



*Mitchell E. Daniels, Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

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Indianapolis, Indiana 46204  
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TO: Interested Parties / Applicant  
DATE: September 1, 2006  
RE: North Vernon Industry Corporation / 079-15119-00018  
FROM: Nisha Sizemore  
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 13-15-5-3, this permit 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 13-15-6-1(b) or IC 13-15-6-1(a) 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 of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

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.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, 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 impracticable 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.



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## PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**North Vernon Industry Corporation  
3750 North County Road 75 West  
North Vernon, Indiana 47265**

(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. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions.

Operation Permit No.: T079-15119-00018	
Issued by: Original signed by Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: September 1, 2006  Expiration Date: September 1, 2011

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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)]

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The Permittee owns and operates a stationary gray iron foundry.

Responsible Official:	Vice President
Source Address:	3750 North County Road 75 West, North Vernon, IN 47265
Mailing Address:	P.O. Box 894, North Vernon, IN 47265
General Source Phone:	812-346-8772
SIC Code:	3321
County Location:	Jennings
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Minor Source, 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)]

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The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) Melting Operation consisting of the following emission units:
  - (1) Two (2) electric induction furnaces, identified as P1-EIF #1 and P1-EIF#2, installed in 1998, each having a nominal melting rate of 6.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 1), and exhausting to stack P1B1.
  - (2) One (1) natural gas-fired rotary kiln, identified as P1-Rotary Kiln Dryer, installed in 1998, with a rated capacity of 7.50 tons of scrap per hour and a heat input capacity of 8.00 MMBtu per hour, and exhausting to stack P1RKD.
  - (3) One (1) scrap and charge handling operations, identified as P1-Charge, installed in 1998, with a rated capacity of 12.00 tons of scrap metal per hour, exhausting inside the building, then to general ventilation.
  - (4) One (1) natural gas-fired ladle preheater, identified as P1-Ladle Preheater, installed in 1998 with a rated capacity of 0.4 MMBtu/hr, exhausting inside the building, and then to general ventilation.
- (b) One (1) mold making operation consisting of the following emission units:
  - (1) One (1) mold sand handling operation, identified as P1-Mold Sand Handling, installed in 1998, with a rated capacity of 55.00 tons of sand per hour, with particulate emissions controlled by a dust collector (ID No. Area 2), and exhausting to stack P1B2.
  - (2) One (1) mold making machine, identified as P1-Molding Machine, installed in 1998, using 0.6 pounds of plastic per hour, 0.07 gallons of release agent per hour and 5.20 gallons of mold wash per hour, exhausting inside the building, then to

general ventilation.

- (c) One (1) metal floor pouring, cooling area operation, identified as P1-Pouring/Cooling, installed in 1998, with a rated capacity of 12.00 tons of metal per hour, utilizing a vacuum suction process during pouring and cooling operations, exhausting inside the building, and then to general ventilation.
- (d) One (1) shakeout unit/system for casting operation, identified as P1-Shakeout, installed in 1998, with a rated capacity of 20.00 tons per hour, with particulate emissions controlled by a dust collector (ID No. Area 2), and exhausting to stack P1B2. ID No. Area 2 baghouse will recycle all the sand collected back into the mold sand process.
- (e) One (1) core making operation consisting of the following emission units:
  - (1) One (1) core sand process sand handling operation, identified as P1-Core Sand Handling, installed in 1998, with a rated capacity of 0.125 tons of sand per hour, exhausting inside the building, then to general ventilation.
  - (2) One (1) Beta set core machine, identified as P1-Core Machine, installed in 1998, with a rated capacity of 0.125 tons of cores per hour, using 1.3 gallons of resin per hour, 0.75 gallons of release agent 1 per hour, and 0.30 gallons of release agent 2 per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (3) One (1) butane torch used to flash off excess core release agent, identified as P1-Butane Torch, with a maximum firing rate of 0.144 gallons per hour and 0.014 MMBtu/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (f) One (1) Pre-Finishing Operation consisting of the following emission units:
  - (1) One (1) pre-finish station which contains three grinders, identified as P1-Pre-Finish Station, installed in 1998, with a total rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (2) One (1) core removal station, identified as P1-Core Removal Operation, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (3) One (1) shot blast machine, installed in 1998, identified as P1-Shot Blast Machine #1, with a rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 4), and exhausting to stack P1B4.
  - (4) Five (5) coarse grinding stations, identified as P1-Grinding Station #1 through P1-Grinding Station #5, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (5) One (1) shot blast machine, identified as P1-Shot Blast Machine #2, constructed in 2005, with a maximum rated capacity of 20 tons of metal per hour, controlled by a dust collector (ID No. Area 6), with an airflow rate of 8,350 scfm, with an outlet grain loading of 0.005, and exhausting to stack P1B6.
- (g) One (1) Finishing Operation consisting of the following emission units:
  - (1) Filler/putty application process, identified as P1-Filler/Putty Application, installed in 1998, with a rated capacity of 1.75 gallons per hour of filler/putty, exhausting

- inside the building, then to general ventilation.
- (2) One (1) paint booth, identified as P1-Paint Booth #2, installed in 1998, with a rated capacity of 6.88 gallons of primer per hour, with dry filters for overspray control, exhausting through stack 12-CD-1.
  - (3) One (1) paint booth, identified as P1-Paint Booth #3, installed in 1998, with a rated capacity of 1.43 gallons of primer per hour, with dry filters for overspray control, exhausting through stack 12-CD-1.
  - (4) One (1) putty station used for additional repair, identified as P1-Putty Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, exhausting inside the building, then to general ventilation.
  - (5) One (1) final inspection paint booth, identified as P1-Final Inspection Paint Booth, installed in 1998, with a rated capacity of 0.50 gallons of primer per hour, using dry filters for overspray control, and exhausting to stack Paint Filter-Final Inspection.
  - (6) One (1) buffing station containing three buffers, identified as P1-Buffing Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID. No. Area 3), and exhausting to stack P1B3.
  - (7) One (1) final inspection buffing station, identified as P1-Final Inspection Buffing Station, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, controlled by the final buffing dust collector, (ID No. Final Inspection Collector), exhausting inside the building, then to general ventilation.
- (h) One (1) Core Making Operation, consisting of the following emissions units:
- (1) One (1) raw core sand handling and storage system, identified as P2-Core Sand Handling, with a maximum capacity of 750 pounds of sand per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (2) One (1) Beta set core machine, identified as P2-Core Machine, installed in 2004, with a rated capacity of 750 pounds of cores per hour, using 2.93 gallons of resin per hour, 1.25 gallons of release agent 1 per hour, and 0.50 gallons of release agent 2 per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (3) One (1) butane torch used to flash off excess core release agent, identified as P2-Butane Torch, with a maximum firing rate of 0.36 gallons per hour and 0.035 MMBtu/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (i) One (1) Mold Making Operation, consisting of the following emissions units:
- (1) One (1) raw mold sand handling and storage system, identified as P2-Mold Sand Handling, with a maximum capacity of 165 tons of sand per hour, with particulate emissions controlled by Baghouse 2, and exhausting to stack P2B2.
  - (2) One (1) molding machine, identified as P2-Molding Machine, with a maximum capacity of 165 tons of sand per hour, 1.0 pounds of plastic per hour, and 0.23 gallons of release agent per hour; with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (3) One (1) mold wash, identified as P2-Mold Wash, with a maximum capacity of 7.1 gallons of mold wash per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.

- (4) Two (2) natural gas fired mold machine dryers, identified as P2- Mold Dryer #1 and P2-Mold Dryer #2, each rated at 0.00113 million (MM)BTU per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (j) One (1) Melting Operation, consisting of the following emissions units:
- (1) One (1) charge handling system utilizing mechanical conveyors and magnetic overhead cranes, identified as P2-Charge, with maximum capacity of 18 tons of metal per hour, with particulate emissions controlled by Baghouse 1 and exhausting to stack P2B1.
  - (2) Three (3) electric induction furnaces, identified as P2-EIF#1, P2-EIF#2, and P2-EIF#3, each rated at 6 tons of metal per hour, and with a donut hood exhausting to a dust collector (Baghouse 1), and exhausting to stack P2B1.
  - (3) One (1) ladle with a natural gas fired preheater, identified as P2-Ladle Preheater, with a maximum capacity of 1 MMBTU per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation. This preheater is used to dry the ladle prior to each filing.
- (k) One (1) Floor Molding Operation, consisting of the following emissions units:
- (1) One (1) floor pouring and cooling, identified as P2-Pouring/Cooling, with a maximum rate of 18 tons of metal per hour, utilizing a vacuum suction during pouring and cooling operations, exhausting inside the building, then to general ventilation.
  - (2) One (1) shakeout unit/system for casting operation, identified as P2-Shakeout, with a maximum rate of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 2, and exhausting to stack P2B2. Baghouse 2 will recycle all the sand collected back into the mold sand process.
- (l) One (1) Pre-Finishing Operation, consisting of the following emissions units:
- (1) One (1) pre-finish knock out station/area, identified as P2-Pre-Finish Station, consisting of three (3) sanders, with a maximum capacity of 24 tons of metal per hour, with particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.
  - (2) One (1) enclosed shot blast machine, identified as P2-Shot Blast Machine, using steel shot as media, with a maximum capacity of 24 tons of metal per hour, with particulate emissions controlled by Baghouse 3, and exhausting to stack P2B3.
  - (3) One (1) core removal operation, identified as P2-Core Removal Operation, rated at 24 tons of metal per hour, will remove the remaining sand cores from the casting, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (4) One (1) coarse grinding area consisting of five (5) coarse grinding stations, identified as P2-Grinding Station #1 through P2-Grinding Station #5, with maximum capacity of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.

- (m) One (1) Finishing Operation, consisting of the following emissions units:
- (1) Filler/putty application to the casting to fill in any divots or scratches, identified as P2-Filler/Putty Application, with a maximum rate 1.6 gallons per hour for the entire finishing operations, with emissions exhausting inside the building, then to general ventilation.
  - (2) Two (2) paint booths, identified as P2-Paint Booth #1 and P2-Paint Booth #2, each utilizes an HVLP spray gun, using dry filters for particulate control, exhausting inside the building, then to general ventilation..
    - (A) P2-Paint Booth #1 has a maximum capacity of 6.88 gallons of primer per hour.
    - (B) P2-Paint Booth #2 has a maximum capacity of 2.24 gallons of primer per hour.
  - (3) Two (2) paint booth dryers using natural gas as fuel, identified as P2-Paint Booth #1 Dryer and P2-Paint Booth #2 Dryer, each rated at 0.00165 MMBtu per hour, with the uncontrolled emissions exhausting to stacks P2PB1 and P2PB2.
  - (4) One (1) buffing booth containing three (3) fine grinders or buffers, identified as P2-Buffing Booth, with a maximum capacity of 24 tons of metal per hour, with particulate emissions controlled by Baghouse 5, and exhausting to stack P2B5.
  - (5) One (1) putty booth used for additional repair, identified as P2-Putty Booth, with a maximum capacity of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.

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

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

- (a) Degreasing operations that do not exceed 145 gallons per 12 months, including:

One (1) parts washing station, identified as P1-Maintenance Parts Washing Station, using a maximum of 0.002 gallons of washing solution per hour. [326 IAC 8-3-2]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]
- (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]
- (d) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

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

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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);
- (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]

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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)]

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- (a) This permit, T079-15119-00018, 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]

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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]

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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)]

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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)]

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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)]

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- (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)]

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- (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 a 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, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) A 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. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent 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  
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 prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:

- (1) Identification of the individual(s) 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.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (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 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  
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 in the Quarterly Deviation and Compliance Monitoring Report.

**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 in 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]**

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- (a) All terms and conditions of permits established prior to T079-15119-00018 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 combined permit, all previous registrations and permits are superseded by this combined new source review and 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.

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  
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 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  
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]

- (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  
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]**

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(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  
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 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]**

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- (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.

**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]**

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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 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]**

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- (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  
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 condition of this permit 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 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)(A) and (B) 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. 326 IAC 9-1-2 is not federally enforceable.

**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. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

**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  
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 Accredited 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 Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

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

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

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- (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  
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, OAQ 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.

### **Compliance Requirements [326 IAC 2-1.1-11]**

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

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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)]**

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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  
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]**

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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)]**

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- (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]**

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

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval to:  
  
Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
  
within 180 days from the date on which this source commences operation.  
  
