions in paragraphs (a)(1) and (2) of this section are met:

(1) The capture system meets the criteria in Method 204 of appendix M to 40 CFR part 51 for a PTE and directs all the exhaust gases from the enclosure to an add-on control device.

(2) All coatings, thinners and/or other additives, and cleaning materials used in the coating operation are applied within the capture system; coating solvent flash-off, curing, and drying occurs within the capture system; and the removal or evaporation of cleaning materials from the surfaces they are applied to occurs within the capture system. For example, this criterion is not met if parts enter the open shop environment when being moved between a spray booth and a curing oven.

(b) *Measuring capture efficiency.* If the capture system does not meet both of the criteria in paragraphs (a)(1) and (2) of this section, then you must use one of the three protocols described in paragraphs (c), (d), and (e) of this section to measure capture efficiency. The capture efficiency measurements use TVH capture efficiency as a surrogate for organic HAP capture efficiency. For the protocols in paragraphs (c) and (d) of this section, the capture efficiency measurement must consist of three test runs. Each test run must be at least 3 hours duration or the length of a production run, whichever is longer, up to 8 hours. For the purposes of this test, a production run means the time required for a single part to go from the beginning to the end of the production, which includes surface preparation activities and drying and curing time.

(c) *Liquid-to-uncaptured-gas protocol using a temporary total enclosure or building enclosure.* The liquid-to-uncaptured-gas protocol compares the mass of liquid TVH in materials used in the coating operation to the mass of TVH emissions not captured by the emission capture system. Use a temporary total enclosure or a building enclosure and the procedures in paragraphs (c)(1) through (6) of this section to measure emission capture system efficiency using the liquid-to-uncaptured-gas protocol.

(1) Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and/or other additives, and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash-off, curing, and drying areas. The areas of the coating operation where capture devices collect emissions for routing to an add-on control device, such as the entrance and exit areas of an oven or spray booth, must also be inside

the enclosure. The enclosure must meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 of appendix M to 40 CFR part 51.

(2) Use Method 204A or 204F of appendix M to 40 CFR part 51 to determine the mass fraction of TVH liquid input from each coating, thinner and/or other additive, and cleaning material used in the coating operation during each capture efficiency test run. To make the determination, substitute TVH for each occurrence of the term VOC in the methods.

(3) Use Equation 1 of this section to calculate the total mass of TVH liquid input from all the coatings, thinners and/or other additives, and cleaning materials used in the coating operation during each capture efficiency test run:

$$TVH_{used} = \sum_{i=1}^{n} (TVH_i)(Vol_i)(D_i) \qquad (Eq.\ 1)$$

Where:

TVH_{used}= Mass of liquid TVH in materials used in the coating operation during the capture efficiency test run, kg.

TVH_i= Mass fraction of TVH in coating, thinner and/or other additive, or cleaning material, i, that is used in the coating operation during the capture efficiency test run, kg TVH per kg material.

Vol_i= Total volume of coating, thinner and/or other additive, or cleaning material, i, used in the coating operation during the capture efficiency test run, liters.

D_i= Density of coating, thinner and/or other additive, or cleaning material, i, kg material per liter material.

n = Number of different coatings, thinners and/or other additives, and cleaning materials used in the coating operation during the capture efficiency test run.

(4) Use Method 204D or 204E of appendix M to 40 CFR part 51 to measure the total mass, kg, of TVH emissions that are not captured by the emission capture system. They are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

(i) Use Method 204D of appendix M to 40 CFR part 51 if the enclosure is a temporary total enclosure.

(ii) Use Method 204E of appendix M to 40 CFR 51 if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, must be shut down, but all fans and blowers must be operating normally.

(5) For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 2 of this section:

$$CE = \frac{(TVH_{used} - TVH_{uncaptured})}{TVH_{used}} \times 100 \qquad (Eq.\ 2)$$

Where:

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent.

TVH_{used}= Total mass of TVH liquid input used in the coating operation during the capture efficiency test run, kg.

$TVH_{uncaptured}$= Total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg.

(6) Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the three test runs.

(d) *Gas-to-gas protocol using a temporary total enclosure or a building enclosure.* The gas-to-gas protocol compares the mass of TVH emissions captured by the emission capture system to the mass of TVH emissions not captured. Use a temporary total enclosure or a building enclosure and the procedures in paragraphs (d)(1) through (5) of this section to measure emission capture system efficiency using the gas-to-gas protocol.

(1) Either use a building enclosure or construct an enclosure around the coating operation where coatings, thinners and/or other additives, and cleaning materials are applied, and all areas where emissions from these applied coatings and materials subsequently occur, such as flash-off, curing, and drying areas. The areas of the coating operation where capture devices collect emissions generated by the coating operation for routing to an add-on control device, such as the entrance and exit areas of an oven or a spray booth, must also be inside the enclosure. The enclosure must meet the applicable definition of a temporary total enclosure or building enclosure in Method 204 of appendix M to 40 CFR part 51.

(2) Use Method 204B or 204C of appendix M to 40 CFR part 51 to measure the total mass, kg, of TVH emissions captured by the emission capture system during each capture efficiency test run as measured at the inlet to the add-on control device. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

(i) The sampling points for the Method 204B or 204C measurement must be upstream from the add-on control device and must represent total emissions routed from the capture system and entering the add-on control device.

(ii) If multiple emission streams from the capture system enter the add-on control device without a single common duct, then the emissions entering the add-on control device must be simultaneously measured in each duct and the total emissions entering the add-on control device must be determined.

(3) Use Method 204D or 204E of appendix M to 40 CFR part 51 to measure the total mass, kg, of TVH emissions that are not captured by the emission capture system; they are measured as they exit the temporary total enclosure or building enclosure during each capture efficiency test run. To make the measurement, substitute TVH for each occurrence of the term VOC in the methods.

(i) Use Method 204D of appendix M to 40 CFR part 51 if the enclosure is a temporary total enclosure.

(ii) Use Method 204E of appendix M to 40 CFR part 51 if the enclosure is a building enclosure. During the capture efficiency measurement, all organic compound emitting operations inside the building enclosure, other than the coating operation for which capture efficiency is being determined, must be shut down, but all fans and blowers must be operating normally.

(4) For each capture efficiency test run, determine the percent capture efficiency of the emission capture system using Equation 3 of this section:

$$CE = \frac{TVH_{captured}}{\left(TVH_{captured} + \mathrm{TVH}_{\mathrm{uncaptured}}\right)} \times 100 \qquad \text{(Eq. 3)}$$

Where:

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent.

$TVH_{captured}$= Total mass of TVH captured by the emission capture system as measured at the inlet to the add-on control device during the emission capture efficiency test run, kg.

$TVH_{uncaptured}$= Total mass of TVH that is not captured by the emission capture system and that exits from the temporary total enclosure or building enclosure during the capture efficiency test run, kg.

(5) Determine the capture efficiency of the emission capture system as the average of the capture efficiencies measured in the three test runs.

(e) *Alternative capture efficiency protocol.* As an alternative to the procedures specified in paragraphs (c) and (d) of this section and subject to the approval of the Administrator, you may determine capture efficiency using any other capture efficiency protocol and test methods that satisfy the criteria of either the DQO or LCL approach as described in appendix A to subpart KK of this part.

§ 63.3966 How do I determine the add-on control device emission destruction or removal efficiency?

You must use the procedures and test methods in this section to determine the add-on control device emission destruction or removal efficiency as part of the performance test required by §63.3960. You must conduct three test runs as specified in §63.7(e)(3) and each test run must last at least 1 hour. If the source is a magnet wire coating machine, you may use the procedures in section 3.0 of appendix A to this subpart as an alternative.

(a) For all types of add-on control devices, use the test methods specified in paragraphs (a)(1) through (5) of this section.

(1) Use Method 1 or 1A of appendix A to 40 CFR part 60, as appropriate, to select sampling sites and velocity traverse points.

(2) Use Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A to 40 CFR part 60, as appropriate, to measure gas volumetric flow rate.

(3) Use Method 3, 3A, or 3B of appendix A to 40 CFR part 60, as appropriate, for gas analysis to determine dry molecular weight.

(4) Use Method 4 of appendix A to 40 CFR part 60, to determine stack gas moisture.

(5) Methods for determining gas volumetric flow rate, dry molecular weight, and stack gas moisture must be performed, as applicable, during each test run.

(b) Measure total gaseous organic mass emissions as carbon at the inlet and outlet of the add-on control device simultaneously, using either Method 25 or 25A of appendix A to 40 CFR part 60.

(1) Use Method 25 if the add-on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be more than 50 parts per million (ppm) at the control device outlet.

(2) Use Method 25A if the add-on control device is an oxidizer and you expect the total gaseous organic concentration as carbon to be 50 ppm or less at the control device outlet.

(3) Use Method 25A if the add-on control device is not an oxidizer.

(c) If two or more add-on control devices are used for the same emission stream, then you must measure emissions at the outlet to the atmosphere of each device. For example, if one add-on control device is a concentrator with an outlet to the atmosphere for the high-volume dilute stream that has been treated by the concentrator, and a second add-on control device is an oxidizer with an outlet to the atmosphere for the low-volume concentrated stream that is treated with the oxidizer, you must measure emissions at the outlet of the oxidizer and the high volume dilute stream outlet of the concentrator.

(d) For each test run, determine the total gaseous organic emissions mass flow rates for the inlet and the outlet of the add-on control device, using Equation 1 of this section. If there is more than one inlet or outlet to the add-on control device, you must calculate the total gaseous organic mass flow rate using Equation 1 of this section for each inlet and each outlet and then total all of the inlet emissions and total all of the outlet emissions:

$$M_f = Q_{sd} C_c (12)\ (0.0416)\ \left(10^{-6}\right) \qquad (Eq.\ 1)$$

Where:

M_f= Total gaseous organic emissions mass flow rate, kg per hour (h).

C_c= Concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A, parts per million by volume (ppmv), dry basis.

Q_{sd}= Volumetric flow rate of gases entering or exiting the add-on control device, as determined by Method 2, 2A, 2C, 2D, 2F, or 2G, dry standard cubic meters/hour (dscm/h).

0.0416 = Conversion factor for molar volume, kg-moles per cubic meter (mol/m^3) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg).

(e) For each test run, determine the add-on control device organic emissions destruction or removal efficiency, using Equation 2 of this section:

$$DRE = \frac{M_{fi} - M_{fo}}{M_{fi}} \times 100 \qquad (\text{Eq. } 2)$$

Where:

DRE = Organic emissions destruction or removal efficiency of the add-on control device, percent.

M_{fi}= Total gaseous organic emissions mass flow rate at the inlet(s) to the add-on control device, using Equation 1 of this section, kg/h.

M_{fo}= Total gaseous organic emissions mass flow rate at the outlet(s) of the add-on control device, using Equation 1 of this section, kg/h.

(f) Determine the emission destruction or removal efficiency of the add-on control device as the average of the efficiencies determined in the three test runs and calculated in Equation 2 of this section.

§ 63.3967 How do I establish the emission capture system and add-on control device operating limits during the performance test?

During the performance test required by §63.3960 and described in §§63.3964, 63.3965, and 63.3966, you must establish the operating limits required by §63.3892 according to this section, unless you have received approval for alternative monitoring and operating limits under §63.8(f) as specified in §63.3892.

(a) *Thermal oxidizers.* If your add-on control device is a thermal oxidizer, establish the operating limits according to paragraphs (a)(1) and (2) of this section.

(1) During the performance test, you must monitor and record the combustion temperature at least once every 15 minutes during each of the three test runs. You must monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

(2) Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for your thermal oxidizer.

(b) *Catalytic oxidizers.* If your add-on control device is a catalytic oxidizer, establish the operating limits according to either paragraphs (b)(1) and (2) or paragraphs (b)(3) and (4) of this section. If the source is a magnet wire coating machine, you may use the procedures in section 3.0 of appendix A to this subpart as an alternative.

(1) During the performance test, you must monitor and record the temperature just before the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the three test runs.

(2) Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. These are the minimum operating limits for your catalytic oxidizer.

(3) You must monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for your catalytic oxidizer as specified in paragraph (b)(4) of this section. During the performance test, you must monitor and record the temperature just before the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature just before the catalyst bed during the performance test. This is the minimum operating limit for your catalytic oxidizer.

(4) You must develop and implement an inspection and maintenance plan for your catalytic oxidizer(s) for which you elect to monitor according to paragraph (b)(3) of this section. The plan must address, at a minimum, the elements specified in paragraphs (b)(4)(i) through (iii) of this section.

(i) Annual sampling and analysis of the catalyst activity (*i.e.,* conversion efficiency) following the manufacturer's or catalyst supplier's recommended procedures. If problems are found during the catalyst activity test, you must replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations.

(ii) Monthly external inspection of the catalytic oxidizer system, including the burner assembly and fuel supply lines for problems and, as necessary, adjust the equipment to assure proper air-to-fuel mixtures.

(iii) Annual internal inspection of the catalyst bed to check for channeling, abrasion, and settling. If problems are found during the annual internal inspection of the catalyst, you must replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations. If the catalyst bed is replaced and is not of like or better kind and quality as the old catalyst then you must conduct a new performance test to determine destruction efficiency according to §63.3966. If a catalyst bed is replaced and the replacement catalyst is of like or better kind and quality as the old catalyst, then a new performance test to determine destruction efficiency is not required and you may continue to use the previously established operating limits for that catalytic oxidizer.

(c) *Regenerative carbon adsorbers.* If your add-on control device is a regenerative carbon adsorber, establish the operating limits according to paragraphs (c)(1) and (2) of this section.

(1) You must monitor and record the total regeneration desorbing gas (*e.g.,* steam or nitrogen) mass flow for each regeneration cycle, and the carbon bed temperature after each carbon bed regeneration and cooling cycle for the regeneration cycle either immediately preceding or immediately following the performance test.

(2) The operating limits for your regenerative carbon adsorber are the minimum total desorbing gas mass flow recorded during the regeneration cycle and the maximum carbon bed temperature recorded after the cooling cycle.

(d) *Condensers.* If your add-on control device is a condenser, establish the operating limits according to paragraphs (d)(1) and (2) of this section.

(1) During the performance test, you must monitor and record the condenser outlet (product side) gas temperature at least once every 15 minutes during each of the three test runs.

(2) Use the data collected during the performance test to calculate and record the average condenser outlet (product side) gas temperature maintained during the performance test. This average condenser outlet gas temperature is the maximum operating limit for your condenser.

(e) *Concentrators.* If your add-on control device includes a concentrator, you must establish operating limits for the concentrator according to paragraphs (e)(1) through (4) of this section.

(1) During the performance test, you must monitor and record the desorption concentrate stream gas temperature at least once every 15 minutes during each of the three runs of the performance test.

(2) Use the data collected during the performance test to calculate and record the average temperature. This is the minimum operating limit for the desorption concentrate gas stream temperature.

(3) During the performance test, you must monitor and record the pressure drop of the dilute stream across the concentrator at least once every 15 minutes during each of the three runs of the performance test.

(4) Use the data collected during the performance test to calculate and record the average pressure drop. This is the minimum operating limit for the dilute stream across the concentrator.

(f) *Emission capture systems.* For each capture device that is not part of a PTE that meets the criteria of §63.3965(a), establish an operating limit for either the gas volumetric flow rate or duct static pressure, as specified in paragraphs (f)(1) and (2) of this section. The operating limit for a PTE is specified in Table 1

to this subpart. If the source is a magnet wire coating machine, you may use the procedures in section 2.0 of appendix A to this subpart as an alternative.

(1) During the capture efficiency determination required by §63.3960 and described in §§63.3964 and 63.3965, you must monitor and record either the gas volumetric flow rate or the duct static pressure for each separate capture device in your emission capture system at least once every 15 minutes during each of the three test runs at a point in the duct between the capture device and the add-on control device inlet.

(2) Calculate and record the average gas volumetric flow rate or duct static pressure for the three test runs for each capture device. This average gas volumetric flow rate or duct static pressure is the minimum operating limit for that specific capture device.

§ 63.3968 What are the requirements for continuous parameter monitoring system installation, operation, and maintenance?

(a) *General.* You must install, operate, and maintain each CPMS specified in paragraphs (c), (e), (f), and (g) of this section according to paragraphs (a)(1) through (6) of this section. You must install, operate, and maintain each CPMS specified in paragraphs (b) and (d) of this section according to paragraphs (a)(3) through (5) of this section.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of four equally spaced successive cycles of CPMS operation in 1 hour.

(2) You must determine the average of all recorded readings for each successive 3-hour period of the emission capture system and add-on control device operation.

(3) You must record the results of each inspection, calibration, and validation check of the CPMS.

(4) You must maintain the CPMS at all times and have available necessary parts for routine repairs of the monitoring equipment.