The ERP does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) 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]**

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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]**

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- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit(s) (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 and 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 response action documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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(b)(3), starting in 2006 and every three (3) years thereafter, the Permittee shall submit by July 1 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  
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]

- (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 that a "project" (as defined in 326 IAC 2-2-1(qq)) at an existing emissions unit, other than projects at a Clean Unit, which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee)) 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)), the Permittee shall comply with following:
  - (1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq)) 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
      - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

- (2) 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
- (3) 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]

- (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  
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) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. 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 (c) in Section C- General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq)) 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), 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 (c)(2) and (3) 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).
- (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  
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**

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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) One (1) Melting Operation consisting of the following emission units:
  - (1) Two (2) electric induction furnaces, identified as P1-EIF #1 and P1-EIF#2, installed in 1998, each having a nominal melting rate of 6.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 1), and exhausting to stack P1B1.
  - (2) One (1) natural gas-fired rotary kiln, identified as P1-Rotary Kiln Dryer, installed in 1998, with a rated capacity of 7.50 tons of scrap per hour and a heat input capacity of 8.00 MMBtu per hour, and exhausting to stack P1RKD.
  - (3) One (1) scrap and charge handling operations, identified as P1-Charge, installed in 1998, with a rated capacity of 12.00 tons of scrap metal per hour, exhausting inside the building, then to general ventilation.
  - (4) One (1) natural gas-fired ladle preheater, identified as P1-Ladle Preheater, installed in 1998 with a rated capacity of 0.4 MMBtu/hr, exhausting inside the building, and then to general ventilation.
- (b) One (1) mold making operation consisting of the following emission units:
  - (1) One (1) mold sand handling operation, identified as P1-Mold Sand Handling, installed in 1998, with a rated capacity of 55.00 tons of sand per hour, with particulate emissions controlled by a dust collector (ID No. Area 2), and exhausting to stack P1B2.
  - (2) One (1) mold making machine, identified as P1-Molding Machine, installed in 1998, using 0.6 pounds of plastic per hour, 0.07 gallons of release agent per hour and 5.20 gallons of mold wash per hour, exhausting inside the building, then to general ventilation.
- (c) One (1) metal floor pouring, cooling area operation, identified as P1-Pouring/Cooling, installed in 1998, with a rated capacity of 12.00 tons of metal per hour, utilizing a vacuum suction process during pouring and cooling operations, exhausting inside the building, and then to general ventilation.
- (d) One (1) shakeout unit/system for casting operation, identified as P1-Shakeout, installed in 1998, with a rated capacity of 20.00 tons per hour, with particulate emissions controlled by a dust collector (ID No. Area 2), and exhausting to stack P1B2. ID No. Area 2 baghouse will recycle all the sand collected back into the mold sand process.
- (e) One (1) core making operation consisting of the following emission units:
  - (1) One (1) core sand process sand handling operation, identified as P1-Core Sand Handling, installed in 1998, with a rated capacity of 0.125 tons of sand per hour, exhausting inside the building, then to general ventilation.
  - (2) One (1) Beta set core machine, identified as P1-Core Machine, installed in 1998, with a rated capacity of 0.125 tons of cores per hour, using 1.3 gallons of resin per hour, 0.75 gallons of release agent 1 per hour, and 0.30 gallons of release agent 2 per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (3) One (1) butane torch used to flash off excess core release agent, identified as P1-Butane Torch, with a maximum firing rate of 0.144 gallons per hour and 0.014 MMBtu/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.

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

- (f) One (1) Pre-Finishing Operation consisting of the following emission units:
- (1) One (1) pre-finish station which contains three grinders, identified as P1-Pre-Finish Station, installed in 1998, with a total rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (2) One (1) core removal station, identified as P1-Core Removal Operation, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (3) One (1) shot blast machine, installed in 1998, identified as P1-Shot Blast Machine #1, with a rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 4), and exhausting to stack P1B4.
  - (4) Five (5) coarse grinding stations, identified as P1-Grinding Station #1 through P1-Grinding Station #5, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (5) One (1) shot blast machine, identified as P1 Shot Blast Machine #2, constructed in 2005, with a maximum rated capacity of 20 tons of metal per hour, controlled by a dust collector (ID No. Area 6) with an airflow rate of 8,350 scfm and an outlet grain loading of 0.005, and exhausting to stack P1B6.
- (g) One (1) Finishing Operation consisting of the following emission units:
- (6) One (1) buffing station containing three buffers, identified as P1-Buffing Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID. No. Area 3), and exhausting to stack P1B3.
  - (7) One (1) final inspection buffing station, identified as P1-Final Inspection Buffing Station, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, controlled by the final buffing dust collector, (ID No. Final Inspection Collector), exhausting inside the building, then to general ventilation.

(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.1.1 PSD Minor Limitations [326 IAC 2-2]**

- (a) For the P1 emission units listed below, the metal throughput rate per (12) twelve consecutive month period, and the PM emissions and PM10 emissions shall be limited as follows:

Emission Unit ID	Metal Throughput Limit (tons per year)	PSD Emission Limit (lbs PM/PM10 per ton metal)	
		PM	PM10
P1-EIF#1, P1-EIF#2	74,400 total	0.75	0.75
P1-Shakeout, P1-Mold Sand Handling	74,400 each	0.32	0.32
P1-Shot Blast Machine #1	74,400	0.03	0.03
P1-Core Removal, P1-Pre-Finish, P1-Grinding #1 - #5	74,400 each	0.09	0.09
P1-Buffing Booth	74,400	0.08	0.08

Emission Unit ID	Metal Throughput Limit (tons per year)	PSD Emission Limit (lbs PM/PM10 per ton metal)	
		PM	PM10
P1-Shot Blast Machine #2	74,400	0.03	0.03
P1-Charge	74,400	0.6	0.36
P1-Rotary Kiln Dryer	74,400	0.2	0.2
P1-Pouring/Cooling	74,400	0.1	0.1
P1-Core Sand Handling	74,400	0.075	0.011
P1-Final Inspection Buffing	74,400	0.0045	0.0045

- (b) For the P1 emission units listed below, the VOC limits are as follows:
- (1) The amount of VOC used in the P1-Molding Machine and P1-Core Machine (listed in this Section) combined with the amount of VOC used in the P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Putty Booth, and the P1-Final Inspection Paint Booth (listed in Section D.2) shall be limited to less than 89.33 tons per twelve (12) consecutive month period.
  - (2) The P1-Shakeout and P1-Pouring/Cooling operations shall be limited to 74,400 tons of metal throughput per twelve (12) consecutive month period.
  - (3) The P1-Shakeout and P1-Pouring/Cooling operations shall be limited to less than a total of 0.18 pounds of VOC per ton of metal throughput.
- (c) The emissions of CO from the P1-Shakeout and P1-Pouring/Cooling operations shall be limited to less than a total of 2.40 pounds per ton of metal throughput.

Combined with the limits in Sections D.2, compliance with the above limits ensures that the VOC, CO, PM and PM10 emissions from the emissions units constructed in 1998 are limited to less than 100 tons per year. Therefore, the requirements of 326 IAC 2-2 are not applicable to the emissions units constructed in 1998.

D.1.2 HAP Minor Limitations [326 IAC 2-4.1][40 CFR 63, Subpart EEEEE][40 CFR 63, Subpart MMMM]

- (a) Metal throughput to P1 emissions units shall be limited to less than 74,400 tons per twelve (12) consecutive month period.
- (b) Particulate emissions from the P1 emission units shall be limited as specified in Condition D.1.1.
- (c) The amount of HAP used in the P1-Core Making (listed in this Section), combined with the amount of HAP used in the P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, and P1-Final Inspection Paint Booth (listed in Section D.2) and the amount of HAP used in the P2-Core Making (listed in Section D.3) and the amount of HAP used in the P2-Filler/Putty Application, P2-Paint Booth #1, and P2-Paint Booth #2 (listed in Section D.4) shall be limited to less than ten (10) tons per twelve (12) consecutive month period for any single HAP and less than 19.6 tons per twelve (12) consecutive month period for any combination of HAPs.

These limits, combined with the HAP usage limits in Conditions D.2.1, D.3.2, and D.4.1, and the HAP emissions from the other emission units at this source, will limit the source-wide emissions of HAPs to less than ten (10) tons of a single HAP and less than twenty-five (25) tons of a combination of HAPs per twelve (12) consecutive month period. Compliance with these limits makes the requirements of 326 IAC 2-4.1, 40 CFR 63, Subpart EEEEE and 40 CFR 63, Subpart MMMM not applicable to this source.

D.1.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, (Particulate Emission Limitations for Manufacturing Processes):

- (a) The allowable particulate emission rate from each of the two electric induction furnaces (P1-EIF #1 & P1-EIF #2) shall each not exceed 13.6 pounds per hour when operating at a process weight rate of 12,000 pounds per hour.
- (b) The allowable particulate emission rate from the rotary kiln dryer (P1-Rotary Kiln Dryer) shall not exceed 15.8 pounds per hour when operating at a process weight rate of 15,000 pounds per hour.
- (c) The allowable particulate emission rate from scrap and charge handling operations (P1-Charge) and the pouring and cooling operations (P1-Pouring/Cooling) shall not exceed 21.7 pounds per hour when operating at a process weight rate of 24,000 pounds per hour.
- (d) The allowable particulate emission rate from the mold sand handling operations (P1-Mold Sand Handling) shall not exceed 45.5 pounds per hour when operating at a process weight rate of 110,000 pounds of sand per hour.
- (e) The allowable particulate emission rate from the shakeout unit (P1-Shakeout), the shot blast machines (P1-Shot Blast Machine #1 and P1-Shot Blast Machine #2), the core removal operations (P1-Core Removal Operation), prefinish station (P1-Pre-Finish Station), coarse grinding stations (P1-Grinding Station #1 through P1-Grinding Station #5), buffing station (P1-Buffing Booth), and final inspection buffing station (P1- Final Inspection Buffing Station) shall each not exceed 30.5 pounds per hour when operating at a process weight rate of 40,000 pounds per hour.
- (f) The allowable particulate emission rate from the core sand handling operations (P1-Core Sand Handling) shall not exceed 1.02 pounds per hour when operating at a process weight rate of 250 pounds per hour.

The particulate emission rates were calculated as described below.

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:

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

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

#### D.1.4 Volatile Organic Compounds (BACT) [326 IAC 8-1-6]

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Pursuant to CP 079-5754-00018, issued August 26, 1996, the BACT for the P1-Molding Machine shall be the use of proprietary high solids pattern coating with less than or equal to 6 pounds of VOC per gallon of coating less water.

#### D.1.5 Preventive Maintenance Plan [326 IAC 1-6-3]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any associated control devices.

### Compliance Determination Requirements

#### D.1.6 Particulate Control [326 IAC 2-7-6(6)]

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- (a) To comply with Conditions D.1.1, D.1.2, and D.1.3, the baghouses for particulate control shall be in operation and control emissions from the electric induction furnaces, the mold sand handling operation and shakeout operations, the shot blast machines, the core removal station, the prefinish station, the coarse grinding stations, the buffing station and final inspection buffing station at all times that these facilities are 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.
- (c) The integral vacuum system shall be in operation at all times when the floor pouring/cooling is in operation.

**D.1.7 Testing Requirements [326 IAC 2-6.1-5(a)(2), (4)] [326 IAC 2-1.1-11]**

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- (a) By August 9, 2008, in order to demonstrate compliance with Conditions D.1.1(a) and D.1.3(a), the Permittee shall perform PM and PM-10 testing on the baghouses controlling the electric induction furnaces utilizing methods as approved by the Commissioner. PM-10 includes filterable and condensable PM-10. This test 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 using methods approved by the Commissioner.
- (b) Within 180 days of issuance of the permit, and in order to demonstrate compliance with Condition D.1.1(c), the Permittee shall perform CO testing on the P1-Pouring/Cooling and P1-Shakeout or the P2-Pouring/Cooling and P2-Shakeout utilizing methods as approved by the Commissioner. This test 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.

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

**D.1.8 Visible Emissions Notations [40 CFR 64]**

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- (a) Visible emission notations of the electric induction furnaces, mold sand handling, shakeout operations, pre-finishing, core removal station, shot blast machines, coarse grinding operations, buffing station, and final inspection buffing station 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.

**D.1.9 Parametric Monitoring [40 CFR 64]**

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The Permittee shall record the pressure drop across the baghouses used in conjunction with the electric induction furnaces, the mold sand handling, the shakeout operations, the pre-finishing station, the core removal station, the shot blast machines, the coarse grinding station, buffing station, and final inspection buffing station operations at least once per day when these units are in operation. When the pressure drop across the baghouses is outside the normal range of 1.0 and 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 or 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 or 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.1.10 Broken or Failed Bag Detection [40 CFR 64]

- (a) 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).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the process line. 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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

#### D.1.11 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1, the Permittee shall:
  - (1) Maintain records of the throughput of metal to the P1 emission units on a monthly basis. Records shall include production and/or shipping records necessary to verify the amount of metal produced by the P1 emission units.
  - (2) Maintain records of the amount and VOC content of each core resin, filler, putty, primer, finishing material, thinner and cleanup solvent used in the P1 emission units on a monthly basis. Records shall include purchase orders, invoices, Certified Product Data Sheets and material safety data sheets (MSDS) necessary to verify the type and amount used. The records maintained shall show the total VOC usage for each month and the weight of VOCs emitted for each compliance period. The records maintained shall be complete and sufficient to establish compliance with the VOC usage limits established in Condition D.1.1.
- (b) To document compliance with Condition D.1.2, the Permittee shall:
  - (1) Maintain records of the throughput of metal to the P1 emission units on a monthly basis. Records shall include production and/or shipping records necessary to verify the amount of metal produced by the P1 emission units.
  - (2) Maintain records of the amount and HAP content of each core resin, filler, putty, primer, finishing material, thinner and cleanup solvent used on a monthly basis. Records shall include purchase orders, invoices, Certified Product Data Sheets and material safety data sheets (MSDS) necessary to verify the type and amount used. The records maintained shall show the total HAP usage for each month and the weight of HAPs emitted for each compliance period. The records maintained shall be complete and sufficient to establish compliance with the HAP usage limits established in Condition D.1.2.