(5) You must operate the CPMS and collect emission capture system and add-on control device parameter data at all times that a controlled coating operation is operating, except during monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, if applicable, calibration checks and required zero and span adjustments).

(6) You must not use emission capture system or add-on control device parameter data recorded during monitoring malfunctions, associated repairs, out-of-control periods, or required quality assurance or control activities when calculating data averages. You must use all the data collected during all other periods in calculating the data averages for determining compliance with the emission capture system and add-on control device operating limits.

(7) A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the CPMS to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations is a deviation from the monitoring requirements.

(b) *Capture system bypass line.* You must meet the requirements of paragraphs (b)(1) and (2) of this section for each emission capture system that contains bypass lines that could divert emissions away from the add-on control device to the atmosphere.

(1) You must monitor or secure the valve or closure mechanism controlling the bypass line in a nondiverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened. The method used to monitor or secure the valve or closure mechanism must meet one of the requirements specified in paragraphs (b)(1)(i) through (v) of this section.

(i) *Flow control position indicator.* Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow control position indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add-on control device or diverted from the add-on control device. The time of occurrence and flow control position must be recorded, as well as every time the flow direction is changed. The flow control position indicator must be installed at the entrance to any bypass line that could divert the emissions away from the add-on control device to the atmosphere.

(ii) *Car-seal or lock-and-key valve closures.* Secure any bypass line valve in the closed position with a car-seal or a lock-and-key type configuration. You must visually inspect the seal or closure mechanism at least once every month to ensure that the valve is maintained in the closed position, and the emissions are not diverted away from the add-on control device to the atmosphere.

(iii) *Valve closure monitoring.* Ensure that any bypass line valve is in the closed (nondiverting) position through monitoring of valve position at least once every 15 minutes. You must inspect the monitoring system at least once every month to verify that the monitor will indicate valve position.

(iv) *Automatic shutdown system.* Use an automatic shutdown system in which the coating operation is stopped when flow is diverted by the bypass line away from the add-on control device to the atmosphere when the coating operation is running. You must inspect the automatic shutdown system at least once every month to verify that it will detect diversions of flow and shut down the coating operation.

(v) *Flow direction indicator.* Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow direction indicator that takes a reading at least once every 15 minutes and provides a record indicating whether the emissions are directed to the add-on control device or diverted from the add-on control device. Each time the flow direction changes, the next reading of the time of occurrence and flow direction must be recorded. The flow direction indicator must be installed in each bypass line or air makeup supply line that could divert the emissions away from the add-on control device to the atmosphere.

(2) If any bypass line is opened, you must include a description of why the bypass line was opened and the length of time it remained open in the semiannual compliance reports required in §63.3920.

(c) *Thermal oxidizers and catalytic oxidizers.* If you are using a thermal oxidizer or catalytic oxidizer as an add-on control device (including those used with concentrators or with carbon adsorbers to treat desorbed concentrate streams), you must comply with the requirements in paragraphs (c)(1) through (3) of this section:

(1) For a thermal oxidizer, install a gas temperature monitor in the firebox of the thermal oxidizer or in the duct immediately downstream of the firebox before any substantial heat exchange occurs.

(2) For a catalytic oxidizer, install gas temperature monitors upstream and/or downstream of the catalyst bed as required in §63.3967(b).

(3) For all thermal oxidizers and catalytic oxidizers, you must meet the requirements in paragraphs (a) and (c)(3)(i) through (v) of this section for each gas temperature monitoring device.

(i) Locate the temperature sensor in a position that provides a representative temperature.

(ii) Use a temperature sensor with a measurement sensitivity of 5 degrees Fahrenheit or 1.0 percent of the temperature value, whichever is larger.

(iii) Before using the sensor for the first time or when relocating or replacing the sensor, perform a validation check by comparing the sensor output to a calibrated temperature measurement device or by comparing the sensor output to a simulated temperature.

(iv) Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor output to redundant temperature sensors, to calibrated temperature measurement devices, or to temperature simulation devices.

(v) Conduct a visual inspection of each sensor every quarter if redundant temperature sensors are not used.

(d) *Regenerative carbon adsorbers.* If you are using a regenerative carbon adsorber as an add-on control device, you must monitor the total regeneration desorbing gas (*e.g.,* steam or nitrogen) mass flow for each regeneration cycle, the carbon bed temperature after each regeneration and cooling cycle, and comply with paragraphs (a)(3) through (5) and (d)(1) through (3) of this section.

(1) The regeneration desorbing gas mass flow monitor must be an integrating device having a measurement sensitivity of plus or minus 10 percent capable of recording the total regeneration desorbing gas mass flow for each regeneration cycle.

(2) The carbon bed temperature monitor must be capable of recording the temperature within 15 minutes of completing any carbon bed cooling cycle.

(3) For all regenerative carbon adsorbers, you must meet the requirements in paragraphs (c)(3)(i) through (v) of this section for each temperature monitoring device.

(e) *Condensers.* If you are using a condenser, you must monitor the condenser outlet (product side) gas temperature and comply with paragraphs (a) and (e)(1) and (2) of this section.

(1) The temperature monitor must provide a gas temperature record at least once every 15 minutes.

(2) For all condensers, you must meet the requirements in paragraphs (c)(3)(i) through (v) of this section for each temperature monitoring device.

(f) *Concentrators.* If you are using a concentrator, such as a zeolite wheel or rotary carbon bed concentrator, you must comply with the requirements in paragraphs (f)(1) and (2) of this section.

(1) You must install a temperature monitor in the desorption gas stream. The temperature monitor must meet the requirements in paragraphs (a) and (c)(3) of this section.

(2) You must install a device to monitor pressure drop across the zeolite wheel or rotary carbon bed. The pressure monitoring device must meet the requirements in paragraphs (a) and (g)(2) of this section.

(g) *Emission capture systems.* The capture system monitoring system must comply with the applicable requirements in paragraphs (g)(1) and (2) of this section. If the source is a magnet wire coating machine, you may use the procedures in section 2.0 of appendix A to this subpart as an alternative.

(1) For each flow measurement device, you must meet the requirements in paragraphs (a) and (g)(1)(i) through (vii) of this section.

(i) Locate a flow sensor in a position that provides a representative flow measurement in the duct from each capture device in the emission capture system to the add-on control device.

(ii) Use a flow sensor with an accuracy of at least 10 percent of the flow.

(iii) Perform an initial sensor calibration in accordance with the manufacturer's requirements.

(iv) Perform a validation check before initial use or upon relocation or replacement of a sensor. Validation checks include comparison of sensor values with electronic signal simulations or via relative accuracy testing.

(v) Conduct an accuracy audit every quarter and after every deviation. Accuracy audit methods include comparisons of sensor values with electronic signal simulations or via relative accuracy testing.

(vi) Perform leak checks monthly.

(vii) Perform visual inspections of the sensor system quarterly if there is no redundant sensor.

(2) For each pressure drop measurement device, you must comply with the requirements in paragraphs (a) and (g)(2)(i) through (vii) of this section.

(i) Locate the pressure sensor(s) in or as close to a position that provides a representative measurement of the pressure drop across each opening you are monitoring.

(ii) Use a pressure sensor with an accuracy of at least 0.5 inches of water column or 5 percent of the measured value, whichever is larger.

(iii) Perform an initial calibration of the sensor according to the manufacturer's requirements.

(iv) Conduct a validation check before initial operation or upon relocation or replacement of a sensor. Validation checks include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources.

(v) Conduct accuracy audits every quarter and after every deviation. Accuracy audits include comparison of sensor values to calibrated pressure measurement devices or to pressure simulation using calibrated pressure sources.

(vi) Perform monthly leak checks on pressure connections. A pressure of at least 1.0 inches of water column to the connection must yield a stable sensor result for at least 15 seconds.

(vii) Perform a visual inspection of the sensor at least monthly if there is no redundant sensor.

Other Requirements and Information

§ 63.3980 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (EPA), or a delegated authority such as your State, local, or tribal agency. If the Administrator has

delegated authority to your State, local, or tribal agency, then that agency (as well as the EPA) has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are listed in paragraphs (c)(1) through (4) of this section:

(1) Approval of alternatives to the requirements in §63.3881 through 3883 and §63.3890 through 3893.

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

§ 63.3981 What definitions apply to this subpart?

Terms used in this subpart are defined in the CAA, in 40 CFR 63.2, and in this section as follows:

Additive means a material that is added to a coating after purchase from a supplier (*e.g.,* catalysts, activators, accelerators).

Add-on control means an air pollution control device, such as a thermal oxidizer or carbon adsorber, that reduces pollution in an air stream by destruction or removal before discharge to the atmosphere.

Adhesive, adhesive coating means any chemical substance that is applied for the purpose of bonding two surfaces together. Products used on humans and animals, adhesive tape, contact paper, or any other product with an adhesive incorporated onto or in an inert substrate shall not be considered adhesives under this subpart.

Assembled on-road vehicle coating means any coating operation in which coating is applied to the surface of some component or surface of a fully assembled motor vehicle or trailer intended for on-road use including, but not limited to, components or surfaces on automobiles and light-duty trucks that have been repaired after a collision or otherwise repainted, fleet delivery trucks, and motor homes and other recreational vehicles (including camping trailers and fifth wheels). Assembled on-road vehicle coating includes the concurrent coating of parts of the assembled on-road vehicle that are painted off-vehicle to protect systems, equipment, or to allow full coverage. Assembled on-road vehicle coating does not include surface coating operations that meet the applicability criteria of the automobiles and light-duty trucks NESHAP. Assembled on-road vehicle coating also does not include the use of adhesives, sealants, and caulks used in assembling on-road vehicles.

Capture device means a hood, enclosure, room, floor sweep, or other means of containing or collecting emissions and directing those emissions into an add-on air pollution control device.

Capture efficiency or capture system efficiency means the portion (expressed as a percentage) of the pollutants from an emission source that is delivered to an add-on control device.

Capture system means one or more capture devices intended to collect emissions generated by a coating operation in the use of coatings or cleaning materials, both at the point of application and at subsequent points where emissions from the coatings and cleaning materials occur, such as flashoff, drying, or curing. As used in this subpart, multiple capture devices that collect emissions generated by a coating operation are considered a single capture system.

Cleaning material means a solvent used to remove contaminants and other materials, such as dirt, grease, oil, and dried or wet coating (*e.g.,* depainting or paint stripping), from a substrate before or after coating application or from equipment associated with a coating operation, such as spray booths, spray guns, racks, tanks, and hangers. Thus, it includes any cleaning material used on substrates or equipment or both.

Coating means a material applied to a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer, are not considered coatings for the purposes of this subpart. A liquid plastic coating means a coating made from fine particle-size polyvinyl chloride (PVC) in solution (also referred to as a plastisol).

Coating operation means equipment used to apply cleaning materials to a substrate to prepare it for coating application (surface preparation) or to remove dried coating; to apply coating to a substrate (coating application) and to dry or cure the coating after application; or to clean coating operation equipment (equipment cleaning). A single coating operation may include any combination of these types of equipment, but always includes at least the point at which a given quantity of coating or cleaning material is applied to a given part and all subsequent points in the affected source where organic HAP are emitted from the specific quantity of coating or cleaning material on the specific part. There may be multiple coating operations in an affected source. Coating application with handheld, non-refillable aerosol containers, touch-up markers, or marking pens is not a coating operation for the purposes of this subpart.

Coatings solids means the nonvolatile portion of the coating that makes up the dry film.

Continuous parameter monitoring system (CPMS) means the total equipment that may be required to meet the data acquisition and availability requirements of this subpart, used to sample, condition (if applicable), analyze, and provide a record of coating operation, or capture system, or add-on control device parameters.

Controlled coating operation means a coating operation from which some or all of the organic HAP emissions are routed through an emission capture system and add-on control device.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including but not limited to, any emission limit or operating limit or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limit, or operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Emission limitation means the aggregate of all requirements associated with a compliance option including emission limit, operating limit, work practice standard, etc.

Enclosure means a structure that surrounds a source of emissions and captures and directs the emissions to an add-on control device.

Exempt compound means a specific compound that is not considered a VOC due to negligible photochemical reactivity. The exempt compounds are listed in 40 CFR 51.100(s).

Extreme performance fluoropolymer coating means coatings that are formulated systems based on fluoropolymer resins which often contain bonding matrix polymers dissolved in non-aqueous solvents as well as other ingredients. Extreme performance fluoropolymer coatings are typically used when one or more critical performance criteria are required including, but not limited to a nonstick low-energy surface, dry film lubrication, high resistance to chemical attack, extremely wide operating temperature, high electrical insulating properties, or that the surface comply with government (*e.g.,* USDA, FDA) or third party specifications for health, safety, reliability, or performance. Once applied to a substrate, extreme performance fluoropolymer coatings undergo a curing process that typically requires high temperatures, a chemical reaction, or other specialized technology.

Facility maintenance means the routine repair or renovation (including the surface coating) of the tools, equipment, machinery, and structures that comprise the infrastructure of the affected facility and that are necessary for the facility to function in its intended capacity.

General use coating means any material that meets the definition of coating but does not meet the definition of high performance coating, rubber-to-metal coating, magnet wire coating, or extreme performance fluoropolymer coating as defined in this section.

High performance architectural coating means any coating applied to architectural subsections which is required to meet the specifications of Architectural Aluminum Manufacturer's Association's publication number AAMA 605.2–2000.

High performance coating means any coating that meets the definition of high performance architectural coating or high temperature coating in this section.

High temperature coating means any coating applied to a substrate which during normal use must withstand temperatures of at least 538 degrees Celsius (1000 degrees Fahrenheit).

Hobby shop means any surface coating operation, located at an affected source, that is used exclusively for personal, noncommercial purposes by the affected source's employees or assigned personnel.

Magnet wire coatings, commonly referred to as magnet wire enamels, are applied to a continuous strand of wire which will be used to make turns (windings) in electrical devices such as coils, transformers, or motors. Magnet wire coatings provide high dielectric strength and turn-to-turn conductor insulation. This allows the turns of an electrical device to be placed in close proximity to one another which leads to increased coil effectiveness and electrical efficiency.

Magnet wire coating machine means equipment which applies and cures magnet wire coatings.

Manufacturer's formulation data means data on a material (such as a coating) that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material with the test methods specified in §63.3941. Manufacturer's formulation data may include, but are not limited to, information on density, organic HAP content, volatile organic matter content, and coating solids content.

Mass fraction of organic HAP means the ratio of the mass of organic HAP to the mass of a material in which it is contained, expressed as kg of organic HAP per kg of material.

Month means a calendar month or a pre-specified period of 28 days to 35 days to allow for flexibility in recordkeeping when data are based on a business accounting period.

Non-HAP coating means, for the purposes of this subpart, a coating that contains no more than 0.1 percent by mass of any individual organic HAP that is an OSHA-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and no more than 1.0 percent by mass for any other individual HAP.

Organic HAP content means the mass of organic HAP emitted per volume of coating solids used for a coating calculated using Equation 2 of §63.3941. The organic HAP content is determined for the coating in the condition it is in when received from its manufacturer or supplier and does not account for any alteration after receipt. For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, organic HAP content is the mass of organic HAP that is emitted, rather than the organic HAP content of the coating as it is received.

Permanent total enclosure (PTE) means a permanently installed enclosure that meets the criteria of Method 204 of appendix M, 40 CFR part 51, for a PTE and that directs all the exhaust gases from the enclosure to an add-on control device.

Personal watercraft means a vessel (boat) which uses an inboard motor powering a water jet pump as its primary source of motive power and which is designed to be operated by a person or persons sitting, standing, or kneeling on the vessel, rather than in the conventional manner of sitting or standing inside the vessel.

Protective oil means an organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes, but is not limited to, lubricating oils, evaporative oils (including those that evaporate completely), and extrusion oils. Protective oils used on miscellaneous metal parts and products include magnet wire lubricants and soft temporary protective coatings that are removed prior to installation or further assembly of a part or component.

Reactive adhesive means adhesive systems composed, in part, of volatile monomers that react during the adhesive curing reaction, and, as a result, do not evolve from the film during use. These volatile components instead become integral parts of the adhesive through chemical reaction. At least 70 percent of the liquid components of the system, excluding water, react during the process.

Research or laboratory facility means a facility 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 is not engaged in the manufacture of final or intermediate products for commercial purposes, except in a *de minimis* manner.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rubber-to-metal coatings are coatings that contain heat-activated polymer systems in either solvent or water that, when applied to metal substrates, dry to a non-tacky surface and react chemically with the rubber and metal during a vulcanization process.

Startup, initial means the first time equipment is brought online in a facility.

Surface preparation means use of a cleaning material on a portion of or all of a substrate. This includes use of a cleaning material to remove dried coating, which is sometimes called depainting.

Temporary total enclosure means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source as defined in Method 204 of appendix M, 40 CFR part 51.

Thinner means an organic solvent that is added to a coating after the coating is received from the supplier.