- (c) To document compliance with Condition D.1.8, the Permittee shall maintain records of visible emission notations from the electric induction furnaces exhaust (Area 1), the mold sand handling and shakeout operations exhaust (Area 2), the buffing station exhaust (Area 3), shot blast machine exhaust (Area 4) pre-finishing, core removal station, coarse grinding operations exhaust (Area 5), and final inspection buffing station exhaust (Final Inspection Collector) once per day.
- (d) To document compliance with Condition D.1.9 the Permittee shall maintain records of the pressure drop once per day during normal operation when venting to the atmosphere.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.1.12 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1(b) and D.1.2(a) and(c) 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.2**

**FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-8-4(10)]:**

- (g) One (1) Finishing Operation consisting of the following emission units:
- (1) Filler/putty application process, identified as P1-Filler/Putty Application, installed in 1998, with a rated capacity of 1.75 gallons per hour of filler/putty, exhausting inside the building, then to general ventilation.
  - (2) One (1) paint booth, identified as P1-Paint Booth #2, installed in 1998, with a rated capacity of 6.88 gallons of primer per hour, with dry filters for overspray control, exhausting through stack 12-CD-1.
  - (3) One (1) paint booth, identified as P1-Paint Booth #3, installed in 1998, with a rated capacity of 1.43 gallons of primer per hour, with dry filters for overspray control, exhausting through stack 12-CD-1.
  - (4) One (1) putty station used for additional repair, identified as P1-Putty Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour, exhausting inside the building, then to general ventilation.
  - (5) One (1) final inspection paint booth, identified as P1-Final Inspection Paint Booth, installed in 1998, with a rated capacity of 0.50 gallons of primer per hour, using dry filters for overspray control, and exhausting to stack Paint Filter–Final Inspection.

(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 HAP Minor Limitations [326 IAC 2-4.1][40 CFR 63, Subpart EEEEE][40 CFR 63, Subpart MMMM]**

The amount of HAP used in the P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, and P1-Final Inspection Paint Booth (listed in this Section), combined with the amount of HAP used in the P1-Core Making (listed in Section D.1) and the amount of HAP used in the P2-Core Making (listed in Section D.3) and the amount of HAP used in the P2-Filler/Putty Application, P2-Paint Booth #1, and P2-Paint Booth #2 (listed in Section D.4) shall be limited to less than ten (10) tons per twelve (12) consecutive month period for any single HAP and less than 19.6 tons per twelve (12) consecutive month period for any combination of HAPs

These limits, combined with the HAP usage limits in Conditions D.1.2, D.3.2, and D.4.1, and the HAP emissions from the other emission units at this source, will limit the source-wide emissions of HAPs to less than ten (10) tons of a single HAP and less than twenty-five (25) tons of a combination of HAPs per twelve (12) consecutive month period. Compliance with these limits makes the requirements of 326 IAC 2-4.1, 40 CFR 63, Subpart EEEEE and 40 CFR 63, Subpart MMMM not applicable to this source.

**D.2.2 PSD Minor Limitations [326 IAC 2-2]**

- (a) The total PM and PM10 emissions from paint booths #2 and #3 (P1-Paint Booth #2, P1-Paint Booth #3) shall be limited to 2.81 pounds per hour.
- (b) The PM and PM10 emissions from the final inspection paint booth (P1-Final Inspection Paint Booth) shall be limited to 0.11 pounds per hour.
- (c) The PM and PM10 emissions from the putty station (P1-Putty Booth) shall be limited to 0.0045 pounds per ton of metal.

- (d) The amount of VOC used in the P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Putty Booth, and the P1-Final Inspection Paint Booth (listed in this Section), combined with the amount of VOC used in the P1-Molding Machine and P1-Core Machine (listed in Section D.1) shall be limited to less than 89.33 tons per twelve (12) consecutive month period.

Combined with the emission limits in Section D.1, compliance with the above limits ensures that the VOC, PM and PM10 emissions from the emissions units constructed in 1998 are limited to less than 100 tons per year. Therefore, the requirements of 326 IAC 2-2 are not applicable to the emissions units constructed in 1998.

#### D.2.3 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating applied in the paint booths (P1-Paint Booth #2, P1-Paint Booth #3, P1-Final Inspection Paint Booth) shall be limited to 3.50 pounds of VOCs per gallon of coating, excluding water, as delivered to the applicator for any calendar day, for forced warm air (less than 90°C or 194°F) dried coatings.

#### D.2.4 Volatile Organic Compound (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the paint booth application equipment during cleanup or color changes shall be directed into containers. The containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

#### D.2.5 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), the allowable PM emission rate from the filler/putty application station (P1-Filler/Putty Application) and the putty station (P1-Putty Booth) shall not exceed 30.51 pounds per hour each when operating at a process weight rate of 40,000 pounds 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:

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

#### D.2.6 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d), particulate from the paint booths (P1-Paint Booth #2, P1-Paint Booth #3, P1-Final Inspection Paint Booth) shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

#### D.2.7 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

### **Compliance Determination Requirements**

#### D.2.8 Volatile Organic Compounds (VOC) [326 IAC 8-1-2] [326 IAC 8-1-4]

Compliance with the VOC content limit in Conditions D.2.2 and D.2.3 shall be determined using one of the following methods:

- (a) Pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

- (b) Pursuant to 326 IAC 8-1-2(a)(7), using volume weighted average of coatings on a daily basis. This volume weighted average shall be determined by the following equation:

$$A = [ \sum C \times U ] / \sum U$$

Where:

A is the volume weighted average in pounds VOC per gallon less water as applied  
C is the VOC content of the coating in pounds VOC per gallon less water as applied and  
U is the usage rate of the coating in gallons day

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

#### **D.2.9 Monitoring**

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- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks while one or more of the booths are in operation, unless adverse weather conditions occur and continue throughout the entire week. Adverse weather conditions are defined as the presence of ice or deep snow on rooftops that prevent the weekly observations or monthly rooftop inspections due to the safety hazard it represents to employees. If a condition exists which should result in a response step, 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.
- (b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground, except during adverse weather conditions. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is 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.

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

#### **D.2.10 Record Keeping Requirements**

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- (a) To document compliance with Condition D.2.1, the Permittee shall maintain records of the amount and HAP content of each core resin, filler, putty, primer, finishing material, thinner and cleanup solvent used on a monthly basis. Records shall include purchase orders, invoices, Certified Product Data Sheets and material safety data sheets (MSDS) necessary to verify the type and amount used. The records maintained shall show the total HAP usage for each month and the weight of HAPs emitted for each compliance period. The records maintained shall be complete and sufficient to establish compliance with the HAP usage limits established in Condition D.2.1.
- (b) To document compliance with Conditions D.2.2 and D.2.3, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in Conditions D.2.2 and D.2.3.
- (1) The amount and VOC and solids content of each coating material and solvent used less water on a monthly basis. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
  - (2) The total VOC usage for each month; and
  - (3) The weight of VOC emitted for each compliance period.

- (c) To document compliance with Condition D.2.9, the Permittee shall maintain a log of weekly overspray observations, and the daily and monthly inspections. In the event that a required weekly overspray observation or monthly rooftop inspection cannot be completed due to adverse weather conditions, the Permittee shall record the reasons why these observations or inspections did not occur.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.2.11 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.2.1 and D.2.2(d) 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.3**

**FACILITY OPERATION CONDITIONS**

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

- (h) One (1) Core Making Operation, consisting of the following emissions units:
  - (1) One (1) raw core sand handling and storage system, identified as P2-Core Sand Handling, with a maximum capacity of 750 pounds of sand per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (2) One (1) Beta set core machine, identified as P2-Core Machine, installed in 2004, with a rated capacity of 750 pounds of cores per hour, using 1.4 gallons of resin per hour, 1.25 gallons of release agent 1 per hour, and 0.50 gallons of release agent 2 per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (3) One (1) butane torch used to flash off excess core release agent, identified as P2-Butane Torch, with a maximum firing rate of 0.36 gallons per hour and 0.035 MMBtu/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  
- (i) One (1) Mold Making Operation, consisting of the following emissions units:
  - (1) One (1) raw mold sand handling and storage system, identified as P2-Mold Sand Handling, with a maximum capacity of 165 tons of sand per hour, with particulate emissions controlled by Baghouse 2, and exhausting to stack P2B2.
  - (2) One (1) molding machine, identified as P2-Molding Machine, with a maximum capacity of 165 tons of sand per hour, 1.0 pounds of plastic per hour, and 0.23 gallons of release agent per hour; with particulate emissions controlled by Baghouse 1 and exhausting to stack P2B1.
  - (3) One (1) mold wash, identified as P2-Mold Wash, with a maximum capacity of 7.1 gallons of mold wash per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (4) Two (2) natural gas fired mold machine dryers, identified as P2- Mold Dryer #1 and P2-Mold Dryer #2, each rated at 0.00113 million (MM)BTU per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  
- (j) One (1) Melting Operation, consisting of the following emissions units:
  - (1) One (1) charge handling system utilizing mechanical conveyors and magnetic overhead cranes, identified as P2-Charge, with maximum capacity of 18 tons of metal per hour, with particulate emissions controlled by Baghouse 1 and exhausting to stack P2B1.
  - (2) Three (3) electric induction furnaces, identified as P2-EIF#1, P2-EIF#2, and P2-EIF#3, each rated at 6 tons of metal per hour, and with a donut hood exhausting to a dust collector (Baghouse 1), and exhausting to stack P2B1.
  - (3) One (1) ladle with a natural gas fired preheater, identified as P2-Ladle Preheater, with a maximum capacity of 1 MMBTU per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation. This preheater is used to dry the ladle prior to each filing.

**Facility Description [326 IAC 2-7-5(15): (continued)**

- (k) One (1) Floor Molding Operation, consisting of the following emissions units:
- (1) One (1) floor pouring and cooling, identified as P2-Pouring/Cooling, with a maximum rate of 18 tons of metal per hour; utilizing a vacuum suction during pouring and cooling operations, exhausting inside the building, then to general ventilation.
  - (2) One (1) shakeout unit/system for casting operation, identified as P2-Shakeout, with a maximum rate of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 2, and exhausting to stack P2B2. Baghouse 2 will recycle all the sand collected back into the mold sand process.
- (l) One (1) Pre-Finishing Operation, consisting of the following emissions units:
- (1) One (1) pre-finish knock out station/area, identified as P2-Pre-Finish Station, consisting of three (3) sanders, with a maximum capacity of 24 tons of metal per hour, with particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.
  - (2) One (1) enclosed shot blast machine, identified as P2-Shot Blast Machine, using steel shot as media, with a maximum capacity of 24 tons of metal per hour, with particulate emissions controlled by Baghouse 3, and exhausting to stack P2B3.
  - (3) One (1) core removal operation, identified as P2-Core Removal Operation, rated at 24 tons of metal per hour, will remove the remaining sand cores from the casting, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (4) One (1) coarse grinding area consisting of five (5) coarse grinding stations, identified as P2-Grinding Station #1 through P2-Grinding Station #5, with maximum capacity of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.
- (m) One (1) Finishing Operation, consisting of the following emissions units:
- (4) One (1) buffing booth containing three (3) fine grinders or buffers, identified as P2-Buffing Booth, with a maximum capacity of 24 tons of metal per hour, with particulate emissions controlled by Baghouse 5, and exhausting to stack P2B5.
  - (5) One (1) putty booth used for additional repair, identified as P2-Putty Booth, with a maximum capacity of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.

(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 PSD Minor Limitations [326 IAC 2-2]**

- (a) For the P2 emission units listed below, the metal throughput rate per (12) twelve consecutive month period, and PM emissions and PM10 emissions shall be limited as follows:

Emission Unit ID	Metal Throughput Limit (tons per year)	PSD Emission Limit (lbs PM/PM10 per ton metal)	
		PM	PM10
P2-EIF#1, P2-EIF#2, P2-EIF #3	88,000 total	0.75	0.75
P2-Shakeout, P2-Mold Sand Handling	88,000 each	0.32	0.32
P2-Shot Blast Machine	88,000	0.03	0.03
P2-Pre-Finish, P2-Putty Booth, P2-Grinding #1 - #5	88,000 each	0.08	0.08
P2-Core Removal	88,000	0.065	0.01
P2-Charge	88,000	0.36	0.36
P2-Pouring/Cooling	88,000	0.1	0.1
P2-Core Sand Handling	88,000	0.075	0.011
P2-Buffering Booth	88,000	0.08	0.08

- (b) For the P2 emission units listed below, the VOC limits are as follows:
- (1) The amount of VOC used in the P2-Molding Machine and P2-Core Machine (listed in this Section), combined with the amount of VOC used in the P2-Filler/Putty Application, P2-Paint Booth #1 and P2-Paint Booth #2 (listed in Section D.4) shall be limited to less than 89.92 tons per twelve (12) consecutive month period.
  - (2) The P2-Shakeout and P2-Pouring/Cooling operations shall be limited to 88,000 tons of metal throughput per twelve (12) consecutive month period.
  - (3) The P2-Shakeout and P2-Pouring/Cooling operations shall be limited to less than a total of 0.18 pounds of VOC per ton of metal throughput.
- (c) The emissions of CO from the P2-Shakeout and P2-Pouring/Cooling operations shall be limited to less than a total of 1.87 pounds per ton of metal throughput.

Combined with the limits in Section D.4, compliance with the above limits ensures that the PM, PM10, CO, and VOC emissions from the emissions units constructed under SSM 079-17819-00018 are limited to less than 100 tons per year. Compliance by the Permittee with these limitations makes the requirements of 326 IAC 2-2 (PSD) not applicable to the emissions units constructed under SSM 079-17819-00018.

D.3.2 HAP Minor Limitations [326 IAC 2-4.1][40 CFR 63, Subpart EEEEE][40 CFR 63, Subpart MMMM]

- (a) Metal throughput to P2 emissions units shall be limited to less than 88,000 tons per twelve (12) consecutive month period.
- (b) Particulate emissions from the P2 emission units shall be limited as specified in Condition D.3.1.
- (c) The amount of HAP used in the P2-Core Making (listed in this Section), combined with the amount of HAP used in the P1-Core Making (listed in Section D.1) and the amount of HAP used in the P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, and P1-Final Inspection Paint Booth (listed in Section D.2) and the amount of HAP used in the P2-Filler/Putty Application, P2-Paint Booth #1, and P2-Paint Booth #2 (listed in Section D.4) shall be limited to less than ten (10) tons per twelve (12) consecutive month period for any single HAP and less than 19.6 tons per twelve (12) consecutive month period for any combination of HAPs.