Total volatile hydrocarbon (TVH) means the total amount of nonaqueous volatile organic matter determined according to Methods 204 and 204A through 204F of appendix M to 40 CFR part 51 and substituting the term TVH each place in the methods where the term VOC is used. The TVH includes both VOC and non-VOC.

Uncontrolled coating operation means a coating operation from which none of the organic HAP emissions are routed through an emission capture system and add-on control device.

Volatile organic compound (VOC) means any compound defined as VOC in 40 CFR 51.100(s).

Volume fraction of coating solids means the ratio of the volume of coating solids (also known as the volume of nonvolatiles) to the volume of a coating in which it is contained; liters (gal) of coating solids per liter (gal) of coating.

Wastewater means water that is generated in a coating operation and is collected, stored, or treated prior to being discarded or discharged.

Table 1 to Subpart MMMM of Part 63—Operating Limits if Using the Emission Rate With Add-On Controls Option

If you are required to comply with operating limits by §63.3892(c), you must comply with the applicable operating limits in the following table:

For the following device . . .	You must meet the following operating limit . . .	And you must demonstrate continuous compliance with the operating limit by . . .
1. Thermal oxidizer	a. The average combustion temperature in any 3-hour period must not fall below the combustion temperature limit established according to §63.3967(a)	i. Collecting the combustion temperature data according to §63.3968(c); ii. Reducing the data to 3-hour block averages; and iii. Maintaining the 3-hour average combustion temperature at or above the temperature limit.
2. Catalytic oxidizer	a. The average temperature measured just before the catalyst bed in any 3-hour period must not fall below the limit established according to §63.3967(b) (for magnet wire coating machines, temperature can be monitored before or after the catalyst bed); and either	i. Collecting the temperature data according to §63.3968(c); ii. Reducing the data to 3-hour block averages; and iii. Maintaining the 3-hour average temperature before (or for magnet wire coating machines after) the catalyst bed at or above the temperature limit.
	b. Ensure that the average temperature difference across the catalyst bed in any 3-hour period does not fall below the temperature difference limit established according	i. Collecting the temperature data according to §63.3968(c); ii. Reducing the data to 3-hour block averages; and iii. Maintaining the 3-hour average temperature

	to §63.3967(b) (2); or	difference at or above the temperature difference limit.
	c. Develop and implement an inspection and maintenance plan according to §63.3967(b)(4) or for magnet wire coating machines according to section 3.0 of appendix A to this subpart	i. Maintaining and up-to-date inspection and maintenance plan, records of annual catalyst activity checks, records of monthly inspections of the oxidizer system, and records of the annual internal inspections of the catalyst bed. If a problem is discovered during a monthly or annual inspection required by §63.3967(b)(4) or for magnet wire coating machines by section 3.0 of appendix A to this subpart, you must take corrective action as soon as practicable consistent with the manufacturer's recommendations.
3. Regenerative carbon adsorber	a. The total regeneration desorbing gas (*e.g.,* steam or nitrogen) mass flow for each carbon bed regeneration cycle must not fall below the total regeneration desorbing gas mass flow limit established according to §63.3967(c); and	i. Measuring the total regeneration desorbing gas (*e.g.,* steam or nitrogen) mass flow for each regeneration cycle according to §63.3968(d); and ii. Maintaining the total regeneration desorbing gas mass flow at or above the mass flow limit.
	b. The temperature of the carbon bed, after completing each regeneration and any cooling cycle, must not exceed the carbon bed temperature limit established according to §63.3967(c)	i. Measuring the temperature of the carbon bed after completing each regeneration and any cooling cycle according to §63.3968(d); and ii. Operating the carbon beds such that each carbon bed is not returned to service until completing each regeneration and any cooling cycle until the recorded temperature of the carbon bed is at or below the temperature limit.
4. Condenser	a. The average condenser outlet (product side) gas temperature in any 3-hour period must not exceed the temperature limit established according to §63.3967(d)	i. Collecting the condenser outlet (product side) gas temperature according to §63.3968(e); ii. Reducing the data to 3-hour block averages; and iii. Maintaining the 3-hour average gas temperature at the outlet at or below the temperature limit.
5. Concentrators, including zeolite wheels and rotary carbon adsorbers	a. The average gas temperature of the desorption concentrate stream in any 3-hour period must not fall below the limit established according to §63.3967(e); and	i. Collecting the temperature data according to 63.3968(f); ii. Reducing the data to 3-hour block averages; and iii. Maintaining the 3-hour average temperature at or above the temperature limit.
	b. The average pressure drop of the dilute stream across the concentrator in any 3-hour period must not fall below the limit established according to §63.3967(e)	i. Collecting the pressure drop data according to 63.3968(f); ii. Reducing the pressure drop data to 3-hour block averages; and iii. Maintaining the 3-hour average pressure drop at or above the pressure drop limit.
6. Emission	a. The direction of the air flow at all	i. Collecting the direction of air flow, and either

capture system that is a PTE according to §63.3965(a)	times must be into the enclosure; and either	the facial velocity of air through all natural draft openings according to §63.3968(b)(1) or the pressure drop across the enclosure according to §63.3968(g)(2); and ii. Maintaining the facial velocity of air flow through all natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit, and maintaining the direction of air flow into the enclosure at all times.
	b. The average facial velocity of air through all natural draft openings in the enclosure must be at least 200 feet per minutes; or	i. See items 6.a.i and 6.a.ii.
	c. The pressure drop across the enclosure must be at least 0.007 inch H_2O, as established in Method 204 of appendix M to 40 CFR part 51	i. See items 6.a.i and 6.a.ii.
7. Emission capture system that is not a PTE according to §63.3965(a)	a. The average gas volumetric flow rate or duct static pressure in each duct between a capture device and add-on control device inlet in any 3-hour period must not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to §63.3967(f)	i. Collecting the gas volumetric flow rate or duct static pressure for each capture device according to §63.3968(g); ii. Reducing the data to 3-hour block averages; and iii. Maintaining the 3-hour average gas volumetric flow rate or duct static pressure for each capture device at or above the gas volumetric flow rate or duct static pressure limited.

Table 2 to Subpart MMMM of Part 63—Applicability of General Provisions to Subpart MMMM of Part 63

You must comply with the applicable General Provisions requirements according to the following table:

Citation	Subject	Applicable to subpart MMMM	Explanation
§63.1(a)(1)–(14)	General Applicability	Yes	
§63.1(b)(1)–(3)	Initial Applicability Determination	Yes	Applicability to subpart MMMM is also specified in §63.3881.
§63.1(c)(1)	Applicability After Standard Established	Yes	
§63.1(c)(2)–(3)	Applicability of Permit Program for Area Sources	No	Area sources are not subject to subpart MMMM.
§63.1(c)(4)–(5)	Extensions and Notifications	Yes	

§63.1(e)	Applicability of Permit Program Before Relevant Standard is Set	Yes	
§63.2	Definitions	Yes	Additional definitions are specified in §63.3981.
§63.1(a)–(c)	Units and Abbreviations	Yes	
§63.4(a)(1)–(5)	Prohibited Activities	Yes	
§63.4(b)–(c)	Circumvention/Severability	Yes	
§63.5(a)	Construction/Reconstruction	Yes	
§63.5(b)(1)–(6)	Requirements for Existing Newly Constructed, and Reconstructed Sources	Yes	
§63.5(d)	Application for Approval of Construction/Reconstruction	Yes	
§63.5(e)	Approval of Construction/Reconstruction	Yes	
§63.5(f)	Approval of Construction/Reconstruction Based on Prior State Review	Yes	
§63.6(a)	Compliance With Standards and Maintenance Requirements—Applicability	Yes	
§63.6(b)(1)–(7)	Compliance Dates for New and Reconstructed Sources	Yes	Section 63.3883 specifies the compliance dates.
§63.6(c)(1)–(5)	Compliance Dates for Existing Sources	Yes	Section 63.3883 specifies the compliance dates.
§63.6(e)(1)–(2)	Operation and Maintenance	Yes	
§63.6(e)(3)	Startup, Shutdown, and Malfunction Plan	Yes	Only sources using an add-on control device to comply with the standard must complete startup, shutdown, and malfunction plans.
§63.6(f)(1)	Compliance Except During Startup, Shutdown, and Malfunction	Yes	Applies only to sources using an add-on control device to comply with the standard.
§63.6(f)(2)–(3)	Methods for Determining Compliance.	Yes	
§63.6(g)(1)–(3)	Use of an Alternative Standard	Yes	
§63.6(h)	Compliance With Opacity/Visible Emission Standards	No	Subpart MMMM does not establish opacity standards and does not require continuous opacity monitoring systems

			(COMS).
§63.6(i)(1)–(16)	Extension of Compliance	Yes	
§63.6(j)	Presidential Compliance Exemption	Yes	
§63.7(a)(1)	Performance Test Requirements—Applicability	Yes	Applies to all affected sources. Additional requirements for performance testing are specified in §§63.3964, 63.3965, and 63.3966.
§63.7(a)(2)	Performance Test Requirements—Dates	Yes	Applies only to performance tests for capture system and control device efficiency at sources using these to comply with the standard. Section 63.3960 specifies the schedule for performance test requirements that are earlier than those specified in §63.7(a)(2).
§63.7(a)(3)	Performance Tests Required By the Administrator	Yes	
§63.7(b)–(e)	Performance Test Requirements—Notification, Quality Assurance, Facilities Necessary for Safe Testing, Conditions During Test	Yes	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standard.
§63.7(f)	Performance Test Requirements—Use of Alternative Test Method	Yes	Applies to all test methods except those used to determine capture system efficiency.
§63.7(g)–(h)	Performance Test Requirements—Data Analysis, Recordkeeping, Reporting, Waiver of Test	Yes	Applies only to performance tests for capture system and add-on control device efficiency at sources using these to comply with the standard.
§63.8(a)(1)–(3)	Monitoring Requirements—Applicability	Yes	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standard. Additional requirements for monitoring are specified in §63.3968.
§63.8(a)(4)	Additional Monitoring Requirements	No	Subpart MMMM does not have monitoring requirements for flares.
§63.8(b)	Conduct of Monitoring	Yes	
§63.8(c)(1)–(3)	Continuous Monitoring Systems (CMS) Operation and Maintenance	Yes	Applies only to monitoring of capture system and add-on control device efficiency at sources using these to comply with the standard. Additional requirements for CMS operations and maintenance are specified in §63.3968.

§63.8(c)(4)	CMS	No	§63.3968 specifies the requirements for the operation of CMS for capture systems and add-on control devices at sources using these to comply.
§63.8(c)(5)	COMS	No	Subpart MMMM does not have opacity or visible emission standards.
§63.8(c)(6)	CMS Requirements	No	Section 63.3968 specifies the requirements for monitoring systems for capture systems and add-on control devices at sources using these to comply.
§63.8(c)(7)	CMS Out-of-Control Periods	Yes	
§63.8(c)(8)	CMS Out-of-Control Periods and Reporting	No	§63.3920 requires reporting of CMS out-of-control periods.
§63.8(d)–(e)	Quality Control Program and CMS Performance Evaluation	No	Subpart MMMM does not require the use of continuous emissions monitoring systems.
§63.8(f)(1)–(5)	Use of an Alternative Monitoring Method	Yes	
§63.8(f)(6)	Alternative to Relative Accuracy Test	No	Subpart MMMM does not require the use of continuous emissions monitoring systems.
§63.8(g)(1)–(5)	Data Reduction	No	Sections 63.3967 and 63.3968 specify monitoring data reduction.
§63.9(a)–(d)	Notification Requirements	Yes	
§63.9(e)	Notification of Performance Test	Yes	Applies only to capture system and add-on control device performance tests at sources using these to comply with the standard.
§63.9(f)	Notification of Visible Emissions/Opacity Test	No	Subpart MMMM does not have opacity or visible emissions standards.
§63.9(g)(1)–(3)	Additional Notifications When Using CMS	No	Subpart MMMM does not require the use of continuous emissions monitoring systems.
§63.9(h)	Notification of Compliance Status	Yes	Section 63.3910 specifies the dates for submitting the notification of compliance status.
§63.9(i)	Adjustment of Submittal Deadlines	Yes	
§63.9(j)	Change in Previous Information	Yes	
§63.10(a)	Recordkeeping/Reporting—Applicability and General Information	Yes	
§63.10(b)(1)	General Recordkeeping	Yes	Additional requirements are specified

	Requirements		in §§63.3930 and 63.3931.
§63.10(b)(2)(i)–(v)	Recordkeeping Relevant to Startup, Shutdown, and Malfunction Periods and CMS	Yes	Requirements for startup, shutdown, and malfunction records only apply to add-on control devices used to comply with the standard.
§63.10(b)(2)(vi)–(xi)		Yes	
§63.10(b)(2)(xii)	Records	Yes	
§63.10(b)(2)(xiii)		No	Subpart MMMM does not require the use of continuous emissions monitoring systems.
§63.10(b)(2)(xiv)		Yes	
§63.10(b)(3)	Recordkeeping Requirements for Applicability Determinations	Yes	
§63.10(c)(1)–(6)	Additional Recordkeeping Requirements for Sources with CMS	Yes	
§63.10(c)(7)–(8)		No	The same records are required in §63.3920(a)(7).
§63.10(c)(9)–(15)		Yes	
§63.10(d)(1)	General Reporting Requirements	Yes	Additional requirements are specified in §63.3920.
§63.10(d)(2)	Report of Performance Test Results	Yes	Additional requirements are specified in §63.3920(b).
§63.10(d)(3)	Reporting Opacity or Visible Emissions Observations	No	Subpart MMMM does not require opacity or visible emissions observations.
§63.10(d)(4)	Progress Reports for Sources With Compliance Extensions	Yes	
§63.10(d)(5)	Startup, Shutdown, and Malfunction Reports	Yes	Applies only to add-on control devices at sources using these to comply with the standard.
§63.10(e)(1)–(2)	Additional CMS Reports	No	Subpart MMMM does not require the use of continuous emissions monitoring systems.
§63.10(e) (3)	Excess Emissions/CMS Performance Reports	No	Section 63.3920 (b) specifies the contents of periodic compliance reports.
§63.10(e) (4)	COMS Data Reports	No	Subpart MMMMM does not specify requirements for opacity or COMS.

§63.10(f)	Recordkeeping/Reporting Waiver	Yes	
§63.11	Control Device Requirements/Flares	No	Subpart MMMM does not specify use of flares for compliance.
§63.12	State Authority and Delegations	Yes	
§63.13	Addresses	Yes	
§63.14	Incorporation by Reference	Yes	
§63.15	Availability of Information/Confidentiality	Yes	

Table 3 to Subpart MMMM of Part 63—Default Organic HAP Mass Fraction for Solvents and Solvent Blends

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data and which match either the solvent blend name or the chemical abstract series (CAS) number. If a solvent blend matches both the name and CAS number for an entry, that entry's organic HAP mass fraction must be used for that solvent blend. Otherwise, use the organic HAP mass fraction for the entry matching either the solvent blend name or CAS number, or use the organic HAP mass fraction from table 4 to this subpart if neither the name or CAS number match.

Solvent/solvent blend	CAS. No.	Average organic HAP mass fraction	Typical organic HAP, percent by mass
1. Toluene	108–88–3	1.0	Toluene.
2. Xylene(s)	1330–20–7	1.0	Xylenes, ethylbenzene.
3. Hexane	110–54–3	0.5	n-hexane.
4. n-Hexane	110–54–3	1.0	n-hexane.
5. Ethylbenzene	100–41–4	1.0	Ethylbenzene.
6. Aliphatic 140		0	None.
7. Aromatic 100		0.02	1% xylene, 1% cumene.
8. Aromatic 150		0.09	Naphthalene.
9. Aromatic naphtha	64742–95–6	0.02	1% xylene, 1% cumene.
10. Aromatic solvent	64742–94–5	0.1	Naphthalene.
11. Exempt mineral spirits	8032–32–4	0	None.
12. Ligroines (VM & P)	8032–32–4	0	None.
13. Lactol spirits	64742–89–6	0.15	Toluene.
14. Low aromatic white spirit	64742–82–1	0	None.
15. Mineral spirits	64742–88–7	0.01	Xylenes.
16. Hydrotreated naphtha	64742–48–9	0	None.
17. Hydrotreated light	64742–47–8	0.001	Toluene.

distillate			
18. Stoddard solvent	8052–41–3	0.01	Xylenes.
19. Super high-flash naphtha	64742–95–6	0.05	Xylenes.
20. Varsol®solvent	8052–49–3	0.01	0.5% xylenes, 0.5% ethylbenzene.
21. VM & P naphtha	64742–89–8	0.06	3% toluene, 3% xylene.
22. Petroleum distillate mixture	68477–31–6	0.08	4% naphthalene, 4% biphenyl.