These limits, combined with the HAP usage limits in Conditions D.1.2, D.2.1, and D.4.1, and the HAP emissions from the other emission units at this source, will limit the source-wide emissions of HAPs to less than ten (10) tons of a single HAP and less than twenty-five (25) tons of a

combination of HAPs per twelve (12) consecutive month period. Compliance with these limits makes the requirements of 326 IAC 2-4.1, 40 CFR 63, Subpart EEEEE and 40 CFR 63, Subpart MMMM not applicable to this source.

#### D.3.3 Volatile Organic Compound Usage Limitations [326 IAC 8-1-6]

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The amount of VOC used in the P2-Core Machine, including resin, release agent 1, and release agent 2, shall be limited to less than 25 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit makes the requirements of 326 IAC 8-1-6(BACT) not applicable to the P2-Core Machine.

#### D.3.4 Particulate [326 IAC 6-3-2]

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- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission from the raw core sand handling (P2-Core Sand Handling) and core machine (P2-Core Machine) shall not exceed 2.13 pounds per hour when operating at a process weight rate of 750 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission from the mold machine sand handling (P2-Mold Sand Handling) shall not exceed 56.44 pounds per hour when operating at a process weight rate of 165.0 tons of sand per hour.
- (c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission from the metal and charge handling (P2-Charge), electric induction furnaces (P2-EIF#1, P2-EIF#2, P2-EIF#3), the floor pouring/cooling (P2-Pouring/Cooling) shall not exceed 28.43 pounds per hour when operating at a process weight rate of 18 tons per hour.
- (d) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission from the shakeout unit (P2-Shakeout), the pre-finish knock out station (P2-Pre-Finish Station), the shotblast machine (P2-Shotblast Machine), the core removal (P2-Core removal) and grinding stations (P2-Grinding Station #1 through P2-Grinding Station #5), the buffing booth (P2-Buffing Booth), and the putty booth (P2-Putty Booth) shall not exceed 34.5 pounds per hour when operating at a process weight rate of 24 tons of metal per hour.

The particulate emission rates were calculated as described below.

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

$$E = 4.10P^{0.67} \quad \text{where: } E = \text{rate of emissions in pounds per hour, and} \\ P = \text{process weight rate in tons per hour.}$$

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

$$E = 55.0P^{0.11} - 40 \quad \text{where: } E = \text{rate of emissions in pounds per hour, and} \\ P = \text{process weight rate in tons per hour.}$$

#### D.3.5 Preventive Maintenance Plan [326 IAC 1-6-3]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any associated control devices.

### Compliance Determination Requirements

#### D.3.6 Particulate Control [326 IAC 2-7-6(6)]

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- (a) To comply with Conditions D.3.1 and D.3.4, the baghouses for particulate control shall be in operation and control emissions from the electric induction furnaces (Baghouse 1), the mold sand handling operation and shakeout operations (Baghouse 2), the shot blast machine (Baghouse 3), the prefinish station and the coarse grinding stations (Baghouse 4), and the buffing booth (Baghouse 5) at all times that these facilities are in operation.
- (b) The integral vacuum system shall be in operation at all times when the floor pouring/cooling is in operation.
- (c) 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.3.7 Testing Requirements [326 IAC 2-6.1-5(a)(2), (4)] [326 IAC 2-1.1-11]**

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- (a) By August 9, 2008, in order to demonstrate compliance with Conditions D.3.1(a) and D.3.4(c), the Permittee shall perform PM and PM-10 testing on the three (3) electric induction furnaces and the control device (Baghouse 1) utilizing methods as approved by the Commissioner. PM-10 includes filterable and condensable PM-10. This test 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 using methods approved by the Commissioner.
- (b) Within 180 days of issuance of the permit, and in order to demonstrate compliance with Condition D.3.1(c), the Permittee shall perform CO testing on the P1-Pouring/Cooling and P1-Shakeout or the P2-Pouring/Cooling and P2-Shakeout utilizing methods as approved by the Commissioner. This test 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.

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

**D.3.8 Visible Emissions Notations [40 CFR 64]**

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- (a) Visible emission notations of the electric induction furnaces (Baghouse 1), the mold sand handling operation and shakeout operations (Baghouse 2), the shot blast machine (Baghouse 3), the prefinish station and the coarse grinding stations (Baghouse 4), and the buffing booth (Baghouse 5) stack exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. 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.3.9 Baghouse Parametric Monitoring [40 CFR 64]**

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The Permittee shall record the pressure drop across the baghouses used in conjunction with the electric induction furnaces, the mold sand handling operation, the shakeout operations, the shot blast machine, the prefinish station, the coarse grinding stations, and the buffing booth, at least once per day, when these facilities are in operation when venting to the atmosphere. When for any one reading the pressure drop across the baghouses is outside the range of 1 and 8 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 or 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 or 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.3.10 Broken or Failed Bag Detection [40 CFR 64]

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- (a) 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).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the process line. 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 Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

#### D.3.11 Record Keeping Requirements

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- (a) To document compliance with Conditions D.3.1 and D.3.3, the Permittee shall:
  - (1) Maintain records of the throughput of metal to the P2 emission units on a monthly basis. Records shall include production and/or shipping records necessary to verify the amount of metal produced by the P2 emission units.
  - (2) Maintain records of the amount and VOC content of each core resin, release agent, filler, putty, primer, finishing material, thinner and cleanup solvent used in the P2 emission units on a monthly basis. Records shall include purchase orders, invoices, Certified Product Data Sheets and material safety data sheets (MSDS) necessary to verify the type and amount used. The records maintained shall show the total VOC usage for each month and the weight of VOCs emitted for each compliance period. The records maintained shall be complete and sufficient to establish compliance with the VOC usage limits established in Condition D.3.1.
- (b) To document compliance with Condition D.3.2, the Permittee shall:
  - (1) Maintain records of the throughput of metal to the P2 emission units on a monthly basis. Records shall include production and/or shipping records necessary to verify the amount of metal produced by the P2 emission units.
  - (2) Maintain records of the amount and HAP content of each core resin, filler, putty,

primer, finishing material, thinner and cleanup solvent used in the P2 emission units on a monthly basis. Records shall include purchase orders, invoices, Certified Product Data Sheets and material safety data sheets (MSDS) necessary to verify the type and amount used. The records maintained shall show the total HAP usage for each month and the weight of HAPs emitted for each compliance period. The records maintained shall be complete and sufficient to establish compliance with the HAP usage limits established in Condition D.3.2.

- (c) To document compliance with Condition D.3.8, the Permittee shall maintain records of visible emission notations from the electric induction furnaces exhaust (Baghouse 1), the mold sand handling operation and shakeout operations exhaust (Baghouse 2), the shot blast machine exhaust (Baghouse 3), the prefinish station and the coarse grinding stations exhaust (Baghouse 4), and the buffing booth exhaust (Baghouse 5) once per day.
- (d) To document compliance with Condition D.3.9 the Permittee shall maintain records of the pressure drop once per day during normal operation when venting to the atmosphere.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.3.12 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.3.1 and D.3.2(a) and (c) shall be submitted to the addresses 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.4**

**FACILITY OPERATION CONDITIONS**

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

- (m) One (1) Finishing Operation, consisting of the following emissions units:
  - (1) Filler/putty application to the casting to fill in any divots or scratches, identified as P2-Filler/Putty Application, with a maximum rate of 1.6 gallons per hour for the entire finishing operations, with emissions exhausting inside the building, then to general ventilation.
  - (2) Two (2) paint booths, identified as P2-Paint Booth #1 and P2-Paint Booth #2, each utilizes an HVLP spray gun, using dry filters for particulate control, with particulate emissions exhausting inside the building, then to general ventilation.
    - (A) P2-Paint Booth #1 has a maximum capacity of 6.88 gallons of primer per hour.
    - (B) P2-Paint Booth #2 has a maximum capacity of 2.24 gallons of primer per hour.
  - (3) Two (2) paint booth dryers using natural gas as fuel, identified as P2-Paint Booth #1 Dryer and P2-Paint Booth #2 Dryer, each rated at 0.00165 MMBtu per hour, with the uncontrolled emissions exhausting to stacks P2PB1 and P2PB2.

(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 HAP Minor Limitations [326 IAC 2-4.1][40 CFR 63, Subpart EEEEE][40 CFR 63, Subpart MMMM]**

The amount of HAP used in the P2-Filler/Putty Application, P2-Paint Booth #1, and P2-Paint Booth #2 (listed in this Section), combined with the amount of HAP used in the P1-Core Making (listed in Section D.1) and the amount of HAP used in the P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, and P1-Final Inspection Paint Booth (listed in Section D.2) and the amount of HAP used in the P2-Core Making (listed in Section D.3) shall be limited to less than ten (10) tons per twelve (12) consecutive month period for any single HAP and less than 19.6 tons per twelve (12) consecutive month period for any combination of HAPs.

These limits, combined with the HAP usage limits in Conditions D.1.2, D.2.1, and D.3.2, and the HAP emissions from the other emission units at this source, will limit the source-wide emissions of HAPs to less than ten (10) tons of a single HAP and less than twenty-five (25) tons of a combination of HAPs per twelve (12) consecutive month period. Compliance with these limits makes the requirements of 326 IAC 2-4.1, 40 CFR 63, Subpart EEEEE and 40 CFR 63, Subpart MMMM not applicable to this source.

**D.4.2 PSD Minor Limitations [326 IAC 2-2]**

- (a) The PM and PM10 emissions from paint booth #1 (P2-Paint Booth #1) shall be limited to 1.9 pounds per hour.
- (b) The PM and PM10 emissions from paint booth #2 (P2-Paint Booth #2) shall be limited to 0.5 pounds per hour.
- (c) The amount of VOC used in the P2-Filler/Putty Application, P2-Paint Booth #1 and P2-Paint Booth #2 (listed in this Section), combined with the amount of VOC used in the P2-Molding Machine and P2-Core Machine (listed in Section D.3) shall be limited to less than 89.92 tons per twelve (12) consecutive month period.

Combined with the emission limits in Section D.3, compliance with the above limits ensures that the VOC, PM and PM10 emissions from the emissions units constructed under SSM 079-17819-

00018 are limited to less than 100 tons per year. Therefore, the requirements of 326 IAC 2-2 are not applicable to the emissions units constructed under SSM 079-17819-00018.

**D.4.3 Volatile Organic Compound (VOC) Limitation [326 IAC 8-2-9]**

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Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating applied in the paint booths (P2-Paint Booth #1, P2-Paint Booth #2) shall be limited to 3.50 pounds of VOCs per gallon of coating, excluding water, as delivered to the applicator for any calendar day, for forced warm air (less than 90°C or 194°F) dried coatings.

**D.4.4 Volatile Organic Compound (VOC) Limitation, Clean-up Requirements [326 IAC 8-2-9]**

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Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment of paint booth 1 and paint booth 2 (P2-Paint Booth #1 and P2-Paint Booth #2) during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

**D.4.5 Particulate [326 IAC 6-3-2]**

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Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), the allowable PM emission rate from the filler/putty application station (P2-Filler/Putty Application) shall not exceed 30.51 pounds per hour when operating at a process weight rate of 40,000 pounds 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:

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

**D.4.6 Particulate [326 IAC 6-3-2(d)]**

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Pursuant to 326 IAC 6-3-2(d), particulate from the paint booths (P2-Paint Booth #1 and P2-Paint Booth #2) shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

**D.4.7 Preventive Maintenance Plan [326 IAC 1-6-3]**

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

**Compliance Determination Requirements**

**D.4.8 Volatile Organic Compounds (VOC) [326 IAC 8-1-2] [326 IAC 8-1-4]**

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Compliance with the VOC content limit in Conditions D.4.2 and D.4.3 shall be determined using one of the following methods:

- (a) Pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.
- (b) Pursuant to 326 IAC 8-1-2(a)(7), using volume weighted average of coatings on a daily basis. This volume weighted average shall be determined by the following equation:

$$A = [\sum C \times U] / \sum U$$

Where:

A is the volume weighted average in pounds VOC per gallon less water as applied

C is the VOC content of the coating in pounds VOC per gallon less water as applied and  
U is the usage rate of the coating in gallons day

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

#### **D.4.9 Monitoring**

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- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks while one or more of the booths are in operation, except during adverse weather conditions. Adverse weather conditions are defined as the presence of ice or deep snow on rooftops that prevent the weekly observations or monthly rooftop inspections due to the safety hazard it represents to employees. If a condition exists which should result in a response step, 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.
- (b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground, except during adverse weather conditions. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is 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.

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

#### **D.4.10 Record Keeping Requirements**

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- (a) The Permittee shall maintain records required under 326 IAC 3-5-6 at the source in a manner that they may be inspected by the IDEM, OAQ, or the US EPA, if so requested or required.
- (b) To document compliance with Condition D.4.1, the Permittee shall maintain records of the amount and HAP content of each core resin, filler, putty, primer, finishing material, thinner and cleanup solvent used on a monthly basis. Records shall include purchase orders, invoices, Certified Product Data Sheets and material safety data sheets (MSDS) necessary to verify the type and amount used. The records maintained shall show the total HAP usage for each month and the weight of HAPs emitted for each compliance period. The records maintained shall be complete and sufficient to establish compliance with the HAP usage limits established in Condition D.4.1.
- (c) To document compliance with Conditions D.4.2 and D.4.3 the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Conditions D.4.2 and D.4.3. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
  - (1) The amount and VOC content of each coating material and solvent less water used on a monthly basis. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
  - (2) The total VOC usage for each month.
  - (3) The weight of VOCs emitted for each compliance period.

- (d) To document compliance with Condition D.4.9, the Permittee shall maintain a log of weekly overspray observations, and daily and monthly inspections. In the event that a required weekly overspray observation or monthly rooftop inspection cannot be completed due to adverse weather conditions, the Permittee shall record the reasons why these observations or inspections did not occur.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.4.11 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.4.1 and D.4.2(c) 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.5

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities

- (a) Degreasing operations that do not exceed 145 gallons per 12 months, including:  
  
One (1) parts washing station, identified as P1-Maintenance Parts Washing Station, using a maximum of 0.002 gallons of washing solution per hour. [326 IAC 8-3-2]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]
- (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]
- (d) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

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

### Emission Limitations and Standards

#### D.5.1 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

#### D.5.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the grinding and machining operations and the brazing, cutting, soldering or welding processes shall not exceed E as calculated in the following formula:

The pounds per hour limitation was calculated using 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

## **Compliance Determination Requirement**

### **D.5.3 Particulate Control**

---

In order to comply with D.5.2, the control equipment for particulate control shall be in operation and control emissions from the grinding and machining operations at all times that the grinding and machining operations are in operation.

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

### PART 70 OPERATING PERMIT CERTIFICATION

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, Indiana 47265  
Part 70 Permit No.: 079-15119-00018

**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 (specify)
- 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:

Phone:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
Phone: 317-233-0178  
Fax: 317-233-6865**

**PART 70 OPERATING PERMIT  
EMERGENCY OCCURRENCE REPORT**

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, Indiana 47265  
Part 70 Permit No.: 079-15119-00018

**This form consists of 2 pages**

**Page 1 of 2**

- |  |
|--|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none"><li>C The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and</li><li>C The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.</li></ul> |
|--|

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
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , 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

### P1 VOC Usage Quarterly Report

Source Name: North Vernon Industry Corporation  
 Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
 Mailing Address: P.O. Box 894, North Vernon, IN 47265  
 Permit No.: 079-15119-00018  
 Facility and Limit: The total usage of VOC at the P1-Molding Machine, P1-Core Machine, P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Putty Booth, and the P1-Final Inspection Paint Booth shall be limited to less than 89.33 tons per twelve (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

### P2 VOC Usage Quarterly Report

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, IN 47265  
Permit No.: 079-15119-00018  
Facility and Limit: The total usage of VOC in the P2-Molding Machine, P2-Core Machine, P2-Filler/Putty Application, P2-Paint Booth #1 and P2-Paint Booth #2 shall be limited to less than 89.92 tons per twelve (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

### P1 Metal Limitation Quarterly Report

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, IN 47265  
Permit No.: 079-15119-00018  
Facility: P1-Charge, P1-Rotary Kiln Dryer, P1-EIF #1, P1-EIF#2, P1-Pouring/Cooling, P1-Shakeout, P1-Mold Sand Handling, P1-Pre-Finish, P1-Core Removal, P1-Core Sand Handling, P1-Grinding Station #1 through P1 Grinding Station #5, P1-Shotblast Machine #1, P1-Shotblast Machine #2, P1-Putty Booth, P1-Buffing Booth, P1-Final Inspection Buffing  
Limit: The throughput of metal shall be limited to 74,400 tons of metal per twelve (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

### P2 Metal Limitation Quarterly Report

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, IN 47265  
Permit No.: 079-15119-00018  
Facility: P2-Charge, P2-EIF #1 through P2-EIF#3, P2-Pouring/Cooling, P2-Shakeout, P2-Mold Sand Handling, P2-Pre-Finish, P2-Core Removal, P2-Core Sand Handling, P2-Pre-Finish, P2-Putty Booth, P2-Grinding Station #1 through P2 Grinding Station #5, P2-Shotblast Machine, P2-Buffering Booth  
Limit: The throughput of metal shall be limited to 88,000 tons of metal per twelve (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

### P2 BACT Limit Quarterly Report

Source Name: North Vernon Industry Corporation  
 Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
 Mailing Address: P.O. Box 894, North Vernon, IN 47265  
 Permit No.: 079-15119-00018  
 Facility and Limit: The amount of VOC used in the P2-Core Machine, including resin, release agent 1, and release agent 2, shall be limited to less than 25 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Units	This Month	Previous 11 Months	12 Month Total
	Gallons Tons VOC			
	Gallons Tons VOC			
	Gallons Tons VOC			

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

### HAP Usage Quarterly Report

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, IN 47265  
Permit No.: 079-15119-00018  
Facility: P1 – Core Making, P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Final Inspection Paint Booth, P2-Core Making, P2-Filler/Putty Application, P2-Paint Booth #1, and P2-Paint Booth #2  
Limit: Less than ten (10) tons for a single HAP and less than 19.6 tons for a combination of HAPs per twelve (12) month consecutive period.

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 OPERATING PERMIT  
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: North Vernon Industry Corporation  
 Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
 Mailing Address: P.O. Box 894, North Vernon, Indiana 47265  
 Part 70 Permit No.: 079-15119-00018

**Months:** \_\_\_\_\_ **to** \_\_\_\_\_ **Year:** \_\_\_\_\_

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. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does 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".	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	
<b>Permit Requirement</b> (specify permit condition #)	
<b>Date of Deviation:</b>	<b>Duration of Deviation:</b>
<b>Number of Deviations:</b>	
<b>Probable Cause of Deviation:</b>	
<b>Response Steps Taken:</b>	

Form Completed By: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

**Indiana Department of Environmental Management  
Office of Air Quality**

**Addendum to the Technical Support Document  
for a Part 70 Operating Permit**

**Source Background and Description**

Source Name: North Vernon Industry Corporation  
Source Location: 3750 North County Road 75 West, North Vernon, IN 47265  
County: Jennings  
SIC Code: 3321  
Operation Permit No.: 079-15119-00018  
Permit Reviewer: ERG/ST

On March 14, 2006, the Office of Air Quality (OAQ) had a notice published in the Plain Deal and Sun, North Vernon, Indiana, stating that North Vernon Industry Corporation had applied for a Part 70 Operating Permit (Title V) to operate a stationary gray iron foundry. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On April 14, 2006, North Vernon Industry Corporation submitted comments on the proposed Part 70 Operating Permit. The summary of the comments is as follows. New language is shown in **bold** and deleted language is shown in ~~strikeout~~. The Table of Contents has been updated as necessary.

**Comment 1:**

In Section A.2(b)(2) and Section D.1 Facility Description (b)(2), please revise the plastic usage rate from 4.0 pounds of plastic per hour to 0.6 pounds of plastic per hour.

**Response to Comment 1:**

The permit has been changed as follows:

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

---

The source consists of the following permitted emission units and pollution control devices:

...

(b) One (1) mold making operation consisting of the following emission units:

...

(2) One (1) mold making machine, identified as P1-Molding Machine, installed in 1998, using 4.0 **0.6** pounds of plastic per hour, 0.07 gallons of release agent per hour and 5.20 gallons of mold wash per hour, exhausting inside the building, then to general ventilation.

## SECTION D.1 FACILITY OPERATION CONDITIONS

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

...

- (b) One (1) mold making operation consisting of the following emission units:
  - ...
  - (2) One (1) mold making machine, identified as P1-Molding Machine, installed in 1998, using ~~4.0~~ **0.6** pounds of plastic per hour, 0.07 gallons of release agent per hour and 5.20 gallons of mold wash per hour, exhausting inside the building, then to general ventilation.

### Comment 2:

In Section A.2(d) and Section D.1 Facility Description (d), please update the language to be consistent with the description of the shakeout system for Plant 2 as follows: "One (1) shakeout **unit / system for casting** operation, identified as P1-Shakeout, ~~installed in 1998~~, with a **maximum** rated capacity of 20.00 tons of metal per hour, with the particulate emissions controlled by a dust collector (ID No. Area 2) and exhausting to stack P1B2. **ID No. Area 2 baghouse will recycle all the sand collected back into the mold sand process.**"

### Response to Comment 2:

The permit has been changed as follows to clarify the shakeout operation and the operation of the baghouse controlling the shakeout operation:

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

The source consists of the following permitted emission units and pollution control devices:

...

- (d) One (1) shakeout **unit/system for casting** operation, identified as P1-Shakeout, installed in 1998, with a rated capacity of 20.00 tons per hour, with particulate emissions controlled by a dust collector (ID No. Area 2), and exhausting to stack P1B2. **ID No. Area 2 baghouse will recycle all the sand collected back into the mold sand process.**

## SECTION D.1 FACILITY OPERATION CONDITIONS

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

...

- (d) One (1) shakeout **unit / system for casting** operation, identified as P1-Shakeout, installed in 1998, with a rated capacity of 20.00 tons per hour, with particulate emissions controlled by a dust collector (ID No. Area 2), and exhausting to stack P1B2. **ID No. Area 2 baghouse will recycle all the sand collected back into the mold sand process.**

### Comment 3:

In Section A.2(e)(3) and Section D.1 Facility Description (e)(3), please remove the reference to the 2.4 MMBtu rating of the butane torch. The maximum firing rate is provided in gallons of butane used.

**Response to Comment 3:**

The MMBtu per hour rating for the butane torch is based on the maximum firing rate and the average heat value of a gallon of butane (97,400 Btu/gal) as found in AP 42. Based on this, the maximum heat input to this torch is actually 0.014 MMBtu/hr. The permit has been corrected as follows:

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

---

The source consists of the following permitted emission units and pollution control devices:

...

(e) One (1) core making operation consisting of the following emission units:

...

(3) One (1) butane torch used to flash off excess core release agent, identified as P1-Butane Torch, with a maximum firing rate of 0.144 gallons per hour and ~~2.4~~ **0.014** MMBtu/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.

**SECTION D.1**

**FACILITY OPERATION CONDITIONS**

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

...

(e) One (1) core making operation consisting of the following emission units:

...

(3) One (1) butane torch used to flash off excess core release agent, identified as P1-Butane Torch, with a maximum firing rate of 0.144 gallons per hour and ~~2.4~~ **0.014** MMBtu/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.

**Comment 4:**

In Section A.2(f)(1 – 4) and Section D.1 Facility Description (f)(1 – 4), please remove the reference to the number of molds per hour processed. The maximum production rate is provided in tons of metal per hour.

**Response to Comment 4:**

The production limits for this source are written in terms of tons of metal per hour and the reference to the number of molds per hour is not necessary for defining the maximum capacity of these facilities. The permit has been changed as follows:

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

---

The source consists of the following permitted emission units and pollution control devices:

...

(f) One (1) Pre-Finishing Operation consisting of the following emission units:

(1) One (1) pre-finish station which contains three grinders, identified as P1-Pre-Finish Station, installed in 1998, with a total rated capacity of 20.00 tons of metal

per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.

- (2) One (1) core removal station, identified as P1-Core Removal Operation, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
- (3) One (1) shot blast machine, installed in 1998, identified as P1-Shot Blast Machine #1, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID No. Area 4), and exhausting to stack P1B4.
- (4) Five (5) coarse grinding stations, identified as P1-Grinding Station #1 through P1-Grinding Station #5, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.

## SECTION D.1

## FACILITY OPERATION CONDITIONS

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

...

- (f) One (1) Pre-Finishing Operation consisting of the following emission units:
  - (1) One (1) pre-finish station which contains three grinders, identified as P1-Pre-Finish Station, installed in 1998, with a total rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (2) One (1) core removal station, identified as P1-Core Removal Operation, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (3) One (1) shot blast machine, installed in 1998, identified as P1-Shot Blast Machine #1, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID No. Area 4), and exhausting to stack P1B4.
  - (4) Five (5) coarse grinding stations, identified as P1-Grinding Station #1 through P1-Grinding Station #5, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.

### Comment 5:

In Section A.2(f)(5) and Section D.1 Facility Description (f)(5), please revise the description of the shot blast machine as follows: "One (1) shot blast machine, identified as P1Shot Blast Machine #2, constructed in 2005, with a maximum rated capacity of 20 tons of metal per hour, controlled by a dust collector (ID No. Area 6), with an airflow rate of 8,350 scfm, with an outlet grain loading of 0.005, and exhausting to stack P1B6."

**Response to Comment 5:**

The emissions limitations for P1-Shot Blast Machine #2 are based on metal throughput and PSD conditions in the permit. The reference to the airflow rate and grain loading of the baghouse in the description of this emissions unit is from Second Significant Source Modification 079-20064-00018, issued on March 11, 2005, in which this shot blast machine was added to the source. The description of the baghouse is necessary to verify that the source is in compliance with the emission limits for this facility. In addition, the Permittee did not provide any justification for deleting this phrase. No changes have been made as a result of this comment.

**Comment 6:**

In Section A.2(g)(1) and Section D.2 Facility Description (g)(1), please revise the description of the filler putty station as follows: "~~Two (2)~~ Filler / putty application ~~stations~~ **process**, identified as P1- Filler / Putty Application, installed in 1998, with a rated capacity of 1.75 gallons per hour of filler/putty, exhausting inside the building, then to general ventilation."

**Response to Comment 6:**

The permit has been changed as follows to better describe the filler / putty application operation:

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

---

The source consists of the following permitted emission units and pollution control devices:  
...

- (g) One (1) Finishing Operation consisting of the following emission units:
  - (1) ~~Two (2)~~ Filler/putty application ~~stations~~ **process** stations, identified as P1-Filler/Putty Application, installed in 1998, with a rated capacity of 1.75 gallons per hour of filler/putty, exhausting inside the building, then to general ventilation.

**SECTION D.2**

**FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-8-4(10)]:**

- (g) One (1) Finishing Operation consisting of the following emission units:
  - (1) ~~Two (2)~~ Filler/putty application ~~stations~~ **process** stations, identified as P1-Filler/Putty Application, installed in 1998, with a rated capacity of 1.75 gallons per hour of filler/putty, exhausting inside the building, then to general ventilation.