Table 4 to Subpart MMMM of Part 63—Default Organic HAP Mass Fraction for Petroleum Solvent Groups[a]

You may use the mass fraction values in the following table for solvent blends for which you do not have test data or manufacturer's formulation data.

Solvent type	Average organic HAP mass fraction	Typical organic HAP, percent by mass
Aliphatic[b]	0.03	1% Xylene, 1% Toluene, and 1% Ethylbenzene.
Aromatic[c]	0.06	4% Xylene, 1% Toluene, and 1% Ethylbenzene.

[a]Use this table only if the solvent blend does not match any of the solvent blends in Table 3 to this subpart by either solvent blend name or CAS number and you only know whether the blend is aliphatic or aromatic.

[b]Mineral Spirits 135, Mineral Spirits 150 EC, Naphtha, Mixed Hydrocarbon, Aliphatic Hydrocarbon, Aliphatic Naphtha, Naphthol Spirits, Petroleum Spirits, Petroleum Oil, Petroleum Naphtha, Solvent Naphtha, Solvent Blend.

[c]Medium-flash Naphtha, High-flash Naphtha, Aromatic Naphtha, Light Aromatic Naphtha, Light Aromatic Hydrocarbons, Aromatic Hydrocarbons, Light Aromatic Solvent.

Appendix A to Subpart MMMM of Part 63—Alternative Capture Efficiency and Destruction Efficiency Measurement and Monitoring Procedures for Magnet Wire Coating Operations

1.0 Introduction.

1.1 These alternative procedures for capture efficiency and destruction efficiency measurement and monitoring are intended principally for newer magnet wire coating machines where the control device is internal and integral to the oven so that it is difficult or infeasible to make gas measurements at the inlet to the control device.

1.2 In newer gas fired magnet wire ovens with thermal control (no catalyst), the burner tube serves as the control device (thermal oxidizer) for the process. The combustion of solvents in the burner tube is the principal source of heat for the oven.

1.3 In newer magnet wire ovens with a catalyst there is either a burner tube (gas fired ovens) or a tube filled with electric heating elements (electric heated oven) before the catalyst. A large portion of the solvent is often oxidized before reaching the catalyst. The combustion of solvents in the tube and across

the catalyst is the principal source of heat for the oven. The internal catalyst in these ovens cannot be accessed without disassembly of the oven. This disassembly includes removal of the oven insulation. Oven reassembly often requires the installation of new oven insulation.

1.4 Some older magnet wire ovens have external afterburners. A significant portion of the solvent is oxidized within these ovens as well.

1.5 The alternative procedure for destruction efficiency determines the organic carbon content of the volatiles entering the control device based on the quantity of coating used, the carbon content of the volatile portion of the coating and the efficiency of the capture system. The organic carbon content of the control device outlet (oven exhaust for ovens without an external afterburner) is determined using Method 25 or 25A.

1.6 When it is difficult or infeasible to make gas measurements at the inlet to the control device, measuring capture efficiency with a gas-to-gas protocol (see §63.3965(d)) which relies on direct measurement of the captured gas stream will also be difficult or infeasible. In these situations, capture efficiency measurement is more appropriately done with a procedure which does not rely on direct measurement of the captured gas stream.

1.7 Magnet wire ovens are relatively small compared to many other coating ovens. The exhaust rate from an oven is low and varies as the coating use rate and solvent loading rate change from job to job. The air balance in magnet wire ovens is critical to product quality. Magnet wire ovens must be operated under negative pressure to avoid smoke and odor in the workplace, and the exhaust rate must be sufficient to prevent over heating within the oven.

1.8 The liquid and gas measurements needed to determine capture efficiency and control device efficiency using these alternative procedures may be made simultaneously.

1.9 Magnet wire facilities may have many (*e.g.,* 20 to 70 or more) individual coating lines each with its own capture and control system. With approval, representative capture efficiency and control device efficiency testing of one magnet wire coating machine out of a group of identical or very similar magnet wire coating machines may be performed rather than testing every individual magnet wire coating machine. The operating parameters must be established for each tested magnet wire coating machine during each capture efficiency test and each control device efficiency test. The operating parameters established for each tested magnet wire coating machine also serve as the operating parameters for untested or very similar magnet wire coating machines represented by a tested magnet wire coating machine.

2.0 Capture Efficiency.

2.1 If the capture system is a permanent total enclosure as described in §63.3965(a), then its capture efficiency may be assumed to be 100 percent.

2.2 If the capture system is not a permanent total enclosure, then capture efficiency must be determined using the liquid-to-uncaptured-gas protocol using a temporary total enclosure or building enclosure in §63.3965(c), or an alternative capture efficiency protocol (see §63.3965(e)) which does not rely on direct measurement of the captured gas stream.

2.3 As an alternative to establishing and monitoring the capture efficiency operating parameters in §63.3967(f), the monitoring described in either section 2.4 or 2.5, and the monitoring described in sections 2.6 and 2.7 may be used for magnet wire coating machines.

2.4 Each magnet wire oven must be equipped with an interlock mechanism which will stop or prohibit the application of coating either when any exhaust fan for that oven is not operating or when the oven experiences an over limit temperature condition.

2.5 Each magnet wire oven must be equipped with an alarm which will be activated either when any oven exhaust fan is not operating or when the oven experiences an over limit temperature condition.

2.6 If the interlock in 2.4 or the alarm in 2.5 is monitoring for over limit temperature conditions, then the temperature(s) that will trigger the interlock or the alarm must be included in the start-up, shutdown and malfunction plan and the interlock or alarm must be set to be activated when the oven reaches that temperature.

2.7 Once every 6 months, each magnet wire oven must be checked using a smoke stick or equivalent approach to confirm that the oven is operating at negative pressure compared to the surrounding atmosphere.

3.0 Control Device Efficiency.

3.1 Determine the weight fraction carbon content of the volatile portion of each coating, thinner, additive, or cleaning material used during each test run using either the procedure in section 3.2 or 3.3.

3.2 Following the procedures in Method 204F, distill a sample of each coating, thinner, additive, or cleaning material used during each test run to separate the volatile portion. Determine the weight fraction carbon content of each distillate using ASTM Method D5291–02, “Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Petroleum Products and Lubricants” (incorporated by reference, see §63.14).

3.3 Analyze each coating, thinner, additive or cleaning material used during each test run using Method 311. For each volatile compound detected in the gas chromatographic analysis of each coating, thinner, additive, or cleaning material calculate the weight fraction of that whole compound in the coating, thinner, additive, or cleaning material. For each volatile compound detected in the gas chromatographic analysis of each coating, thinner, additive, or cleaning material calculate the weight fraction of the carbon in that compound in the coating, thinner, additive, or cleaning material. Calculate the weight fraction carbon content of each coating, thinner, additive, or cleaning material as the ratio of the sum of the carbon weight fractions divided by the sum of the whole compound weight fractions.

3.4 Determine the mass fraction of total volatile hydrocarbon (TVH_i) in each coating, thinner, additive, or cleaning material, i, used during each test run using Method 24. The mass fraction of total volatile hydrocarbon equals the weight fraction volatile matter ($W_v$in Method 24) minus the weight fraction water ($W_w$in Method 24), if any, present in the coating. The ASTM Method D6053–00, “Standard Test Method for Determination of Volatile Organic Compound (VOC) Content of Electrical Insulating Varnishes” (incorporated by reference, see §63.14), may be used as an alternative to Method 24 for magnet wire enamels. The specimen size for testing magnet wire enamels with ASTM Method D6053–00 must be 2.0 ±0.1 grams.

3.5 Determine the volume (VOL_i) or mass ($MASS_i$) of each coating, thinner, additive, or cleaning material, i, used during each test run.

3.6 Calculate the total volatile hydrocarbon input ($TVHC_{inlet}$) to the control device during each test run, as carbon, using Equation 1:

$$TVHC_{inlet} = \sum_{i=1}^{n} (TVH_i \times VOL_i \times D_i \times CD_i) \qquad (Eq.\ 1)$$

where:

TVH_i= Mass fraction of TVH in coating, thinner, additive, or cleaning material, i, used in the coating operation during the test run.

VOL_i= Volume of coating, thinner, additive, or cleaning material, i, used in the coating operation during the test run, liters.

D_i= Density of coating, thinner, additive, or cleaning material, i, used in the coating operation during the test run, kg per liter.

CD_i= Weight fraction carbon content of the distillate from coating, thinner, additive, or cleaning material, i, used in the coating operation during the test run, percent.

n = Number of coating, thinner, additive, and cleaning materials used in the coating operation during the test run.

3.7 If the mass, $MASS_i$, of each coating, solvent, additive, or cleaning material, i, used during the test run is measured directly then $MASS_i$can be substituted for $VOL_i \times D_i$in Equation 1 in section 3.6.

3.8 Determine the TVHC output ($TVHC_{outlet}$) from the control device, as carbon, during each test run using the methods in §63.3966(a) and the procedure for determining M_{fo}in §63.3966(d). $TVHC_{outlet}$equals M_{fo}times the length of the test run in hours.

3.9 Determine the control device efficiency (DRE) for each test run using Equation 2:

$$DRE = \frac{(TVHC_{inlet} - TVHC_{outlet})}{TVHC_{inlet}} \times 100 \qquad (\text{Eq. } 2)$$

3.10 The efficiency of the control device is the average of the three individual test run values determined in section 3.9.

3.11 As an alternative to establishing and monitoring the destruction efficiency operating parameters for catalytic oxidizers in §63.3967(b), the monitoring described in sections 3.12 and 3.13 may be used for magnet wire coating machines equipped with catalytic oxidizers.

3.12 During the performance test, you must monitor and record the temperature either just before or just after the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature either just before or just after the catalyst bed during the performance test. This is the minimum operating limit for your catalytic oxidizer and for the catalytic oxidizers in identical or very similar magnet wire coating machines represented by the tested magnet wire coating machine.

3.13 You must develop and implement an inspection and maintenance plan for your catalytic oxidizer(s). The plan must address, at a minimum, the elements specified in sections 3.14 and 3.15, and the elements specified in either (a) section 3.16 or (b) sections 3.17 and 3.18.

3.14 You must conduct a monthly external inspection of each catalytic oxidizer system, including the burner assembly and fuel supply lines for problems and, as necessary, adjust the equipment to assure proper air-to-fuel mixtures.

3.15 You must conduct an annual internal inspection of each accessible catalyst bed to check for channeling, abrasion, and settling. If problems are found, you must replace the catalyst bed or take corrective action consistent with the manufacturer's recommendations. This provision does not apply to internal catalysts which cannot be accessed without disassembling the magnet wire oven.

3.16 You must take a sample of each catalyst bed and perform an analysis of the catalyst activity (*i.e.,* conversion efficiency) following the manufacturer's or catalyst supplier's recommended procedures. This sampling and analysis must be done within the time period shown in Table 1 below of the most recent of the last catalyst activity test or the last catalyst replacement. For example, if the warranty for the catalyst is 3 years and the catalyst was more recently replaced then the sampling and analysis must be done within the earlier of 26,280 operating hours or 5 calendar years of the last catalyst replacement. If the warranty for the catalyst is 3 years and the catalyst was more recently tested then the sampling and analysis must be done within the earlier of 13,140 operating hours or 3 calendar years of the last catalyst activity test. If problems are found during the catalyst activity test, you must replace the catalyst bed or take corrective action consistent with the manufacturer's recommendations.

Table 1—Catalyst Monitoring Requirements

If the catalyst was last (more recently) replaced and the warranty period is . . .	Then the time between catalyst replacement and the next catalyst activity test cannot exceed the earlier of . . .	And the catalyst was more recently tested, then the time between catalyst activity tests cannot exceed the earlier of . . .
1 year	8,760 operating hours or 5 calendar years	8,760 operating hours or 3 calendar years.
2 years	15,520 operating hours or 5 calendar years	8,760 operating hours or 3 calendar years.
3 years	26,280 operating hours or 5 calendar years	13,100 operating hours or 3 calendar years.
4 years	35,040 operating hours or 5 calendar years	17,520 operating hours or 3 calendar years.
5 or more years	43,800 operating hours or 5 calendar years	21,900 operating hours or 3 calendar years.

3.17 During the performance test, you must determine the average concentration of organic compounds as carbon in the magnet wire oven exhaust stack gases ($C_c$in Equation 1 in §63.3966(d)) and the destruction efficiency of the catalytic oxidizer, and calculate the operating limit for oven exhaust stack gas concentration as follows. You must identify the highest organic HAP content coating used on this magnet wire coating machine or any identical or very similar magnet wire coating machines to which the same destruction efficiency test results will be applied. Calculate the percent emission reduction necessary to meet the magnet wire coating emission limit when using this coating. Calculate the average concentration of organic compounds as carbon in the magnet wire oven exhaust stack gases that would be equivalent to exactly meeting the magnet wire coating emissions limit when using the highest organic HAP content coating. The maximum operating limit for oven exhaust stack gas concentration equals 90 percent of this calculated concentration.

3.18 For each magnet wire coating machine equipped with a catalytic oxidizer you must perform an annual 10 minute test of the oven exhaust stack gases using EPA Method 25A. This test must be performed under steady state operating conditions similar to those at which the last destruction efficiency test for equipment of that type (either the specific magnet wire coating machine or an identical or very similar magnet wire coating machine) was conducted. If the average exhaust stack gas concentration during the annual test of a magnet wire coating machine equipped with a catalytic oxidizer is greater than the operating limit established in section 3.17 then that is a deviation from the operating limit for that catalytic oxidizer. If problems are found during the annual 10-minute test of the oven exhaust stack gases, you must replace the catalyst bed or take other corrective action consistent with the manufacturer's recommendations.

3.19 If a catalyst bed is replaced and the replacement catalyst is not of like or better kind and quality as the old catalyst, then you must conduct a new performance test to determine destruction efficiency according to §63.3966 and establish new operating limits for that catalytic oxidizer unless destruction efficiency test results and operating limits for an identical or very similar unit (including consideration of the replacement catalyst) are available and approved for use for the catalytic oxidizer with the replacement catalyst.

3.20 If a catalyst bed is replaced and the replacement catalyst is of like or better kind and quality as the old catalyst, then a new performance test to determine destruction efficiency is not required and you may continue to use the previously established operating limits for that catalytic oxidizer.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD)
for a Part 70 PSD/Significant Source Modification
and Significant Permit Modification

Source Description and Location

Source Name:	Harrison Steel Castings Company
Source Location:	900 N Mound St, Attica, IN 47918
County:	Fountain
SIC Code:	3325 and 3321
Operation Permit Renewal No.:	T 045-22716-00002
Operation Permit Issuance Date:	June 2, 2008
PSD/Significant Source Modification No.:	045-25405-00002
Significant Permit Modification No.:	045-25426-00002
Permit Reviewer:	Laura Spriggs

Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. T045-22716-00002 on June 2, 2008. The source has since received the following approvals.

(a) Administrative Amendment No. 045-26622-00002, issuance pending.

County Attainment Status

The source is located in Fountain County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.
[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.	

(a) Ozone Standards

(1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

(2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.

(3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte,

Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.

(4) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Fountain County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5
Fountain County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.

(c) Other Criteria Pollutants
Fountain County has been classified as attainment or unclassifiable in Indiana for PM_{10}, SO_2, NO_2, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(d) Since this source is classified as a secondary metal production plant, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(e) Fugitive Emissions
Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Table 1: Source Status PTE

Pollutant	**Emissions** (ton/yr)
PM	660.5
PM_{10}	235.8
SO_2	29.4
VOC	603.5
CO	766.4
NO_X	52.08

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(c) These emissions are based upon Part 70 Operating Permit Renewal No. T 045-22716-00002.

The table below summarizes the potential to emit HAPs for the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Table 2: Source Status HAP PTE	
HAPs	**Potential To Emit** (ton/yr)
Single HAP	Greater than 10
Total	**Greater than 25**

This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2004 OAQ emission data.

Table 3: Actual Emissions	
Pollutant	**Actual Emissions** (ton/yr)
PM	59
PM_{10}	59
SO_2	15
VOC	47
CO	1,810
NO_X	28
Total HAPs	not reported

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Harrison Steel Castings Company on October 15, 2007, relating to a request to modify the VOC BACT limits for the pouring and castings cooling operations of the Airset molding line and for the thermal sand reclaimer controlling the mold sand mixer associated with the Airset molding line. The following is a list of the requested modifications:

(a) Request to modify the VOC BACT limit for the pouring and castings cooling operations of the Airset molding line. The existing VOC BACT limit was based on stack testing conducted in February of 2004. The calculation submitted to IDEM by the source had been corrected for drift; however, VOC sampling conducted under Method 25A should not be corrected for drift. An IDEM internal review revised the calculation, and a request to revise the VOC limit has been made to account for the error. This unit is not being physically modified.