**Comment 7:**

In Section A.2(g)(2) and Section D.2 Facility Description (g)(2), the maximum rated capacity of paint in P1-Paint Booth #2 should be increased from 5.76 gallons per hour to 6.88 gallons per hour.

**Response to Comment 7:**

The increase in potential to emit of VOC due to this change in capacity is 2.0 tons per year and the increase in potential to emit of particulate due this change in capacity is 1.77 tons per year. Therefore, this change does not require a source modification because this change does not meet the description of a modification subject to 326 IAC 2-7-10.5. This change to the

descriptive information in the permit is made under 326 IAC 2-7-11(a)(7). The description of this booth has been changed as follows:

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

The source consists of the following permitted emission units and pollution control devices:

...

(g) One (1) Finishing Operation consisting of the following emission units:

...

(2) One (1) paint booth, identified as P1-Paint Booth #2, installed in 1998, with a rated capacity of ~~5.76~~ **6.88** gallons of primer per hour, with dry filters for overspray control, exhausting through stack 12-CD-1.

**SECTION D.2 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-8-4(10)]:**

(g) One (1) Finishing Operation consisting of the following emission units:

...

(2) One (1) paint booth, identified as P1-Paint Booth #2, installed in 1998, with a rated capacity of ~~5.76~~ **6.88** gallons of primer per hour, with dry filters for overspray control, exhausting through stack 12-CD-1.

**Comment 8:**

In Section A.2(g)(4) and Section D.2. Facility Description (g)(4), please revise the equipment description as follows: "One (1) putty station **used for additional repair**, identified as P1-Putty Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), exhausting inside the building, then to general ventilation."

**Response to Comment 8:**

The maximum capacity for this facility are written in terms of tons of metal per hour and the reference to the number of molds per hour is not necessary for defining the maximum capacity of these facilities. The PM, PM10 and VOC emissions from the putty station are limited by PSD conditions in the permit. The equipment description for the putty station has been revised as follows:

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

The source consists of the following permitted emission units and pollution control devices:

...

(g) One (1) Finishing Operation consisting of the following emission units:

...

(4) One (1) putty station **used for additional repair**, identified as P1-Putty Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), exhausting inside the building, then to general ventilation.

## SECTION D.2 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-8-4(10)]:

- (g) One (1) Finishing Operation consisting of the following emission units:  
...
- (4) One (1) putty station **used for additional repair**, identified as P1-Putty Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), exhausting inside the building, then to general ventilation.

### Comment 9:

In Section A.2(g)(6 – 7) and Section D.1 Facility Description (g)(6 – 7), please remove the reference to the number of molds per hour processed. The maximum production rate is provided in tons of metal per hour.

### Response to Comment 9:

The production limits for this source are written in terms of tons of metal per hour and the reference to the number of molds per hour is not necessary for defining the maximum capacity of these facilities. The permit has been changed as follows:

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

The source consists of the following permitted emission units and pollution control devices:

...

- (g) One (1) Finishing Operation consisting of the following emission units:  
...
- (6) One (1) buffing station containing three buffers, identified as P1-Buffing Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID. No. Area 3), and exhausting to stack P1B3.
- (7) One (1) final inspection buffing station, identified as P1-Final Inspection Buffing Station, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), controlled by the final buffing dust collector, (ID No. Final Inspection Collector), exhausting inside the building, then to general ventilation.

## SECTION D.1 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-8-4(10)]:

...

- (g) One (1) Finishing Operation consisting of the following emission units:  
...
- (6) One (1) buffing station containing three buffers, identified as P1-Buffing Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~14 molds per hour~~), with particulate emissions controlled by a dust collector (ID. No. Area 3), and exhausting to stack P1B3.

- (7) One (1) final inspection buffing station, identified as P1-Final Inspection Buffing Station, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (~~44 molds per hour~~), controlled by the final buffing dust collector, (ID No. Final Inspection Collector), exhausting inside the building, then to general ventilation.

**Comment 10:**

In Section A.2(h)(3) and Section D.3 Facility Description (h)(3), please remove the reference to the 6 MMBtu rating of the butane torch. The maximum firing rate is provided in gallons of butane used.

**Response to Comment 10:**

The MMBtu per hour rating for the butane torch is based on the maximum firing rate and the average heat value of a gallon of butane (97,400 Btu/gal) as found in AP 42. Based on this, the maximum heat input to this torch is actually 0.035 MMBtu/hr. The permit has been corrected as follows:

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

The source consists of the following permitted emission units and pollution control devices:

...

- (h) One (1) Core Making Operation, consisting of the following emissions units:

...

- (3) One (1) butane torch used to flash off excess core release agent, identified as P2-Butane Torch, with a maximum firing rate of 0.36 gallons per hour and ~~6~~ **0.035** MMBTUtu/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.

**SECTION D.3**

**FACILITY OPERATION CONDITIONS**

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

- (h) One (1) Core Making Operation, consisting of the following emissions units:

...

- (3) One (1) butane torch used to flash off excess core release agent, identified as P2-Butane Torch, with a maximum firing rate of 0.36 gallons per hour and ~~6~~ **0.035** MMBTUtu/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.

**Comment 11:**

In Section A.2(i)(1 and 2) and Section D.3 Facility Description (i)(1 and 2), please correct the raw mold sand handling system maximum capacity from 66.0 tons of sand per hour to 165 tons of sand per hour.

**Response to Comment 11:**

The correct description of the maximum sand throughput of the P2 Mold Making Operation is 165.0 tons per hour, as described in Significant Source Modification 079-17819-00018, issued on December 3, 2003. The particulate emission limit under 326 IAC 6-3-2 in condition D.3.4 is based on a maximum sand throughput of 165 tons per hour. The description of the P2 Mold Making Operation has been corrected as follows:

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

---

The source consists of the following permitted emission units and pollution control devices:

...

- (i) One (1) Mold Making Operation, consisting of the following emissions units:
  - (1) One (1) raw mold sand handling and storage system, identified as P2-Mold Sand Handling, with a maximum capacity of ~~66.0~~ **165** tons of sand per hour, with particulate emissions controlled by Baghouse 2, and exhausting to stack P2B2.
  - (2) One (1) molding machine, identified as P2-Molding Machine, with a maximum capacity of ~~66.0~~ **165** tons of sand per hour, .....

**SECTION D.3 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15):**  
...

- (i) One (1) Mold Making Operation, consisting of the following emissions units:
  - (1) One (1) raw mold sand handling and storage system, identified as P2-Mold Sand Handling, with a maximum capacity of ~~66.0~~ **165** tons of sand per hour, with particulate emissions controlled by Baghouse 2, and exhausting to stack P2B2.
  - (2) One (1) molding machine, identified as P2-Molding Machine, with a maximum capacity of ~~66.0~~ **165** tons of sand per hour, .....

**Comment 12:**

In Section A.2(i)(2) and Section D.3 Facility Description (i)(2), please revise the plastic usage rate from 5.21 pounds of plastic per hour to 1.0 pounds of plastic per hour.

**Response to Comment 12:**

This change to the description of the P2 Molding Machine does not affect the VOC limits for this source. The permit has been changed as follows:

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

---

The source consists of the following permitted emission units and pollution control devices:

...

- (i) One (1) Mold Making Operation, consisting of the following emissions units:

...

- (2) One (1) molding machine, identified as P2-Molding Machine, with a maximum capacity of ~~66.0~~ **165** tons of sand per hour, ~~5.24~~ **1.0** pounds of plastic per hour, and 0.23 gallons of release agent per hour; with the uncontrolled emissions exhausting inside the building, then to general ventilation.

**SECTION D.3 FACILITY OPERATION CONDITIONS**

<p><b>Facility Description [326 IAC 2-7-5(15):</b> ... (i) One (1) Mold Making Operation, consisting of the following emissions units: ... (2) One (1) molding machine, identified as P2-Molding Machine, with a maximum capacity of <del>66.0</del> <b>165</b> tons of sand per hour, <del>5.24</del> <b>1.0</b> pounds of plastic per hour, and 0.23 gallons of release agent per hour; with the uncontrolled emissions exhausting inside the building, then to general ventilation.</p>
--

**Comment 13:**

In Section A.2(j)(1) and D.3 Facility Description (j)(1), please revise the language as follows: “One (1) charge handling system utilizing mechanical conveyors and magnetic overhead cranes, identified as P2-Charge, with maximum capacity of 18 tons of metal per hour, ~~with the uncontrolled emissions exhausting inside the building, then to general ventilation.~~ **with particulate emissions controlled by Baghouse 1 and exhausting to stack P2B1.**”

**Response to Comment 13:**

The emissions limits for the P2-Charge handling do not change as a result of this change in the description of the emissions control for this unit. However, as the emissions from P2-Charge are now directed to a control device, the potential emissions after control for P2-Charge have decreased. The permit has been changed as follows:

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

---

The source consists of the following permitted emission units and pollution control devices:  
...

- (j) One (1) Melting Operation, consisting of the following emissions units:
  - (1) One (1) charge handling system utilizing mechanical conveyors and magnetic overhead cranes, identified as P2-Charge, with maximum capacity of 18 tons of metal per hour, ~~with the uncontrolled emissions exhausting inside the building, then to general ventilation.~~ **with particulate emissions controlled by Baghouse 1 and exhausting to stack P2B1.**

**SECTION D.3 FACILITY OPERATION CONDITIONS**

<p><b>Facility Description [326 IAC 2-7-5(15):</b> ... (j) One (1) Melting Operation, consisting of the following emissions units:</p>
--

(1) One (1) charge handling system utilizing mechanical conveyors and magnetic overhead cranes, identified as P2-Charge, with maximum capacity of 18 tons of metal per hour, ~~with the uncontrolled emissions exhausting inside the building, then to general ventilation.~~ **with particulate emissions controlled by Baghouse 1 and exhausting to stack P2B1.**

**Comment 14:**

In Section A.2(m)(2)(A) and Section D.4 Facility Description (m)(2)(A), the maximum rated capacity of paint in P2-Paint Booth #1 should be increased from 5.25 gallons per hour to 6.88 gallons per hour.

**Response to Comment 14:**

This change to the description of the maximum capacity of P2-Paint Booth #1 does not affect the VOC limits for this source. The permit has been changed as follows:

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

---

The source consists of the following permitted emission units and pollution control devices:  
...

(m) One (1) Finishing Operation, consisting of the following emissions units:

...

(2) Two (2) paint booths, identified as P2-Paint Booth #1 and P2-Paint Booth #2, each utilizes an HVLP spray gun, using dry filters for particulate control, exhausting inside the building, then to general ventilation..

(A) P2-Paint Booth #1 has a maximum capacity of ~~5.25~~ **6.88** gallons of primer per hour.

**SECTION D.4**

**FACILITY OPERATION CONDITIONS**

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

(m) One (1) Finishing Operation, consisting of the following emissions units:

...

(2) Two (2) paint booths, identified as P2-Paint Booth #1 and P2-Paint Booth #2, each utilizes an HVLP spray gun, using dry filters for particulate control, with particulate emissions exhausting inside the building, then to general ventilation.

(A) P2-Paint Booth #1 has a maximum capacity of ~~5.25~~ **6.88** gallons of primer per hour.

**Comment 15:**

In Section A.2(m)(3) and Section D.4 Facility Description (m)(3), please revise the maximum rated capacity of the paint dryers from 0.0014125 MMBtu per hour to 0.00165 MMBtu per hour.

**Response to Comment 15:**

This change to the description of the P2 Paint Booth Dryers does not affect the VOC limits for this source. The potential to emit calculations already use the correct maximum capacity and do not need to be revised as a result of this comment. The permit has been changed as follows:

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

---

The source consists of the following permitted emission units and pollution control devices:

...

(m) One (1) Finishing Operation, consisting of the following emissions units:

...

(3) Two (2) paint booth dryers using natural gas as fuel, identified as P2-Paint Booth #1 Dryer and P2-Paint Booth #2 Dryer, each rated at ~~0.0014425~~ **0.00165** MMBTUtu per hour, with the uncontrolled emissions exhausting to stacks P2PB1 and P2PB2.

**SECTION D.4**

**FACILITY OPERATION CONDITIONS**

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

(m) One (1) Finishing Operation, consisting of the following emissions units:

...

(3) Two (2) paint booth dryers using natural gas as fuel, identified as P2-Paint Booth #1 Dryer and P2-Paint Booth #2 Dryer, each rated at ~~0.0014425~~ **0.00165** MMBTUtu per hour, with the uncontrolled emissions exhausting to stacks P2PB1 and P2PB2.

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

**Comment 16:**

In Section A.3(a)(2) and Section D.5 Facility Description (a)(2), there is only one maintenance parts washer, located at Plant 1. Please remove the parts washer from Plant 2.

**Response to Comment 16:**

The decrease in potential to emit for VOC as a result of this revision to the insignificant equipment listing (0.003 tons VOC per year) is negligible, and no VOC emission limits are changed as a result of this revision. The permit has been changed as follows:

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

---

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

(a) Degreasing operations that do not exceed 145 gallons per 12 months, including:

- (1) — One (1) parts washing station, identified as P1-Maintenance Parts Washing Station, using a maximum of 0.002 gallons of washing solution per hour. [326 IAC 8-3-2]
- (2) — ~~One (1) Maintenance Department parts washing station, identified as P2-Maintenance Parts Washing Station, rated at 0.002 gallons of parts wash solution per hour. [326 IAC 8-3-2]~~

## SECTION D.5 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Insignificant Activities

- (a) Degreasing operations that do not exceed 145 gallons per 12 months, including:
  - (1) — One (1) parts washing station, identified as P1-Maintenance Parts Washing Station, using a maximum of 0.002 gallons of washing solution per hour. [326 IAC 8-3-2]
  - (2) — ~~One (1) Maintenance Department parts washing station, identified as P2-Maintenance Parts Washing Station, rated at 0.002 gallons of parts wash solution per hour. [326 IAC 8-3-2]~~

#### Comment 17:

In Section A.3 and Section D.5 Facility Description, the natural gas space heaters and diesel emergency generators need to be added to this section.

#### Response to Comment 17:

For a Title V source, only the insignificant emissions units with applicable regulations are listed in the permit, unless otherwise requested by the source. The natural gas space heaters and emergency generators are listed in the TSD, but these insignificant emissions units have no applicable regulations. In further conversation with the source, it was determined that not listing the space heaters and generator in the permit was acceptable. No changes have been made in response to this comment.

#### Comment 18:

In Condition D.1.1(a), please revise this table to be consistent with the limitations at Plant 2. Since the processes are identical, the limitations should be identical as well for consistent reporting of emissions at each plant.

#### Response to Comment 18:

Conditions D.1.1(a) and D.3.1(a) show the limits for particulate emissions from Plant 1 emission units and Plant 2 emission units, respectively. These limits originally made Plant 1 a minor source under PSD and make the construction of Plant 2 a minor modification under PSD. The limits for metal throughput and particulate emissions are set to keep total particulate emissions for each plant below 100 tons per year. Although it is not necessary for Plant 1 to have the same pound per ton limits used for Plant 2, IDEM has made this change to provide the source with reporting consistency as they requested. The permit has been changed as follows:

#### D.1.1 PSD Minor Limitations [326 IAC 2-2]

- (a) For the P1 emission units listed below, the metal throughput rate per (12) twelve consecutive month period, and the PM emissions and PM10 emissions shall be limited as follows:

Emission Unit ID	Metal Throughput Limit (tons per year)	PSD Emission Limit (lbs PM/PM10 per ton metal)	
		PM	PM10
P1-EIF#1, P1-EIF#2	74,400 total	<del>0.8</del> <b>0.75</b>	<del>0.8</del> <b>0.75</b>
P1-Shakeout, P1-Mold Sand Handling	74,400 each	<del>0.33</del> <b>0.32</b>	<del>0.33</del> <b>0.32</b>
P1-Shot Blast Machine #1	74,400	0.03	0.03
P1-Core Removal, P1-Pre-Finish, P1-Grinding #1 - #5	74,400 each	0.09	0.09
P1-Buffing Booth	74,400	0.08	0.08
P1-Shot Blast Machine #2	74,400	0.03	0.03
P1-Charge	74,400	0.6	0.36
P1-Rotary Kiln Dryer	74,400	0.2	0.2
P1-Pouring/Cooling	74,400	0.1	0.1
P1-Core Sand Handling	74,400	<del>0.037</del> <b>0.075</b>	<del>0.006</del> <b>0.011</b>
P1-Final Inspection Buffing	74,400	0.0045	0.0045
P1-Putty Booth	74,400	0.0045	0.0045

**Comment 19:**

In Condition D.1.1(b)(1) and Condition D.2.2(d), please revise the VOC limitation from P1 Molding Machine, P1 Core Machine, P1 Filler / Putty Application, P1 Paint Booth #2, P1 Paint Booth #3, P1 Putty Booth and P1 Final Inspection Paint Booth from 82.9 tons per 12-month consecutive period to 95.65 tons per 12-month consecutive period (99-3.3 tons per year from P1 Shakeout and P1 Pouring and Cooling with the production limitation of 74,400 tons per 12-month consecutive period).

**Response to Comment 19:**

Because it is only necessary to limit the P1 emission units to less than one hundred (100) tons per year, the suggested change has been included. The limits on usage of VOC in Conditions D.1.1(b)(1) and D.2.2(d) can be reliably measured based on amounts of materials used and the MSDS. The limit for the emission units specifically limited in Conditions D.1.1(b)(1) and D.2.2(d) is the difference between the PSD major threshold (100 tons of VOC per year) and the emissions from the other sources of VOC not under the usage limit located at Plant 1. The total VOC from the remaining emission units at Plant 1 (P1-Ladle Preheater (0.01 tpy), P1-Rotary Kiln Dryer (2.46 tpy), P1-Pouring/Cooling/Shakeout (limited to 6.66 tpy), P1-Insignificant Combustion Units (0.42 tpy), P1-Emergency Generator (0.11 tpy) and P1-Maintenance Parts Washing (0.002 tpy)) is 9.67 tons per year, after limits on throughput. The PSD limit may be set for the difference (100 – 9.67 = 90.33), with a small margin (90.33 – 1.00 = 89.33). The permit shall be changed as follows:

**D.1.1 PSD Minor Limitations [326 IAC 2-2]**

...

- (b) For the P1 emission units listed below, the VOC limits are as follows:
  - (1) The amount of VOC used in the P1-Molding Machine and P1-Core Machine (listed in this Section) combined with the amount of VOC used in the P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Putty Booth, and the P1-Final Inspection Paint Booth (listed in Section D.2) shall be limited to less than ~~82.9~~ **89.33** tons per twelve (12) consecutive month period.

D.2.2 PSD Minor Limitations [326 IAC 2-2]

---

...

- (d) The amount of VOC used in the P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Putty Booth, and the P1-Final Inspection Paint Booth (listed in this Section), combined with the amount of VOC used in the P1-Molding Machine and P1-Core Machine (listed in Section D.1) shall be limited to less than ~~82.9~~ **89.33** tons per twelve (12) consecutive month period.

### P1 VOC Usage Quarterly Report

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, IN 47265  
Permit No.: 079-15119-00018  
Facility and Limit: The total usage of VOC at the P1-Molding Machine, P1-Core Machine, P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Putty Booth, and the P1-Final Inspection Paint Booth shall be limited to less than ~~82.9~~ **89.33** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

**Comment 20:**

In Condition D.1.8 (a): Please remove the visible emission notation requirement for pouring and cooling operations. These do not vent to either a control device or to a stack, but only to general ventilation.

**Response to Comment 20:**

The pouring and cooling operation at NVIC is somewhat different than other pouring and cooling operations at other foundries. The molten metal is poured in to the inverted mold in a relatively enclosed system with little opportunity for PM emissions during pouring. The metal in the mold is completely encapsulated within the sand mold and the floor except for the hole in which molten metal was poured. A vacuum process holds both the molten metal and sand in the mold. The sand in the mold acts to filter and capture particulate created during the cooling process. Relatively minor particulate emissions are generated because no resin is used to bind the mold sand. The IDEM inspector for this source has observed the pouring/cooling operation and reports that particulate emissions are very small. Any particulate emissions that do escape the mold are exhausted inside the building. For these reasons, compliance monitoring of the visible emissions is not necessary for this emissions unit. The permit has been changed as follows:

D.1.8 Visible Emissions Notations [40 CFR 64]

---

- (a) Visible emission notations of the electric induction furnaces, ~~pouring and cooling~~, mold sand handling, shakeout operations, pre-finishing, core removal station, shot blast machines, coarse grinding operations, buffing station, and final inspection buffing station stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

D.1.11 Record Keeping Requirements

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...

- (c) To document compliance with Condition D.1.8, the Permittee shall maintain records of visible emission notations from the electric induction furnaces exhaust (Area 1), ~~pouring and cooling~~, the mold sand handling and shakeout operations exhaust (Area 2), the buffing station exhaust (Area 3), shot blast machine exhaust (Area 4) pre-finishing, core

removal station, coarse grinding operations exhaust (Area 5), and final inspection buffing station exhaust (Final Inspection Collector) once per day.

**Comment 21:**

In Condition D.1.11(a)(1), please revise this condition as follows: "Records shall include production ~~and~~ **or** shipping records necessary to verify the amount of metal produced by the P1 emission units."

**Response to Comment 21:**

The Permittee shall use whichever records are adequate to verify compliance with the metal throughput limitation. The permit has been changed as follows:

**D.1.11 Record Keeping Requirements**

---

(a) To document compliance with Condition D.1.1, the Permittee shall:

- (1) Maintain records of the throughput of metal to the P1 emission units on a monthly basis. Records shall include production ~~and~~**or** shipping records necessary to verify the amount of metal produced by the P1 emission units.

**Comment 22:**

In Condition D.1.11(a)(2), please revise this condition as follows: "Records shall include purchase orders, ~~or~~ **and** invoices, ~~and~~ Certified Product Data Sheets ~~and~~ **or** material safety data sheets (MSDS) necessary to verify the type and amount used.

**Response to Comment 22:**

The Permittee shall use whichever documents and records are adequate to verify the amount and VOC content of the materials used in emissions units that are required to demonstrate compliance with the PSD limitations. The four types of documents specified in Condition D.1.11(a)(2) are illustrative of the types of documents that could be used to verify compliance. It is not necessary that the Permittee use all of these documents, or even the specific documents mentioned. However, the Permittee must maintain adequate records and documents necessary to demonstrate compliance. No changes will be made as a result of this comment.

**Comment 23:**

In Condition D.1.11(b)(1), Condition D.3.11(a)(1) and Condition D.3.11(b)(1), please revise these conditions as follows: "Records shall include production ~~and~~ **or** shipping records necessary to verify the amount of metal produced by the P1 (P2) emission units."

**Response to Comment 23:**

The Permittee shall use whichever records are adequate to verify compliance with the metal throughput limitation. The permit has been changed as follows:

**D.1.11 Record Keeping Requirements**

---

...

(b) To document compliance with Condition D.1.2, the Permittee shall:

- (1) Maintain records of the throughput of metal to the P1 emission units on a monthly basis. Records shall include production ~~and~~**or** shipping records necessary to verify the amount of metal produced by the P1 emission units.

### D.3.11 Record Keeping Requirements

---

- (a) To document compliance with Conditions D.3.1 and D.3.3, the Permittee shall:
- (1) Maintain records of the throughput of metal to the P2 emission units on a monthly basis. Records shall include production and/or shipping records necessary to verify the amount of metal produced by the P2 emission units.
  - ...
- (b) To document compliance with Condition D.3.2, the Permittee shall:
- (1) Maintain records of the throughput of metal to the P2 emission units on a monthly basis. Records shall include production and/or shipping records necessary to verify the amount of metal produced by the P2 emission units.

#### Comment 24:

In Condition D.1.11(a)(2), Condition D.2.10(a), Condition D.3.11 (a)(2), Condition D.3.11 (b)(2) and Condition D.4.10(b), please revise the language as follows: “: The current sections state: Records shall include purchase orders, invoices, Certified Product Data Sheets and material safety data sheets (MSDS) necessary to verify the type and amount used. Please revise these to: Records shall include purchase orders, ~~or~~ invoices, ~~and~~ Certified Product Data Sheets, ~~and~~ ~~or~~ material safety data sheets (MSDS) necessary to verify the type and amount used.

#### Response to Comment 24:

The Permittee shall use whichever documents and records are adequate to verify the amount and VOC content of the materials used in emissions units that are required to demonstrate compliance with the PSD limitations. The four types of documents specified in Condition D.1.11(a)(2) are illustrative of the types of documents that could be used to verify compliance. It is not necessary that the Permittee use all of these documents, or even the specific documents mentioned. However, the Permittee must maintain adequate records and documents necessary to demonstrate compliance. No changes will be made as a result of this comment.

#### Comment 25:

In Condition D.1.11(c): Please remove the visible emission notation recordkeeping requirement for pouring and cooling operations. These do not vent to either a control device or to a stack, but only to general ventilation.

#### Response to Comment 25:

This comment has been addressed in the response to Comment 20 above.

#### Comment 26:

In Condition D.2.2(a): Please update the PM and PM10 emission limitation from 2.4 pounds per hour to 2.8277 pounds per hour (2.5 pounds per hour for Paint Booth #2 and 0.327 pounds per hour from Paint Booth #3).

#### Response to Comment 26:

P1-Paint Booth #2 and P1-Paint Booth #3 both exhaust through a single stack (12-CD-1). The PSD particulate limit for these two emission units is based on particulate emissions after controls at maximum capacity, assuming control efficiency of 85 % from dry filters. The limit should

include the allowance for particulate emissions from both booths (2.48 lbs/hour for P1-Paint Booth #2 and 0.33 lbs/hour for P1-Paint Booth #3). The permit is corrected as follows:

**D.2.2 PSD Minor Limitations [326 IAC 2-2]**

- (a) The **total** PM and PM10 emissions from paint booths #2 and #3 (P1-Paint Booth #2, P1-Paint Booth #3) shall be limited to ~~2.4~~ **2.81** pounds per hour.

**Comment 27:**

In Condition D.2.2(b), please update the PM and PM10 emission limitation from 0.11 pounds per hour to 0.12 pounds per hour.

**Response to Comment 27:**

The PSD particulate limit for the P1-Final Inspection Paint Booth is based on particulate emissions after controls at maximum capacity, assuming control efficiency of 85 % from dry filters. The limit is correct as it presently is. No changes will be made as a result of this comment.

**Comment 28:**

Please remove Condition D.2.2(c). The PM and PM10 emission limitations are outlined in Condition D.1.1(a).