(b) Request to modify the VOC emission reduction requirement for the thermal sand reclamation system that controls the mold sand mixer. The existing BACT determination for the mold sand mixer required the use of the thermal sand reclamation system to control VOCs with a 98% destruction efficiency requirement and a pounds per hour limit. A request has been made to remove the destruction efficiency requirement. This unit is not being physically modified.

Enforcement Issues

IDEM is aware that there is a pending enforcement action for the VOC emission reduction requirement for the thermal sand reclamation system and the VOC emission limit for the pouring and castings cooling operations. IDEM is reviewing this matter and will take the appropriate action.

Emission Calculations

There are no emission calculations associated with this modification.

Permit Level Determination – Part 70

The Permittee has requested a revision of the PSD BACT limits for VOC for the pouring and castings cooling operations and the mold sand mixer associated with the Airset molding line. The units are not being physically modified. The reevaluation of the PSD BACT emission limits for the pouring and cooling operations and the mold sand mixer shall be processed as a PSD/Significant Source Modification, under 326 IAC 2-7-10.5(g)(3)(B) as stated in 326 IAC 2-7-10.5(f)(1), because this modification is subject to 326 IAC 2-2 (Prevention of Significant Deterioration). Additionally, the modification will be incorporated into the Part 70 permit through a Significant Permit Modification issued pursuant to 326 IAC 2-7-12(d), since this modification requires a change in a case-by-case determination of an emission limitation, and involves significant changes to existing conditions in the permit.

Permit Level Determination – PSD or Emission Offset

Any time a permit limit founded in BACT is being considered for revision, a corresponding reevaluation of the original BACT determination is necessary even if an inappropriate BACT emission limit was based on errors, faulty data, or incorrect assumptions. Therefore, this modification to an existing major stationary source is subject to the provisions of 326 IAC 2-2 (Prevention of Significant Deterioration).

Based on the reevaluation of BACT for these units, the following determinations have been made:

(a) IDEM, OAQ has determined that the BACT for controlling VOC emissions from the Airset molding line pouring and cooling operations is as follows:

(1) The VOC emissions from the pouring and castings cooling operations shall not exceed 1.8 pounds per ton of metal poured, and

(2) The resin content shall not exceed 1.23%.

(b) IDEM, OAQ has determined that the BACT for controlling VOC emissions from the Airset molding line mold sand mixer is as follows:

The VOC emissions from the thermal sand reclamation system, which controls the mold sand mixer, shall not exceed 2.2 pounds per hour.

The complete BACT analysis is attached as Appendix A to this TSD.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this modification:

(a) There are no new New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(b) There are no new National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed modification.

(c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

There is no change in the PTE of the Airset molding line mold sand mixer, which is less than 100 tons per year uncontrolled, and the Airset molding line pouring and cooling operations do not use any pollution control equipment for VOC control. Therefore, the requirements of 40 CFR Part 64, CAM are not applicable to any of the modified units as part of this modification.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 (PSD)
Prevention of Significant Deterioration applicability is discussed under the Permit Level Determination – PSD and Emission Offset section.

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)
The provisions of 326 IAC 8-1-6 apply to new facilities, as of January 1, 1980 that have potential emissions of 25 tons or more per year of VOC and that are not otherwise regulated by other provisions of 326 IAC 8, 326 IAC 20-48, or 326 IAC 20-56. The potential emissions from both the pouring and cooling operations from the Airset molding line and the mold sand mixer, constructed in 2001, exceed 25 tons per year and are subject to the requirements of 326 IAC 8-1-6. These units are also subject to the PSD BACT requirements of 326 IAC 2-2. Appendix A of this TSD includes the BACT analyses for these units. Compliance with the BACT requirements of 326 IAC 2-2 will satisfy the BACT requirements in 326 IAC 8-1-6.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

No additional Compliance Determination or Compliance Monitoring Requirements are applicable to this modification.

Paragraph (b) of Permit Condition D.7.10, relating to the VOC testing requirement for the Airset molding line pouring and cooling operations, was removed. Testing VOC emissions from the Airset mold line pouring and cooling operations is extremely difficult at the Harrison Steel Castings Company facility due to unique factors such as facility configuration, process design, and cast size. In addition, this mold line does not rely on a VOC control device to meet the current BACT limit. Therefore, given that a VOC emission rate for this mold line has been established through prior stack testing, IDEM, OAQ has determined that no additional testing is necessary at this time. As a result of this determination, the VOC testing requirement for the Airset mold line pouring and cooling operations at Harrison Steel Castings Company has been removed. IDEM reserves the right to require additional testing in the future, if necessary, to determine compliance with applicable requirements.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit Renewal No. T 045-22716-00002. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Modification No. 1:

Condition D.7.1 has been revised to reflect the permits through which BACT limits were determined and to revise the BACT limits for the pouring and cooling operations and the mold sand mixer as detailed in Appendix A to the TSD. The permit has been revised as follows:

D.7.1 BACT for VOC [326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6]

Pursuant **PSD/SSM No. 045-12788-00002, issued on June 13, 2001; PSD/SSM No. 045-20845-00002, issued on May 19, 2006; PSD/SSM No. 045-25405-00002;** ~~to~~ 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules)**;** and 326 IAC 8-1-6 (BACT), the Permittee shall comply with the following BACT requirements:

(a) The VOC emissions from the pouring~~/casting~~ and castings cooling operations shall be limited to ~~1.40~~ **1.8** pounds per ton of metal poured~~, and the resin content shall not exceed 1.23% by weight~~.

(b) **The resin content shall not exceed 1.23%.**

~~(b)~~**(c)** The VOC emissions from the Airset molding line shakeout operations shall be limited to 3.32 pounds per ton of metal.

~~(c)~~**(d)** The metal throughput to the Airset mold line shall be limited to less than 55,400 tons per 12 consecutive month period with compliance determined at the end of each month.

~~(d)~~**(e)** The VOC emissions from the mold making process shall be limited to 1.17 pounds per ton of sand and 22.20 pounds per hour.

~~(e)~~**(f)** The VOC content of the mold wash shall not exceed 0.0 percent by weight.

~~(f)~~**(g)** The mold production shall be limited to less than 166,200 tons per 12 consecutive month period and the binder usage shall be limited to less than 1,662 tons per 12 consecutive month period with compliance determined at the end of each month.

~~(g)~~**(h)** The VOC emissions from the thermal sand reclamation system, which controls the mold sand mixer, shall not exceed 2.2 pounds per hour.

~~(h) The thermal sand reclamation system shall control VOC emissions from the mixer and achieve a minimum of 98% destruction efficiency.~~

* * *

D.7.8 Volatile Organic Compound (VOC) Controls

In order to comply with D.7.1(~~g~~**h**), the thermal sand reclaimer for VOC control shall be in operation and control emissions from the sand mixer at all times that the mixing process is in operation. When operating, the thermal reclamation system shall maintain a minimum operating temperature of 1400 ^{0}F during operation or a temperature and fan amperage as determined from the most recent compliant stack test, as approved by IDEM.

D.7.9 Volatile Organic Compounds (VOC) Content and Usage Limitations

Compliance with the VOC content and usage limitations contained in Condition D.7.1(~~e~~**f**) shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the mold wash solvent manufacturer.

Modification No. 2:

Condition D.7.10 - Testing Requirements has been revised to clarify permit language. In addition, paragraph (b), relating to the VOC testing requirement for the Airset molding line pouring and cooling operations, was removed. Testing VOC emissions from the Airset mold line pouring and cooling operations is extremely difficult at the Harrison Steel Castings Company facility due to unique factors such as facility configuration, process design, and cast size. In addition, this mold line does not rely on a VOC control device to meet the current BACT limit. Therefore, given that a VOC emission rate for this mold line has been established through prior stack testing, IDEM, OAQ has determined that no additional testing is necessary at this time. As a result of this determination, the VOC testing requirement for the Airset mold line pouring and cooling operations at Harrison Steel Castings Company has been removed. IDEM reserves the right to require additional testing in the future, if necessary, to determine compliance with applicable requirements. The permit has been revised as follows:

D.7.10 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Within ~~five (5) years of the last valid stack test~~ **ninety (90) days of issuance of Significant Permit Modification No. 045-25426-00002**, the Permittee shall perform VOC testing from the thermal sand reclaimer controlling the **mold** sand mixer, ~~the~~ using methods as approved by the Commissioner, in order to demonstrate compliance with Condition~~s~~ D.7.1~~(g) and~~ (h). ~~The test on the thermal sand reclaimer controlling the mixer~~ **This test** shall be repeated at least once every five (5) years from the date of ~~this~~ **the most recent** valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

~~(b) Within five (5) years of the last valid stack test, the Permittee shall perform VOC testing from the Airset pouring and cooling operations, using methods as approved by the Commissioner, in order to demonstrate compliance with Condition D.7.1(a). Testing shall be conducted in accordance with Section C - Performance Testing.~~

~~(c)~~**(b)** ~~Within five (5) years of the last valid stack test, t~~ **T**he Permittee shall perform PM and PM10 testing from the facilities as shown in the table below **no later than September 30,**

2008.

Facility Identification	Control Device Identification
Airset shakeout units (both units)	baghouses DC9 and DC12
Airset sand handling system and thermal reclaimer	baghouse DC46
Airset mechanical reclaimer	baghouse DC45

Testing shall be conducted using methods as approved by the Commissioner, in order to demonstrate compliance with Conditions D.7.2 and D.7.3. ~~The tests on the baghouses~~ **These tests** shall be repeated at least once every five (5) years from the date of ~~this~~ **the most recent** valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensable PM10.

* * *

Conclusion and Recommendation

The proposed modification shall be subject to the conditions of the attached proposed Part 70 PSD/Significant Source Modification No. 045-25405-00002 and Significant Permit Modification No. 045-25426-00002. The staff recommend to the Commissioner that this Part 70 Significant Source Modification and Significant Permit Modification be approved.

Indiana Department of Environmental Management
Office of Air Quality

Appendix A to TSD – BACT Analysis

Source Background and Description

Source Name:	Harrison Steel Castings Company
Source Location:	900 N Mound St, Attica, IN 47918
County:	Fountain
SIC Code:	3325 and 3321
Operation Permit Renewal No.:	045-22716-00002
Operation Permit Issuance Date:	June 2, 2008
PSD/Significant Source Modification No.:	045-25405-00002
Significant Permit Modification No.:	045-25426-00002
Permit Reviewer:	Laura Spriggs

BACT Reevaluation Description

On October 15, 2007, the Office of Air Quality (OAQ) received an application from Harrison Steel Castings Company with a request to modify the VOC BACT limits for the pouring and castings cooling operations of the Airset molding line and for the thermal sand reclaimer controlling the mold sand mixer, located at 900 North Mound Street, Indiana, in Fountain County.

The application for modification consisted of the following:

(a) Airset Molding Line Pouring and Castings Cooling Operations
The VOC BACT limit for these operations was originally determined in PSD/SSM No. 045-12788-00002, issued on June 13, 2001, in which the limit was based on the AP-42 emission factor of 0.14 pounds per ton of metal poured for iron pouring operations using green sand mold casting. There were no specific emission factors available for chemically bonded mold lines at the time. Stack testing conducted in February of 2004 demonstrated that VOC emissions from these processes were higher than permit limits. The VOC BACT limit for these processes was modified in PSD/SSM No. 045-20845-00002, issued on May 19, 2006, based on stack testing results submitted by the Permittee. The calculation submitted to IDEM by the Permittee, based on the February 2004 stack test, had been corrected for drift. However, VOC sampling conducted under Method 25A should not be corrected for drift. An IDEM internal review revised the calculation, from 1.4 pounds per ton of metal poured to 1.8 pounds per ton of metal poured after the PSD/SSM had been issued. The Permittee is requesting that the VOC BACT limit for the Airset molding line pouring and castings cooling operations be revised based on the corrected calculation of the stack test results. This unit is not being physically modified.

(b) Airset Molding Line Mold Sand Mixer
BACT for the mold sand mixer was determined in PSD/SSM No. 045-12788-00002, issued on June 13, 2001, to be the use of the existing thermal sand reclamation system with a 98% destruction efficiency requirement. The PSD/SSM also established pounds per ton and pounds per hour limits for the VOC emissions from the thermal sand reclamation system, which were revised to include a new pounds per hour limit only based on stack testing conducted in May of 2003 in SPM No. 045-19744-00002, issued on July 11, 2006. The Permittee is able to comply with the pounds per hour limit, but not

the percent destruction limit and is requesting that the percent destruction requirement be removed from the permit. This unit is not being physically modified.

Requirement for Best Available Control Technology (BACT)

Any time a permit limit founded in BACT is being considered for revision, a corresponding reevaluation of the original BACT determination is necessary even if inappropriate BACT emission levels were established based on errors, faulty data, or incorrect assumptions.

Pollutant: VOC

The following emissions units are undergoing a reevaluation of BACT for VOC:

(a) Pouring and castings cooling operations of the Airset molding line, approved for construction in 2001, with a maximum capacity of 15.73 tons of steel or iron per hour and 47.2 tons of sand per hour, with emissions uncontrolled and exhausting through stacks S37 through S42; and

(b) One (1) enclosed mixer for combining mold sand with resin, associated with the phenolic urethane no-bake mold making operations of the Airset molding line, with a maximum capacity of 47.2 tons of sand per hour, with VOC emissions controlled by the thermal sand reclaimer.

Summary of the Best Available Control Technology (BACT) Process

BACT is a mass emission limitation based on the maximum degree of pollution reduction of emissions, which is achievable on a case-by-case basis. BACT analysis takes into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, work practices, and operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute to air pollution, thereby protecting public health and the environment.

Federal guidance on BACT requires an evaluation that follows a “top down” process. In this approach, the applicant identifies the best-controlled similar source on the basis of controls required by regulation or permit, or controls achieved in practice. The highest level of control is then evaluated for technical feasibility.

The five (5) basic steps of a top-down BACT analysis are listed below:

Step 1: Identify Potential Control Technologies

The first step is to identify potentially “available” control options for each emission unit and for each pollutant under review. Available options should consist of a comprehensive list of those technologies with a potentially practical application to the emissions unit in question. The list should include lowest achievable emission rate (LAER) technologies and controls applied to similar source categories.

Step 2: Eliminate Technically Infeasible Options

The second step is to eliminate technically infeasible options from further consideration. To be considered feasible, a technology must be both available and applicable. It is important in this step that any presentation of a technical argument for eliminating a technology from further consideration be clearly documented based on physical, chemical, engineering, and source-specific factors related to safe and successful use of the controls. Only available and proven control technologies are evaluated. A control technology is considered available when

there are sufficient data indicating that the technology results in a reduction in emissions of regulated pollutants.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

The third step is to rank the technologies not eliminated in Step 2 in order of descending control effectiveness for each pollutant of concern. The ranked alternatives are reviewed in terms of environmental, energy, and economic impacts specific to the proposed modification. If the analysis determines that the evaluated alternative is not appropriate as BACT due to any of the impacts, then the next most effective is evaluated. This process is repeated until a control alternative is chosen as BACT. If the highest ranked technology is proposed as BACT, it is not necessary to perform any further technical or economic evaluation, except for the environmental analyses.

Step 4: Evaluate the Most Effective Controls and Document the Results

The fourth step entails an evaluation of energy, environmental, and economic impacts for determining a final level of control. The evaluation begins with the most stringent control option and continues until a technology under consideration cannot be eliminated based on adverse energy, environmental, or economic impacts.

Step 5: Select BACT

The fifth and final step is to select as BACT the most effective of the remaining technologies under consideration for each pollutant of concern. For the technologies determined to be feasible, there may be several different limits that have been set as BACT for the same control technology. The final BACT determination would be the technology with the most stringent corresponding limit that is economically feasible. BACT must, at a minimum, be no less stringent than the level of control required by any New Source Performance Standard (NSPS) or National Emissions Standard for Hazardous Air Pollutants (NESHAP) applicable to the emission units included in the permits.

The Office of Air Quality (OAQ) makes BACT determinations by following the five steps identified above.

VOC BACT for Airset Mold Line Pouring and Castings Cooling Operations

This source produces both steel and ductile iron castings. Steel castings make up approximately 85-90% of the total product at this source. Molten steel at a temperature of approximately 3000 °F is poured into sand molds, which are then transported to a cooling area. VOC emissions are generated during the pouring and castings cooling operations as a result of the partial evaporation of the binder material from the molds when molten steel is poured into the sand molds. The organic constituents of the binder material are an essential part of the casting process and are required to maintain casting quality. VOC emissions will vary depending on the specific foundry and its operations. The many factors that influence the formation of VOC include the following:

- Molten metal temperature and pour rate
- Casting size, shape, and surface area
- Mold size and composition
- Core size and composition
- Time for mold cooling prior to shakeout

Since cooling begins immediately after pouring, it is not possible to completely distinguish between these two operations; therefore, these two processes have been reviewed together. A BACT reevaluation was conducted in PSD/SSM No. 045-20845-00002, issued on May 19, 2006 for the pouring and cooling processes based on stack testing conducted in February of 2004. The stack test result submitted by the Permittee was incorrectly determined. Another reevaluation of BACT has been conducted as detailed below because any time a permit limit founded in BACT is being considered for revision, a corresponding

reevaluation of the original BACT determination is necessary even if inappropriate BACT emission levels were established based on errors.

Step 1: Identify Potential VOC Control Technologies

There are two general categories of control technologies for volatile organic compounds (VOCs): destruction processes and reclamation processes. Destruction technologies reduce the VOC concentration by high temperature oxidation into carbon dioxide and water vapor. Reclamation is the capture of VOCs for reuse or disposal. There are also commercially available combinations of reclamation and destruction technologies, innovative technologies, and control alternatives. These are all discussed in more detail below.

Destruction Control Methods

The destruction of organic compounds usually requires temperatures ranging from 1200 °F to 2200 °F for direct thermal oxidizers or 600 °F to 1200 °F for catalytic systems. Combustion temperature depends on the chemical composition and the desired destruction efficiency. Carbon dioxide and water vapor are the typical products of complete combustion. Turbulent mixing and combustion chamber retention times of 0.5 to 1.0 seconds are needed to obtain high destruction efficiencies.

Fume oxidizers typically need supplemental fuel. Concentrated VOC streams with high heat contents obviously require less supplementary fuel than more dilute streams. VOC streams sometimes have a heat content high enough to be self-sustaining, but a supplemental fuel-firing rate equal to about 5% of the total oxidizer heat input is usually needed to stabilize the burner flame. Natural gas is the most common fuel for VOC oxidizers, but fuel oil is an option in some circumstances.

Combustion control technologies include:

- *Recuperative Thermal Oxidation*: Recuperative thermal incinerators are add-on control devices used to control VOC emissions by introducing solvent-laden fume to the oxidizer. The stream is pre-heated by exiting flue gas from the same system in a heat exchanger or recuperator. A burner then heats the air to the required temperature. The air is then passed through an oxidation chamber where the solvent-laden air is converted to carbon dioxide and water. These are then passed through the heat exchanger where incoming fume is preheated by the heat of the exiting flue gas. Finally the clean flue gas is discharged to the atmosphere. The recuperative thermal oxidizer is appropriate for waste streams with a relatively high solvent content and/or consistent pollutant loading. Variation in pollutant loading will require a longer retention time in the oxidizer in order to properly destroy VOC emissions.

- *Regenerative Thermal Oxidation*: Regenerative thermal oxidizers (RTOs) are add-on control devices used to control VOC emissions by simple reaction of the harmful air pollutants with oxygen and heat. RTO uses a direct contact heat exchanger. These direct contact heat exchangers consist of a bed of porous ceramic packing or other structured, high heat capacity media. These systems can handle variable and low-concentration VOC waste streams.

- *Recuperative and Regenerative Catalytic Oxidation*: Catalytic incinerators are add-on control devices used to control VOC emissions by using a bed of catalyst that facilitates the oxidation of the combustible gases. The catalyst increases the reaction rate and allows the conversion of VOC at lower temperatures than thermal incinerators. Catalytic oxidation can be used for low-concentration VOC waste streams; however, certain compounds present in waste stream gas may foul the catalyst. It may also be necessary

to remove particulate prior to catalytic oxidation as well.

- *Flares*: Flaring is used to control VOC emissions by piping VOCs to a remote, usually elevated location and burning them in an open flame in the open air using a specially designed burner tip, auxiliary fuel, and steam or air to promote mixing for nearly complete (> 98%) VOC destruction. While flares are designed to eliminate waste gas streams, they can cause safety and operational problems and the exhaust stream concentration must be high enough to sustain combustion.

- *Boilers and Process Heaters*: Boilers and process heaters already in use at a facility to generate heat and power may be used for VOC control by using the VOC-exhaust stream as fuel. An exhaust stream can only be used as a supplementary fuel if the heating value is sufficient to maintain combustion.

Reclamation Control Methods

Organic compounds may be reclaimed by one of three possible methods; adsorption, absorption (scrubbing), or condensation. In general, the organic compounds are separated from the emission stream and reclaimed for reuse or disposal. Depending on the nature of the contaminant and the inlet concentration of the emission stream, recovery technologies can reach efficiencies of 98%.

- *Adsorption*: Adsorption is a surface phenomenon where attraction between carbon and VOC molecules binds the pollutants to the carbon surface. Both carbon and VOC are chemically intact after adsorption. The VOCs may be removed or desorbed from the carbon and reclaimed or destroyed. Adsorption can be used for relatively low VOC exhaust streams. Particulate matter present in gas streams can reduce adsorber efficiency, increase pressure drop, and eventually plug the bed. Most industrial adsorption systems use some type of particulate matter pre-treatment.

- *Absorption*: Absorption is a unit operation where components of a gas phase mixture (pollutants) are selectively transferred to a relatively nonvolatile liquid, usually water. Sometimes, organic liquids, such as mineral oil or non volatile hydrocarbons, are suitable absorption solvents. The choice of solvent depends on cost and the solubility of the pollutant in the solvent. Absorption is commonly used to recover products or purify gas streams that have high concentrations of organic compounds.

- *Condensation*: Condensation is the separation of VOCs from an emission stream through a phase change, by either increasing the system pressure or, more commonly, lowering the system temperature below the dew point of the VOC vapor. When condensers are used for air pollution control, they usually operate at the pressure of the emission stream, and typically require a refrigeration unit to obtain the temperature necessary to condense the VOCs from the emission stream. These systems are frequently used prior to other control devices (e.g., oxidizers or absorbers) to remove components that may be corrosive or damaging to other parts of the system. Refrigerated condensers are used as air pollution control devices for treating emission streams with high VOC concentrations (usually > 5,000 ppmv).

Combination Control Methods

In some cases, a combination of control technologies offers the most efficient and cost effective VOC control.

The combination of carbon adsorption with recuperative thermal incineration is available from several vendors. This system concentrates the VOC stream by using carbon adsorption to remove low concentration VOCs in an emission stream and then uses a lower volume of hot air, commonly one-tenth the original flow, to desorb the pollutants. A recuperative incinerator for destroying pollutants in the concentrated stream is much smaller and has lower supplemental fuel requirements than an incinerator sized for the full emission stream volume.

Absorption systems can also be used to concentrate emission streams to reduce the size of destruction equipment. The concentration effect is not as extreme as with carbon adsorption; a concentrated exhaust stream one quarter the volume of the inlet stream seems to be the practical limit. Absorption concentrators are typically suited for batch processes or to equalize pollutant concentrations in a variable stream. The physical characteristics that drive the absorption of pollutants into a liquid also limit the opportunity to remove those pollutants from the liquid stream.

Technologies

- *Advanced Oxidation*: Advanced oxidation (AO) is an innovative technology that has been shown to reduce VOC emissions from foundry pouring and cooling operations. The AO process operates by the incorporation of ozone and hydrogen peroxide in the water supplied to the muller, which is further acted on by acoustic sonication. The system must be incorporated over time to achieve a stable sand system through the operation of the casting line. As the system acclimates to the AO system, the bond characteristics change, and it is necessary to reduce the amount of bond additives (clay and sea coal mix) to maintain the desired bond strength. The AO system is primarily effective in lowering VOC emissions from greensand systems.

- *Other Innovative Technologies:* Review of the literature indicates that other technologies may destroy VOC pollutants. Biofilters, either outdoor piles similar to compost piles or sophisticated installations involving fixed film on granular activated carbon substrates, appear to work, although such systems are large and require considerable space. Systems applying ultraviolet radiation, either with a titanium dioxide catalyst or in combination with hydrogen peroxide, also show promise. None of these innovative applications are well documented, with little information on process costs. Thus, none of the novel technologies can be considered commercially available.

Control Alternatives

- *Material Substitution, Lower-Emitting Processes/Practices*: There has been work done over the past several years to identify potential changes in materials and processes to bring about a reduction in organic Hazardous Air Pollutants (HAPs) and VOCs from the use of newer materials. Studies have also been conducted to specifically evaluate the impact of various process variables in the casting process that may also affect the emissions of VOCs and organic HAPs.

Existing BACT Determinations for Pouring and Cooling Operations

The USEPA RACT/BACT/LAER Clearinghouse (RBLC) was reviewed to identify control requirements and limitations for other pouring and cooling operations. The table below summarizes these BACT determinations for iron and steel foundries in the Unites States, as provided by RBLC, as well as other IDEM permits. The search was limited to sources with SIC Codes of 3321 and 3325 from January 1998 to January 2008. Harrison Steel Castings was the only steel foundry (SIC code 3325) with pouring and cooling operations listed in the RBLC.

Table 1: Recent BACT Determinations for Control of VOC from Pouring and Cooling Operations at Iron and Steel Foundries

Company: County, State	Date Issued (Permit Number)	Process Description	Limit	Controls	Compliance Information
Harrison Steel Castings Company: Fountain, IN	***Proposed***	***Airset Mold Line Pouring and Castings Cooling***	***Proposed Permit Limit: 1.8 lb/ton metal***	***None***	
ThyssenKrupp Waupaca, Plant #5: Perry, IN	1/19/1996 (123-4593-00019)	Pouring Mold Cooling Lines (4 Lines - Phase I) (73 ton metal/hr)	7.3 lb/hr (equivalent to 0.1 lb/ton metal) - limit not clearly specified for Pouring and Mold Cooling Processes alone	Advanced Oxidation	Out of Compliance
ThyssenKrupp Waupaca, Plant #5: Perry, IN	2/4/1998 (123-8454-00019)	Pouring/Cooling, Line 7, Phase II	0.5 lb/ton metal	None	Out of Compliance
ThyssenKrupp Waupaca, Plant #5: Perry, IN	2/4/1998 (123-8454-00019)	Pouring/Cooling, Lines 6 & 8, Phase II	0.5 lb/ton metal	None	Out of Compliance
ThyssenKrupp Waupaca, Plant #5: Perry, IN	2/4/1998 (123-8454-00019)	Pouring/Cooling, Line 5, Phase II	0.5 lb/ton metal	None	Out of Compliance
ThyssenKrupp Waupaca, Plant #5: Perry, IN	2/4/1998 (123-8454-00019)	Pouring/Cooling, Line 1, Phase I	0.5 lb/ton metal	Advanced Oxidation	Out of Compliance
ThyssenKrupp Waupaca, Plant #1: Waupaca, WI	7/1/1998 (98-RV-052)	Pouring/Mold Cooling, DISA Line 2	0.5 lb/ton metal	None	Yes per RBLC
Wheland Foundry: GA	9/14/1998 (3321-301-0012-P-01-0)	Stack Emissions from Coreless Induction Furnaces, Pouring and Cooling, Molding (41.1 ton metal/hr)	50 lb/hr (equivalent to 1.22 lb/ton metal)	None	Unknown
ThyssenKrupp Waupaca, Plant #3: Waupaca, WI	12/23/1998 (98-RV-165)	Pouring/Mold Cooling, Line 1 (16 ton/hr)	0.5 lb/ton metal	None	Unknown
ThyssenKrupp Waupaca, Plant #3: Waupaca, WI	12/22/1999 (99-RV-118)	Pouring/Mold Cooling, Line 2 (16 ton metal/hr)	0.5 lb/ton metal	None	Unknown
ThyssenKrupp Waupaca, Plant #6: McMinn, TN	4/28/2000 (952938P)	Mold Cooling & Shakeout, Cast Handling & Finishing Line (64 ton metal/hr)	38.4 lb/hr (equivalent to 0.6 lb/ton)	None	Unknown
ThyssenKrupp Waupaca, Plant #6: McMinn, TN	4/29/2000 (95431P)	Mold Cooling & Shakeout, Cast Handling & Finishing (92 ton metal/hr)	46.5 lb/hr (equivalent to 0.51 lb/ton metal)	None	Unknown

Company: County, State	Date Issued (Permit Number)	Process Description	Limit	Controls	Compliance Information
ThyssenKrupp Waupaca, Plant #6: McMinn, TN	8/24/2001 (951431P)	Phase I Mold Cooling and Shakeout Lines 1 and 2 (16 tons metal/hr)	9.6 lb/hr - each line (equivalent to 0.6 lb/ton metal)	None	Unknown
ThyssenKrupp Waupaca, Plant #6: McMinn, TN	8/24/2001 (951431P)	Phase I Mold Cooling and Shakeout Lines 3 and 4 (30 tons metal/hr)	18 lb/hr - each line (equivalent to 0.6 lb/ton metal)	None	Unknown
Ardmore Foundry Inc.: Carter, OK	9/4/2001 (99-344-C M-1 PSD)	Pouring and Cooling (scrap limit of 560 tons/day)	5.25 lb/hr (equivalent to 0.225 lb/ton metal) - revised to 26.85 lb/hr (equivalent to 1.15 lb/ton metal)	None	Unknown
ThyssenKrupp Waupaca, Plant #1: Waupaca, WI	6/11/2002 (01-RV-162)	Pouring/Mold Cooling, DISA Line 4	0.5 lb/ton metal	None	Yes per RBLC
Dalton Corporation, Warsaw Manufacturing Facility: Kosciusko, IN	12/19/2003 (085-18009-00003)	Herman 3 Pouring Station	0.163 lb/ton metal	Low VOC core resin binder materials, Mold vent-off gas ignition, Advanced Oxidation	Yes
Dalton Corporation, Warsaw Manufacturing Facility: Kosciusko, IN	12/19/2003 (085-18009-00003)	Herman 3 Castings Cooling	0.36 lb/ton metal - revised to 0.687 lb/ton	Low VOC core resin binder materials, Mold vent-off gas ignition, Advanced Oxidation	Measured at 0.472 lb/ton on 12/14/2005
Grede Foundries, Inc.: Henry, IN	3/11/2005 (065-16577-00007)	#1 Mold Line Pouring, Cooling, and Shakeout	1.34 lb/ton metal	None	Yes
ThyssenKrupp Waupaca, Plant #2: Waupaca, WI	12/5/2005 (04-RV-189)	Pouring/Cooling	0.5 lb/ton metal	None	Unknown
ThyssenKrupp Waupaca, Plant #1: Waupaca, WI	2/12/2006 (04-RV-184)	Pouring/Cooling	0.5 lb/ton metal	None	Unknown
ThyssenKrupp Waupaca, Plant #4: Marinette, WI	2/17/2006 (05-POY-338)	Pouring, mold cooling, shakeout, and autopour	0.6 lb/ton metal	None	Unknown
INTAT Precision, Inc.: Rush, IN	12/4/2007 (139-22701-00011)	Plant 1, Casting Line 2: Pouring, Cooling, Shakeout, and Bad Heat	1.2 lb/ton metal	Advanced Oxidation (minimum 20% VOC	Unknown

Company: County, State	Date Issued (Permit Number)	Process Description	Limit	Controls	Compliance Information
		Shakeout		reduction efficiency)	

The limits established for pouring and cooling operations, as listed in Table 1, have been given in terms of pounds of VOC per ton of metal poured to provide a better comparison of sources than on a pounds per hour basis. The limits in Table 1 for these operations range from 0.5 to 1.34 pounds per ton of metal poured. When comparing VOC limits, it is important to consider the variables that control the formation of VOC, but also the stack test method used to determine compliance.

Step 2: Eliminate Technically Infeasible Options

Harrison Steel estimates the required flow rate for controlling the Airset molding line pouring and cooling processes would be 290,000 acfm. The VOC concentration emitted from the pouring and cooling processes is estimated to be in the range of 20-100 ppmv. Harrison Steel has indicated that concentrator vendors have stated that the VOC content of the exhaust stream would not work well in a concentrator. The paraffinic distillate and the hydrotreated light distillate will not exist as a vapor at 69 °F, but instead will be a mist. The vendors believed that this would plug the prefilter of the concentrator in a very short time. Therefore, using a concentrator as pre-treatment to another control technology will not be considered technically feasible in this analysis.

Table 2: Technical Feasibility Analysis of VOC Control Options for Airset Mold Line Pouring and Cooling Operations

Technology	Discussion of Technical Feasibility	Technically Feasible?
Recuperative Thermal Oxidation	Recuperative thermal oxidation units are generally used for low to moderate exhaust rates and medium to heavy solvent vapor concentrations. Based on a review of the RBLC, this type of control has been used for controlling VOC emissions from iron foundry cupolas, but has not been typically used for other foundry processes. This would not be an appropriate control method for the high exhaust rate and low VOC exhaust stream from the pouring and cooling operations.	No
Regenerative Thermal Oxidation	Regenerative thermal oxidizers offer control for high air flow rates with low VOC concentrations. A review of the RBLC indicates that this type of control has been used for controlling VOCs at a variety of facilities, including an asphalt shingle and coatings materials manufacturing facility, at dry mill fuel-grade ethanol manufacturing facilities, at oriented strand board manufacturing facilities, at a graphic arts and coating operation, at a tire retread manufacturing facility, at a refinery, for coating lines, at an animal feed supplement production facility, and at a municipal waste combustor plant, and at wood products production facility. RTOs have not typically been used for VOC control at foundries and no foundry pouring and cooling processes listed in RBLC use RTOs. This control is considered to be technically feasible for the pouring and cooling processes, however, and will be evaluated further in this analysis.	Yes
Catalytic Oxidation	A review of the RBLC indicates that catalytic oxidation has generally been used to control VOCs for combustion turbines, engines, paint booths, and printing presses. This type of control has not been typically used in the foundry industry. While catalytic oxidation may be capable of handling higher air flow rates and	No

Technology	Discussion of Technical Feasibility	Technically Feasible?
	lower VOC concentration exhaust streams, it is believed that the loading of other pollutants in the exhaust stream could foul the catalyst; therefore, this type of control is not considered technically feasible for this application.	
Flares	Flares are typically used for exhaust streams with high VOC concentrations to sustain combustion. This type of control is used at such facilities as ethanol plants, petroleum refineries, and other chemical manufacturing plants. A review of the RBLC does not indicate that this type of control is typically used at foundries and it would not be a technically feasible option for the pouring and cooling process based on the low VOC concentration of the exhaust stream.	No
Boilers and Process Heaters	If available, existing combustion facilities at sources have been used to treat VOC-laden exhaust streams. Due to the low concentration of VOC in the exhaust stream of the pouring and cooling operations, this option is not considered technically feasible.	No
Adsorption	Adsorption processes can be used to capture VOCs in low concentration exhaust; however, it is typically only used for exhaust that is not loaded with other pollutants which can plug the bed. Based on a review of the RBLC, this type of control has been used in the printing and petroleum refinery industries. This type of control is not typically used in the foundry industry and based on the pollutant loading of the exhaust stream, adsorption is not considered technically feasible for the pouring and cooling operations as plugging of the adsorption media would likely occur.	No
Absorption	Absorption processes are typically used to recover products or purify gas streams with high concentrations of organic compounds such as in the ethanol production and soybean oil refinery industries. In the foundry industry, scrubbers are sometimes used to control emissions from core making processes; however, it is not considered a technically feasible application for VOC control of emissions from the pouring and cooling operations due to the low concentration of VOC in the exhaust.	No
Condensation	Condensers may be used to control VOC emissions with high VOC concentrations (usually greater than 5,000 ppmv). The RBLC shows that this type of control has been used for botanical extraction processes and petroleum refineries. Condensers are not typically used in the foundry industry for VOC control and are not considered technically feasible for the application of controlling VOC emissions from the pouring and cooling operations due to the low concentration of VOC in the exhaust.	No
Combined Adsorption and Thermal Incineration	Based on the above examination of the adsorption process alone, the combined control approach of adsorption and thermal incineration is not considered to be technically feasible for the pouring and cooling operations.	No
Advanced Oxidation	Advanced oxidation has been determined to be BACT for the pouring and cooling processes at some foundries in Indiana. This innovative technology has only been shown to be applicable to foundries that use greensand systems. Harrison Steel Castings Company uses chemically bonded mold lines. Therefore, advanced oxidation is not considered to be technically feasible for the pouring and cooling operations at Harrison Steel Castings	No

Technology	Discussion of Technical Feasibility	Technically Feasible?
	Company.	
Other Innovative Technologies	There is not adequate documentation or application of other innovative technologies to make a determination of technical feasibility; therefore, no other innovative technologies have been further considered.	No
Material Substitution, Lower-Emitting Porcesses/Practices	The resins used in the core making processes are chosen to meet product specifications. Since resin choices have a direct impact on the quality of the final product, the variability of resin VOC contents were not evaluated for technical feasibility.	No

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

Based on the technical feasibility analysis in Step 2, the remaining control technologies may be ranked as follows for controlling VOC emissions from the pouring and cooling processes:

Table 3: Rank of Control Technologies by Control Effectiveness for Airset Mold Line Pouring and Cooling Operations

Control Technology	Control Efficiency (%)
Regenerative Thermal Oxidizer	98% Destruction

Step 4: Evaluate the Most Effective Controls and Document the Results

Harrison Steel Castings Company provided IDEM, OAQ with a detailed cost-effectiveness analysis and supporting data of capital and operating costs for a regenerative thermal oxidizer. The base equipment cost was obtained from vendor quoted prices. Other direct and indirect costs were determined based on guidance from the EPA Air Pollution Control Cost Manual. The detailed cost analysis is provided in Table 4.

The basis of cost effectiveness, used to evaluate the control options, is the ratio of the annualized cost to the tons of VOC removed per year. The analysis of the RTO indicates that the cost effectiveness of this type of VOC control would be $84,219 per ton of VOC controlled. The use of an emission limit with no add-on control will not incur extra cost to implement. Table 5 provides a comparison of the costs associated with the control options.

Table 4: Cost Effectiveness Evaluation for Control of VOCs from Airset Mold Line Pouring and Cooling Operations Using Regenerative Thermal Oxidation

Cost Item	Average Cost Factor		Cost ($)	Basis of Costs
Direct Capital Costs:				
2 RTO Units -145,000 ACFM each			**$ 4,000,000**	**Vendor Quote**
Instruments/controls	Included			
Taxes	0.03		$ 120,000	EPA Cost Manual, Table 2.8 *
Freight	0.05		$ 200,000	EPA Cost Manual, Table 2.8 *
Base Price:			**$ 4,320,000**	
Installation costs, direct:				
Foundations/Supports	0.08		$ 345,600	EPA Cost Manual, Table 2.8 *
Erection/handling	0.14		$ 604,800	
Electrical	0.04		$ 172,800	
Piping	0.02		$ 86,400	
Insulation	0.01		$ 43,200	
Painting	0.01		$ 43,200	
Total Installation Costs:			**$ 1,296,000**	
TOTAL DIRECT CAPITAL COSTS (Base Price + Installation) =			**$ 5,616,000**	
Installation costs, indirect:				
Engineering/supervision	0.10		$ 432,000	EPA Cost Manual, Table 2.8 *
Construction/field expenses	0.05		$ 216,000	
Construction fee	0.10		$ 432,000	
Start-up	0.02		$ 86,400	
Performance Test			$ 10,000	Engineering Estimate
Contingencies	0.03		$ 129,600	EPA Cost Manual, Table 2.8 *
TOTAL INDIRECT CAPITAL COSTS =			**$ 1,306,000**	
TOTAL CAPITAL COSTS (Direct + Indirect) =			**$ 6,922,000**	
Direct Annual Operating Costs:		**hours/year**		
Operating Labor:				
Operator** ($/HR X HRS/YR)	16.79	1095	$ 18,385	EPA Cost Manual, Table 2.10 (0.5 hour/shift/device)
Supervision (15% of labor)			$ 2,758	EPA Cost Manual, Table 2.10
Operating Materials			$ -	
Maintenance:				
Maintenance Labor**	20.99	1095	$ 22,984	EPA Cost Manual, Table 2.10 (0.5 hour/shift/device)
Maitenance Materials (100% of labor)			$ 22,984	EPA Cost Manual, Table 2.10
Replacement parts (as required)			$ -	
Utilities:				
Electricity ($/kWH x kW x 8760 hr/yr)	$0.059 / kWh		$ 116,909	EPA Cost Manual, page 2-43
Gas ($/scf x scf/yr)	$9.414/ kCF		$ 2,628,337	EPA Cost Manual and Current Natural Gas Rates
TOTAL DIRECT OPERATING COSTS (A) =			**$ 2,812,357**	
Indirect operating (fixed) annual costs:				
Overhead	60% of O & M labor/materials		$ 40,267	EPA Cost Manual
Property Tax	1% of total capital costs		$ 69,220	
Insurance	1% of total capital costs		$ 69,220	
Administration	2% of total capital costs		$ 138,440	
Capital Recovery CRF=	0.1424	7% for 10 years	$ 985,693	
TOTAL FIXED COSTS (B)=			**$ 1,302,839**	
TOTAL ANNUALIZED COSTS (A +B) =			**$ 4,115,196**	
Uncontrolled Emissions Rate (tons/year) =			**49.86**	
Control System Efficiency =			98.0%	
Controlled Emissions Rate (tons/year) =			1.00	
VOC Emissions Controlled (tons/year) =			48.86	
Cost ($/ton) =			**$84,219**	

"EPA Air Pollution Control Cost Manual, Sixth Edition", EPA-452-02-001, January 2002.

* For Direct and Indirect Capital Costs, Cost = Cost Factor * Base Price
**Hourly Operator and Maintenance Wages were provided by applicant

From Equation 2.42 in EPA Cost Manual:
Fan Power Requirement (kW) = $[1.17 \times 10^{-4} * Q_{Wi}$ (acfm) * ΔP (inches water)] / ε = 226.2 kW

Where: Q_{Wi} (acfm) = inlet volumetric flow rate of air, assumed to be 290,000 acfm
ΔP (inches water) = total flange-to-flange pressure drop, assumed to be 4 inches of water
ε = Combined motor/fan efficiency, assumed to be 60%

Uncontrolled Emissions Rate (tons/year) = Emission Factor from Testing (lb VOC/ton metal poured) * Limited Metal Throughput (ton metal/yr) * (1 ton/2000 lb)
Controlled Emissions Rate (tons/year) = Uncontrolled Emission Rate (tons/year) * (1 - (Capture Efficiency * Destruction Efficiency))
VOC Emissions Controlled (tons/year) = Uncontrolled Emissions Rate (tons/year) - Controlled Emissions Rate (tons/year)
Cost ($/ton) = Total Annualized Costs ($/year) / VOC Emissions Controlled (tons/year)

Table 5: Control Option Cost Effectiveness for Airset Mold Line Pouring and Cooling Operations

Option	Control Efficiency	Estimated Capital Costs	Estimated Annualized Costs	Estimated VOC Controlled (tons/year)	Cost Effectiveness ($/ton)
RTO	98%	$6,922,000	$4,115,196	48.37	$84,219
Emission Limit	0	0	0	0	N/A

The regenerative thermal oxidizer was the only control technology that was considered to be technically feasible for controlling VOC emissions from the Airset mold line pouring and cooling operations at Harrison Steel Castings Company. The cost effectiveness analysis of this type of control showed that the RTO would cost $84,219 per ton of VOC controlled for the Airset mold line pouring and cooling operations. A review of other Indiana BACT determinations revealed that no other similar source has spent this much to control VOCs. The use of RTOs to control VOC emissions from the Airset mold line pouring and cooling operations is not considered a cost-effective control option and will not be considered as BACT for these processes.

The original BACT analysis for the Airset mold line pouring and cooling operations had been revised by PSD/SSM No. 045-20845-00002, issued on May 19, 2006 based on stack testing conducted on February 8, 2004. The Permittee had submitted that the emissions from these operations were 1.4 pounds per ton of metal poured; however, they had corrected the test result for drift, which should not have been done under EPA Test Method 25A.

Based on this current BACT review, since there are still no control technologies that are considered technically or economically feasible for controlling VOC emissions from the Airset mold line pouring and cooling operations, the VOC emission limit shall be revised based on the correct stack test result.

Step 5: Select BACT

IDEM, OAQ has determined that the BACT for controlling VOC emissions from the Airset mold line pouring and cooling operations is as follows:

(1) The VOC emissions from the pouring and castings cooling operations shall not exceed 1.8 pounds per ton of metal poured, and

(2) The resin content shall not exceed 1.23%.

VOC BACT for Airset Mold Line Mold Sand Mixer

During mold making processes, VOCs result from the partial evaporation of binder material from the molds. This occurs throughout the entire mold making process. The original BACT for the mold making process included with the 2001 Airset mold line modification was performed in PSD/SSM No. 045-12788-00002, issued on June 13, 2001. The BACT analysis created separate limits for the mold making operations and the mold sand mixer. At the time, it was determined that no add-on controls were technically feasible for the mold making process as a whole; however, the use of the existing thermal sand reclamation system for controlling VOC emissions from the mold sand mixer alone was evaluated.

As discussed in the original BACT analysis, the thermal sand reclamation system is a fluidized bed used to destroy the residual organics left after the mechanical sand reclaimer breaks apart the molds, which allows the source to re-use the mold sand. No other foundries were identified as being required to use a thermal sand reclamation system for control of VOCs from mixer exhaust, but it was found that some foundries chose to exhaust emissions in this way to reduce odors from the mixers.

The BACT analysis for the mold sand mixer resulted in a pounds per hour limit and the use of the thermal sand reclamation system to control VOC emissions with a required 98% destruction efficiency. The destruction efficiency was based on a review of regenerative and recuperative thermal oxidizers used for other foundry processes.

A reevaluation of the BACT for the Airset mold line mold sand mixer has been conducted as detailed below since a permit limit founded in BACT is being considered for revision.

Step 1: Identify Potential VOC Control Technologies

There are two general categories of control technologies for volatile organic compounds (VOCs): destruction processes and reclamation processes. Destruction technologies reduce the VOC concentration by high temperature oxidation into carbon dioxide and water vapor. Reclamation is the capture of VOCs for reuse or disposal. There are also commercially available combinations of reclamation and destruction technologies, innovative technologies, and control alternatives. These are all discussed in detail under Step 1 of the section entitled *VOC BACT for Airset Mold Line Pouring and Castings Cooling Operations*.

Existing BACT Determinations for Sand Mixers

The RBLC was reviewed to identify control requirements and limitations for other sand mixers used in core and mold making operations. Table 6 below summarizes these BACT determinations for iron and steel foundries in the Unites States, as provided by RBLC, as well as other IDEM permits. The search was limited to sources with SIC Codes of 3321 and 3325 from January 1998 to January 2008. Harrison Steel Castings Company was the only steel foundry (SIC code 3325) with sand mixer operations listed in the RBLC. In addition, the RBLC was reviewed for iron and steel foundry operations using thermal oxidation for VOC control. Table 7 summarizes these BACT determinations.

Table 6: Recent BACT Determinations for Control of VOC from Sand Mixer Operations at Iron and Steel Foundries

Company: County, State	Date Issued (Permit Number)	Process Description	Limit	Controls
Harrison Steel Castings Company: Fountain, IN	***Proposed***	***Airset Mold Line Mold Sand Mixer for Phenolic Urethane No Bake Mold Making Operations***	***Proposed Permit Limit: 2.2 lb/hr***	***Proposed Permit: Thermal Sand Reclamation System, no destruction efficiency***
ThyssenKrupp Waupaca - Plant 6: McMinn, TN	4/28/2000 (952946P)	Isocure Core Making and Isocure Core Sand Mixing (20 tons/hr)	3 lb/hr (0.15 lb/ton sand)	None
ThyssenKrupp Waupaca - Plant 5: Perry, IN	6/5/2001 (123-12948-00019)	P44: 2 Mixers for Phenolic Urethane Core Making Operations (3 tons/hr each)	0.324 lb/hr total (0.054 lb/ton sand), 0.002 lb/lb binder	None
ThyssenKrupp Waupaca - Plant 5: Perry, IN	2/9/2006 (123-21445-00019)	P47: 3 Mixers for phenolic urethane core making process (15 tons sand/hr each)	0.002 lb non-DMIPA VOC/lb binder (0.03 lb/ton sand), 0.04 lb DMIPA/ton core (for mixers and core machines), 5,910,000 lb	None

Company: County, State	Date Issued (Permit Number)	Process Description	Limit	Controls
			binder/yr for all 3 mixers	
Dalton Corporation, Warsaw Manufacturing Facility: Kosciusko, IN	5/9/2007 (085-6708-00003)	Phenolic Urethane Core Sand Mixers (#1, #2, #3, #4, #5, #8) (67421 tons sand/yr total)	0.185 lb VOC/ton sand	None

The RBLC does not indicate that any BACT determinations for iron or steel foundries have been made involving add-on control devices to control VOC emissions from sand mixers in either core or mold making operations. Emissions from sand mixers are generally included in the BACT analysis for overall mold or core making operations. A review of the RBLC for core and mold making operations indicates that with the exception of Wheland Foundry in Hamilton County, TN, thermal oxidation processes have not been determined to be BACT for core or mold making operations.

Table 7: Recent BACT Determinations for VOC Controlled by Thermal Oxidation Processes at Iron and Steel Foundries

Company: County, State	Date Issued (Permit Number)	Process Description	Limit	Controls
Harrison Steel Castings Company: Fountain, IN	***Proposed***	***Airset Line Mold Sand Mixer for Phenolic Urethane No Bake Mold Making Operations***	***Proposed Permit Limit: 2.2 lb/hr (0.12 lb/ton sand)***	***Proposed Permit: Thermal Sand Reclamation System, no destruction efficiency***
ThyssenKrupp Waupaca - Plant 5: Perry, IN	2/4/1998 (123-8451)	Cupola, Phase 1 (80 tons iron/hr)	0.02 lb/ton iron	Recuperative Incinerator (88.9)
ThyssenKrupp Waupaca - Plant 5: Perry, IN	2/4/1998 (123-8451)	Cupola, Phase 2 (80 tons iron/hr)	0.02 lb/ton iron, 1.6 lb/hr)	Recuperative Incinerator (88.9)
Wheland Foundry, Division of North American Royal: Hamilton, TN - ***No longer in operation***	11/3/1998 (371091I93I94I)	Core Production (18420 lb/hr)	63.25 ton/yr	Regenerative Thermal Oxidizer (98%)
ThyssenKrupp Waupaca - Plant 6: McMinn, TN	4/28/2000 (952943P)	Cupola (90 tons metal/hr)	1.8 lb/hr	Thermal Incineration (no control efficiency specified)
ThyssenKrupp Waupaca - Plant 6: McMinn, TN	4/28/2000 (952945P)	Cupola (90 tons metal/hr)	1.8 lb/hr	Thermal Incineration (no control efficiency specified)
ThyssenKrupp Waupaca - Plant 6: McMinn, TN	8/24/2001 (952943P)	Phase I Cupola (90 tons iron/hr)	0.02 lb/ton iron, 1.8 lb/hr	Thermal Incineration (no control efficiency specified)
ThyssenKrupp Waupaca - Plant 1: Waupaca, WI	1/12/2006 (04-RV-184)	Cupola (90 tons metal/hr)	0.02 lb/ton metal	Thermal Incineration (no control efficiency specified)

For iron and steel foundries, BACT determinations involving the use of thermal oxidation processes to control VOCs have generally only been made for cupola melting processes. Wheland Foundry in Hamilton County, TN used a regenerative thermal oxidizer to control VOCs from the core production process; however, this facility is no longer in operation.

Step 2: Eliminate Technically Infeasible Options

The flow rate for controlling the mold sand mixer is estimated to be 10,000 acfm or less. The VOC concentration is estimated to be in the range of 100-200 ppmv. Harrison Steel has indicated that concentrator vendors have stated that the VOC content of the exhaust stream would not work well in a concentrator. The paraffinic distillate and the hydrotreated light distillate will not exist as a vapor at 69 °F, but instead will be a mist. The vendors believed that this would plug the prefilter of the concentrator in a very short time. Therefore, using a concentrator as pre-treatment to another control technology will not be considered technically feasible in this analysis.

Table 8: Technical Feasibility Analysis of VOC Control Options for Mold Sand Mixer

Technology	Discussion of Technical Feasibility	Technically Feasible?
Recuperative Thermal Oxidation	Recuperative thermal oxidation units are generally used for low to moderate exhaust rates and medium to heavy solvent vapor concentrations. Based on a review of the RBLC, this type of control has been used for controlling VOC emissions from iron foundry cupolas, but has not been used for other foundry processes. The flow rate and VOC concentration of the mixer exhaust are relatively low. This type of control may be technically feasible for this application.	Yes
Regenerative Thermal Oxidation	Regenerative thermal oxidizers offer control for high air flow rates with low VOC concentrations. A review of the RBLC indicates that this type of control has been used for controlling VOCs at a variety of facilities, including an asphalt shingle and coatings materials manufacturing facility, at dry mill fuel-grade ethanol manufacturing facilities, at oriented strand board manufacturing facilities, at a graphic arts and coating operation, at a tire retread manufacturing facility, at a refinery, for coating lines, at an animal feed supplement production facility, and at a municipal waste combustor plant, and at wood products production facility. RTOs have not typically been used for VOC control at foundries. This control is considered to be technically feasible, however, and will be evaluated further in this analysis.	Yes
Catalytic Oxidation	A review of the RBLC indicates that catalytic oxidation has generally been used to control VOCs for combustion turbines, engines, paint booths, and printing presses. This type of control has not been typically used in the foundry industry. While catalytic oxidation may be capable of handling lower VOC concentration exhaust streams, it is believed that the loading of other pollutants in the exhaust stream could foul the catalyst; therefore, this type of control is not considered technically feasible for this application.	No
Flares	Flares are typically used for exhaust streams with high VOC concentrations to sustain combustion. This type of control is used at such facilities as ethanol plants, petroleum refineries, and other chemical manufacturing plants. A review of the RBLC does not indicate that this type of control is typically used at foundries and it would not be a technically feasible option for the mold sand mixer based on the low VOC concentration of the exhaust stream.	No

Technology	Discussion of Technical Feasibility	Technically Feasible?
Boilers and Process Heaters	If available, existing combustion facilities at sources have been used to treat VOC-laden exhaust streams. The exhaust from the mold sand mixer is currently being routed to the existing thermal sand reclamation system. The thermal sand reclamation system is therefore a technically feasible option for controlling VOC emissions from the mold sand mixer.	Yes
Adsorption	Adsorption processes can be used to capture VOCs in low concentration exhaust; however, it is typically only used for exhaust that is not loaded with other pollutants which can plug the bed. Based on a review of the RBLC, this type of control has been used in the printing and petroleum refinery industries. This type of control is not typically used in the foundry industry and based on the pollutant loading of the exhaust stream, adsorption is not considered technically feasible for the mold sand mixer as plugging of the adsorption media would likely occur.	No
Absorption	Absorption processes are typically used to recover products or purify gas streams with high concentrations of organic compounds such as in the ethanol production and soybean oil refinery industries. In the foundry industry, scrubbers are sometimes used to control emissions from core making processes; however, it is not considered a technically feasible application for VOC control of emissions from the mold sand mixer due to the low concentration of VOC in the exhaust.	No
Condensation	Condensers may be used to control VOC emissions with high VOC concentrations (usually greater than 5,000 ppmv). The RBLC shows that this type of control has been used for botanical extraction processes and petroleum refineries. Condensers are not typically used in the foundry industry for VOC control and are not considered technically feasible for the application of controlling VOC emissions from the mold sand mixer due to the low concentration of VOC in the exhaust.	No
Combined Adsorption and Thermal Incineration	Based on the above examination of the adsorption process alone, the combined control approach of adsorption and thermal incineration is not considered to be technically feasible for the mold sand mixer.	No
Other Innovative Technologies	There is not adequate documentation or application of other innovative technologies to make a determination of technical feasibility; therefore, no other innovative technologies have been further considered.	No
Material Substitution, Lower-Emitting Porcesses/Practices	The resins used in the mold making processes are chosen to meet product specifications. Since resin choices have a direct impact on the quality of the final product, the variability of resin VOC contents were not evaluated for technical feasibility.	No

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

Based on the technical feasibility analysis in Step 2, the remaining control technologies may be ranked as follows for controlling VOC emissions from the mold sand mixer:

Table 9: Rank of Control Technologies by Control Effectiveness for the Airset Mold Line Mold Sand Mixer

Control Technology	Control Efficiency (%)
Regenerative Thermal Oxidizer	98% Destruction
Recuperative Thermal Oxidizer	98% Destruction (destruction efficiency may be less with lower VOC concentrations)
Existing Thermal Sand Reclamation System	97.2% (based on testing conducted - control includes emissions from mold sand mixer and sand being treated by thermal sand reclamation system)

Step 4: Evaluate the Most Effective Controls and Document the Results

Cost analyses have been performed for controlling VOCs from the Airset mold line mold sand mixer by a regenerative thermal oxidizer and a recuperative thermal oxidizer. The base equipment cost was determined from estimates for 10,000 acfm units as provided in the EPA Air Pollution Cost Control Manual. The dollar amounts of the base unit prices are based on 1988 dollars and therefore provide a conservative estimate of cost effectiveness. Other direct and indirect costs were determined based on guidance provided in the EPA Air Pollution Cost Control Manual. The detailed cost analyses are provided in Table 10.

The basis of cost effectiveness, used to evaluate the control options, is the ratio of the annualized cost to the tons of VOC removed per year. The cost analysis indicates that the cost effectiveness values of the regenerative thermal oxidizer and the recuperative thermal oxidizer for controlling VOC emissions from the mold sand mixer are $13,610 and $11,530, respectively. The use of the existing thermal sand reclamation system will or the use of an emission limit with no add-on control will not incur extra cost to implement. Table 11 provides a comparison of the costs associated with the control options.

Table 10: Cost Effectiveness Evaluation for Control of VOCs from the Airset Mold Line Mold Sand Mixer Using Regenerative Thermal Oxidation and Recuperative Thermal Oxidation

	Average		Regenerative Thermal Oxidizer	Recuperative Thermal Oxidizer	
Cost Item	**Cost Factor**		**Cost ($)**	**Cost ($)**	**Basis of Costs**
Direct Capital Costs:					
1 RTO Units -10,000 ACFM			**$ 350,000**	**$ 225,000**	**Estimates from EPA Cost Manual, Figures 2.5 and 2.4 (1988 $)**
Instruments/controls	Included				
Taxes	0.03		$ 10,500	$ 6,750	EPA Cost Manual, Table 2.8 *
Freight	0.05		$ 17,500	$ 11,250	EPA Cost Manual, Table 2.8 *
Base Price:			**$ 378,000**	**$ 243,000**	
Installation costs, direct:					
Foundations/Supports	0.08		$ 30,240	$ 19,440	EPA Cost Manual, Table 2.8
Erection/handling	0.14		$ 52,920	$ 34,020	
Electrical	0.04		$ 15,120	$ 9,720	
Piping	0.02		$ 7,560	$ 4,860	
Insulation	0.01		$ 3,780	$ 2,430	
Painting	0.01		$ 3,780	$ 2,430	
Total Installation Costs:			**$ 113,400**	**$ 72,900**	
TOTAL DIRECT CAPITAL COSTS (Base Price + Installation) =			**$ 491,400**	**$ 315,900**	
Installation costs, indirect:					
Engineering/supervision	0.10		$ 37,800	$ 24,300	EPA Cost Manual, Table 2.8 *
Construction/field expenses	0.05		$ 18,900	$ 12,150	
Construction fee	0.10		$ 37,800	$ 24,300	
Start-up	0.02		$ 7,560	$ 4,860	
Performance Test	0.01		$ 3,780	$ 2,430	
Contingencies	0.03		$ 11,340	$ 7,290	EPA Cost Manual, Table 2.8 *
TOTAL INDIRECT CAPITAL COSTS =			**$ 117,180**	**$ 75,330**	
TOTAL CAPITAL COSTS (Direct + Indirect) =			**$ 608,580**	**$ 391,230**	
Direct Annual Operating Costs:		**hours/year**			
Operating Labor:					
Operator** ($/HR X HRS/YR)	16.79	547.5	$ 9,193	$ 9,193	EPA Cost Manual, Table 2.10 (0.5 hour/shift/device)
Supervision (15% of labor)			$ 1,379	$ 1,379	EPA Cost Manual, Table 2.10
Operating Materials			$ -	$ -	
Maintenance:					
Maintenance Labor**	20.99	547.5	$ 11,492	$ 11,492	EPA Cost Manual, Table 2.10 (0.5 hour/shift/device)
Maitenance Materials (100% of labor)			$ 11,492	$ 11,492	EPA Cost Manual, Table 2.10
Replacement parts (as required)			$ -	$ -	
Utilities:					
Electricity ($/kWH x kW x 8760 hr/yr)	$0.059 / kWh		$ 4,031	$ 4,031	EPA Cost Manual, page 2-43
Gas ($/scf x scf/yr)	$9.414/ kCF		$ 90,632	$ 90,632	EPA Cost Manual and Current Natural Gas Rates
TOTAL DIRECT OPERATING COSTS (A) =			**$ 128,219**	**$ 128,219**	
Indirect operating (fixed) annual costs:					
Overhead	60% of O & M labor/materials		$ 20,133	$ 20,133	EPA Cost Manual
Property Tax	1% of total capital costs		$ 6,086	$ 3,912	
Insurance	1% of total capital costs		$ 6,086	$ 3,912	
Administration	2% of total capital costs		$ 12,172	$ 7,825	
Capital Recovery CRF=	0.1424	7% for 10 years	$ 86,662	$ 55,711	
TOTAL FIXED COSTS (B)=			**$ 131,138**	**$ 91,494**	
TOTAL ANNUALIZED COSTS (A +B) =			**$ 259,357**	**$ 219,713**	
Uncontrolled Emissions Rate (tons/year) =			**19.45**	**19.45**	
Control System Efficiency:			98.0%	98.0%	
Controlled Emissions Rate (tons/year) =			0.39	0.39	
VOC Emissions Controlled (tons/year) =			19.06	19.06	
Cost ($/ton) =			**$13,610**	**$11,530**	

"EPA Air Pollution Control Cost Manual, Sixth Edition", EPA-452-02-001, January 2002.

* For Direct and Indirect Capital Costs, Cost = Cost Factor * Base Price
**Hourly Operator and Maintenance Wages were provided by applicant

From Equation 2.42 in EPA Cost Manual:
Fan Power Requirement (kW) = [1.17 x 10^{-4} * Q_{Wi} (acfm) * ΔP (inches water)] 7.8 kW

Where: Q_{Wi} (acfm) = inlet volumetric flow rate of air, assumed to be 10,000 acfm
ΔP (inches water) = total flange-to-flange pressure drop, assumed to be 4 inches of water
ε = Combined motor/fan efficiency, assumed to be 60%

Uncontrolled Emissions Rate (tons/year) = Emission Factor from Testing (lb VOC/ton metal poured) * Limited Metal Throughput (ton metal/yr) * (1 ton/2000 lb)
Controlled Emissions Rate (tons/year) = Uncontrolled Emission Rate (tons/year) * (1 - (Capture Efficiency * Destruction Efficiency))
VOC Emissions Controlled (tons/year) = Uncontrolled Emissions Rate (tons/year) - Controlled Emissions Rate (tons/year)
Cost ($/ton) = Total Annualized Costs ($/year) / VOC Emissions Controlled (tons/year)

Table 11: Control Option Cost Effectiveness for the Airset Mold Line Mold Sand Mixer

Option	Control Efficiency	Estimated Capital Costs	Estimated Annualized Costs	Estimated VOC Controlled (tons/year)	Cost Effectiveness ($/ton)
Regenerative Thermal Oxidizer	98%	$608,580	$259,357	19.06	$13,610
Recuperative Thermal Oxidizer	≤ 98%	$391,230	$219,713	≤ 19.06	$11,530
Existing Thermal Sand Reclamation System	≤ 97.2%	0	0	≤ 18.9	N/A
Emission Limit	0	0	0	0	N/A

The technically feasible control options for controlling VOCs from the Airset mold line mold sand mixer at Harrison Steel Castings Company included regenerative thermal oxidation, recuperative thermal oxidation, and the use of the existing thermal sand reclamation system. The conservative values of cost effectiveness for the regenerative thermal oxidizer and the recuperative thermal oxidizer indicate that these control options are not economically feasible for controlling VOC emissions from the Airset mold line mold sand mixer and will not be considered as BACT for this process.

The existing thermal sand reclamation system remains a technically and economically feasible control option for controlling VOC emissions from the mold sand mixer with minimal additional cost. The original BACT analysis required that the thermal sand reclamation system achieve 98% destruction of VOCs. This destruction efficiency was based on a regenerative thermal oxidizer used for controlling VOCs from core production operations at the Wheland Foundry in Hamilton County, TN.

This destruction efficiency is not appropriate for the thermal sand reclamation system at Harrison Steel Castings Company. Regenerative thermal oxidizers are typically designed for specific applications of VOC control taking into account the time, temperature, and mixing required for VOC destruction. The thermal sand reclamation system was not designed for controlling VOCs from the mold sand mixer, but can be used to control these emissions at a relatively high destruction rate. The VOC concentration of the exhaust entering the thermal sand reclamation system is relatively low. At lower inlet VOC concentrations, it is more difficult to achieve high percent destruction efficiencies.

Wheland Foundry in Hamilton County, TN is no longer in operation. A review of the RBLC for other thermal oxidation processes at iron and steel foundries (see Table 7) indicates that estimates of control efficiency were given for the recuperative thermal oxidizers that control the VOC emissions from cupolas at the ThyssenKrupp Waupaca Foundry in Perry County, IN. The permit for this facility, however, does not list any conditions requiring a specific control efficiency. It requires an emission limit and that the recuperative thermal oxidizers be used. Other thermal oxidation controls for VOC emissions at iron and steel foundries listed in the RBLC do not have associated control efficiencies, only emission limits.

Step 5: Select BACT

IDEM, OAQ has determined that the BACT for controlling VOC emissions from the Airset mold line mold sand mixer is as follows:

The VOC emissions from the thermal sand reclamation system, which controls the mold sand mixer, shall not exceed 2.2 pounds per hour.