**Response to Comment 28:**

The limits for a specific emissions unit should be included in the Permit Section in which the unit is listed in the Facility Description. Since the P1-Putty Booth is listed in Section D.2 of the permit, the emissions limits for P1-Putty Booth should be removed from Condition D.1.1(a). Emissions limits for the P1-Putty Booth are already included in Condition D.2.2(c). The permit has been changed as follows:

**D.1.1 PSD Minor Limitations [326 IAC 2-2]**

- (a) For the P1 emission units listed below, the metal throughput rate per (12) twelve consecutive month period, and the PM emissions and PM10 emissions shall be limited as follows:

Emission Unit ID	Metal Throughput Limit (tons per year)	PSD Emission Limit (lbs PM/PM10 per ton metal)	
		PM	PM10
P1-EIF#1, P1-EIF#2	74,400 total	<del>0.8</del> <b>0.75</b>	<del>0.8</del> <b>0.75</b>
P1-Shakeout, P1-Mold Sand Handling	74,400 each	<del>0.33</del> <b>0.32</b>	<del>0.33</del> <b>0.32</b>
P1-Shot Blast Machine #1	74,400	0.03	0.03
P1-Core Removal, P1-Pre-Finish, P1-Grinding #1 - #5	74,400 each	0.09	0.09
P1-Buffering Booth	74,400	0.08	0.08
P1-Shot Blast Machine #2	74,400	0.03	0.03
P1-Charge	74,400	0.6	0.36
P1-Rotary Kiln Dryer	74,400	0.2	0.2
P1-Pouring/Cooling	74,400	0.1	0.1
P1-Core Sand Handling	74,400	<del>0.037</del> <b>0.075</b>	<del>0.006</del> <b>0.011</b>
P1-Final Inspection Buffering	74,400	0.0045	0.0045
<del>P1-Putty Booth</del>	<del>74,400</del>	<del>0.0045</del>	<del>0.0045</del>

**Comment 29:**

In Condition D.2.9(a): Please remove the weekly observations of the overspray while the booths are in operation. The daily inspections of the placement, integrity and particle loading of the filters in each of these booths and the monthly inspections of overspray on the rooftops and the nearby ground will ensure that timely corrective actions are taken if overspray is observed.

**Response to Comment 29:**

It is IDEM's position that weekly observations of overspray from the exhaust stacks of surface coating facilities is necessary for monitoring compliance with the particulate emissions limitations in the permit. No changes will be made as a result of this comment.

**Comment 30:**

In Condition D.2.10 (b)(1) and Condition D.4.10(c)(1), please revise these conditions as follows: "Records shall include purchase orders, or invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used."

**Response to Comment 30:**

The Permittee shall use whichever documents and records are adequate to verify the amount and VOC content of the materials used in emissions units that are required to demonstrate compliance with the PSD limitations. The three types of documents specified in Condition D.1.11(a)(2) are illustrative of the types of documents that could be used to verify compliance. It is not necessary that the Permittee use all of these documents, or even the specific documents mentioned. However, the Permittee must maintain adequate records and documents necessary to demonstrate compliance. No changes will be made as a result of this comment.

**Comment 31:**

In Condition D.2.10 (c): Please remove the weekly overspray notation requirement from the required recordkeeping. Daily and monthly observations will ensure that timely corrective actions are taken if overspray is observed.

**Response to Comment 31:**

It is IDEM's position that weekly observations of overspray from the exhaust stacks of surface coating facilities is necessary for monitoring compliance with the particulate emissions limitations in the permit. Keeping adequate records of these observations is necessary to demonstrate compliance with the Compliance Monitoring conditions in the permit. No changes will be made as a result of this comment.

**Comment 32:**

In Condition D.3.1(b)(1), please revise the VOC limitation for P2 Molding Machine, P2 Core Machine, P2 Filler / Putty Application, P2 Paint Booth #1 and P2 Paint Booth #2, from 62.0 tons per 12-month consecutive period to 95.04 tons per 12-month consecutive period (99 – 3.96 tons per year from P2 Shakeout and P2 Pouring and Cooling with the production limitation of 88,000 tons per 12-month consecutive period).

**Response to Comment 32:**

The VOC limitation of 62.0 tons per year for P2-Molding Machine, P2-Core Machine, P2-Filler / Putty Application, P2-Paint Booth #1 and P2-Paint Booth #2 is based on the potential to emit of P2-Molding Machine, P2-Filler / Putty Application, P2-Paint Booth #1 and P2-Paint Booth #2

when operating at maximum capacity, plus the limited potential to emit of P2-Core Machine. (See calculations and Condition D.3.3.) Because it is only necessary to limit the P2 emission units to less than one hundred (100) tons per year, the suggested change has been included.

The limits on usage of VOC in Conditions D.3.1(b)(1) and D.4.2(c) place limits on the usage of VOC from emission units for which VOC usage can be reliably measured based on amounts of materials used and the MSDS. The limit for the emission units specifically limited in Conditions D.3.1(b)(1) and D.4.2(c) is the difference between the PSD major threshold (100 tons of VOC per year) and the emissions from the other sources of VOC located at Plant 2. The total VOC from the remaining emission units at Plant 2 (P2-Ladle Preheater (0.02 tpy), P2-Pouring/Cooling/Shakeout (limited to 7.88 tpy), P2-Insignificant Combustion Units (1.04 tpy), and P2-Emergency Generator (0.14 tpy)) is 9.08 tons per year, after limits on throughput. The PSD limit may be set for the difference (100 – 9.08 = 90.92), with a small margin (90.92 – 1.00 = 89.92). The permit shall be changed as follows:

**D.3.1 PSD Minor Limitations [326 IAC 2-2]**

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...

- (b) For the P2 emission units listed below, the VOC limits are as follows:
- (1) The amount of VOC used in the P2-Molding Machine and P2-Core Machine (listed in this Section), combined with the amount of VOC used in the P2-Filler/Putty Application, P2-Paint Booth #1 and P2-Paint Booth #2 (listed in Section D.4) shall be limited to less than ~~62.0~~ **89.92** tons per twelve (12) consecutive month period.

**D.4.2 PSD Minor Limitations [326 IAC 2-2]**

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...

- (c) The amount of VOC used in the P2-Filler/Putty Application, P2-Paint Booth #1 and P2-Paint Booth #2 (listed in this Section), combined with the amount of VOC used in the P2-Molding Machine and P2-Core Machine (listed in Section D.3) shall be limited to less than ~~62.0~~ **89.92** tons per twelve (12) consecutive month period.

### **P2 VOC Usage Quarterly Report**

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, IN 47265  
Permit No.: 079-15119-00018  
Facility and Limit: The total usage of VOC in the P2-Molding Machine, P2-Core Machine, P2-Filler/Putty Application, P2-Paint Booth #1 and P2-Paint Booth #2 shall be limited to less than ~~62.0~~ **89.92** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

**Comment 33:**

In Condition D.3.3 (a), (b) and (c), the material usage limits are included for each process in core making. Since Plant 2 is limited to 88,000 tons per year of metal, the limited potential to emit from this process is 20.9 tons of VOC per year. Please revise the limit in Condition D.3.3 as follows: "The amount of VOC used in the P2 Core Machine will be limited to less than 25 tons per 12-month consecutive month period."

### Response to Comment 33:

The limit in Condition D.3.3 makes the requirements of BACT not applicable to the P2-Core Machine. The total emissions of VOC from the P2-Core Machine, including the VOC content of any materials used in making the cores. The assumptions used in calculating the limit are as follows: 1) All VOC in the release agent 1 and release agent 2 is released, and 2) The VOC released from the core resin during the core making and curing process is 0.0015 lbs VOC per pound of resin, pursuant to the vendor (Foseco Metallurgical) testing of the VOC and HAP emissions from the core resin. (see calculations) The VOC from the P2-Core Machine may be set as a collective limit, in order to allow the Permittee greater flexibility in the usage of materials. The permit has been revised as follows:

#### D.3.3 Volatile Organic Compound Usage Limitations [326 IAC 8-1-6]

- ~~(a) The usage of resin in the P2-Core Machine shall be limited to 16,115 gallons per twelve (12) consecutive month period.~~
- ~~(b) The usage of release agent 1 in the P2-Core Machine shall be limited to less than 6875 gallons and 4.13 pounds of VOC per gallon per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- ~~(c) The usage of release agent 2 in the P2-Core Machine shall be limited to less than 2750 gallons and 6.67 pounds of VOC per gallon per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

**The amount of VOC used in the P2-Core Machine, including resin, release agent 1, and release agent 2, shall be limited to less than 25 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**

Compliance with ~~these~~ **this** limits makes the requirements of 326 IAC 8-1-6 (BACT) not applicable to the P2-Core Machine.

### P2 BACT Limit Quarterly Report

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, IN 47265  
Permit No.: 079-15119-00018  
Facility and Limit: ~~(a) The usage of resin in the P2-Core Machine shall be limited to 16,115 gallons per twelve (12) consecutive month period.~~  
~~(b) The usage of release agent 1 in the P2-Core Machine shall be limited to less than 6875 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~  
~~(c) The usage of release agent 2 in the P2-Core Machine shall be limited to less than 2750 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~  
**The amount of VOC used in the P2-Core Machine, including resin, release agent 1, and release agent 2, shall be limited to less than 25 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**

### Comment 34:

Please remove Condition D.3.6(b). This system must be in operation during pouring and cooling operations in order to manufacture the counterweights (castings).

**Response to Comment 34:**

Although integral to the operation, IDEM prefers that the permit clearly specify that the operation of the vacuum system is necessary for achieving compliance. IDEM has clarified the permit as follows:

**D.3.6 Particulate Control [326 IAC 2-7-6(6)]**

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...

- (b) The **integral** vacuum system shall be in operation at all times when the floor pouring/cooling is in operation.

**Comment 35:**

In Condition D.4.2(a), please update the PM and PM10 emission limitation from 1.9 pounds per hour to 2.45 pounds per hour.

**Response to Comment 35:**

The maximum capacity of the P2-Paint Booth #1 has been updated from a maximum capacity of 5.25 gallons per hour to 6.88 gallons per hour (see Comment 14). However, the PSD particulate limit for this booth must remain as it is in order to limit the total emissions of PM from Plant 2 to less than 100 tons per year. No changes have been made as a result of this comment.

**Comment 36:**

In Condition D.4.2(c), please revise the VOC limitation from P2 Molding Machine, P2 Core Machine, P2 Filler / Putty Application, P2 Paint Booth #1 and P2 Paint Booth #2, from 62.0 tons per 12-month consecutive period to 95.04 tons per 12-month consecutive period (99 – 3.96 tons per year from P2 Shakeout and P2 Pouring and Cooling with the production limitation of 88,000 tons per 12-month consecutive period).

**Response to Comment 36:**

This comment has been addressed in the response to Comment 32 above.

**Comment 37:**

In Condition D.4.9(a), please remove the weekly observations of the overspray while the booths are in operation. The daily inspections of the placement, integrity and particle loading of the filters in each of these booths and the monthly inspections of overspray on the rooftops and the nearby ground will ensure that timely corrective actions are taken if overspray is observed. In addition, the outlet of the paint booth stacks are not visible from the ground and would require an employee to access the roof to make this observation, an unsafe practice in inclement weather.

**Response to Comment 37:**

It is IDEM's position that weekly observations of overspray from the exhaust stacks of surface coating facilities is necessary for monitoring compliance with the particulate emissions limitations in the permit. Keeping adequate records of these observations is necessary to demonstrate compliance with the Compliance Monitoring conditions in the permit. The Permittee is required to inspect the rooftops for overspray only once per month. The Permittee should select a time during each month when conditions are not hazardous. In the event that hazardous conditions persist for the entire month, the Permittee should inspect the nearby ground and record the reasons for not inspecting the rooftops. The permit has been changed as follows:

#### D.2.9 Monitoring

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- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks while one or more of the booths are in operation, **unless adverse weather conditions occur and continue throughout the entire week. Adverse weather conditions are defined as the presence of ice or deep snow on rooftops that prevent the weekly observations or monthly rooftop inspections due to the safety hazard it represents to employees.** If a condition exists which should result in a response step, 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.
- (b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground, **except during adverse weather conditions.** When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is 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.2.10 Record Keeping Requirements

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- ...
- (c) To document compliance with Condition D.2.9, the Permittee shall maintain a log of weekly overspray observations, and the daily and monthly inspections. **In the event that a required weekly overspray observation or monthly rooftop inspection cannot be completed due to adverse weather conditions, the Permittee shall record the reasons why these observations or inspections did not occur.**

#### D.4.9 Monitoring

---

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks while one or more of the booths are in operation, **except during adverse weather conditions. Adverse weather conditions are defined as the presence of ice or deep snow on rooftops that prevent the weekly observations or monthly rooftop inspections due to the safety hazard it represents to employees.** If a condition exists which should result in a response step, 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.
- (b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground, **except during adverse weather conditions.** When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is 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.4.10 Record Keeping Requirements

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...

- (d) To document compliance with Condition D.4.9, the Permittee shall maintain a log of weekly overspray observations, and daily and monthly inspections. **In the event that a required weekly overspray observation or monthly rooftop inspection cannot be completed due to adverse weather conditions, the Permittee shall record the reasons why these observations or inspections did not occur.**

#### **Comment 38:**

In Condition D.4.10(d), please remove the weekly overspray notation requirement from the required recordkeeping. Daily and monthly observations will ensure that timely corrective actions are taken if overspray is observed.

#### **Response to Comment 38:**

It is IDEM's position that weekly observations of overspray from the exhaust stacks of surface coating facilities is necessary for monitoring compliance with the particulate emissions limitations in the permit. Keeping adequate records of these observations is necessary to demonstrate compliance with the Compliance Monitoring conditions in the permit. No changes will be made as a result of this comment.

#### **Comment 39:**

In the P1 VOC Usage Quarterly Report, please revise the VOC limitation from P1 Molding Machine, P1 Core Machine, P1 Filler / Putty Application, P1 Paint Booth #2, P1 Paint Booth #3, P1 Putty Booth and P1 Final Inspection Paint Booth from 82.9 tons per 12-month consecutive period to 95.65 tons per 12-month consecutive period (99-3.3 tons per year from P1 Shakeout and P1 Pouring and Cooling with the production limitation of 74,400 tons per 12-month consecutive period).

#### **Response to Comment 39:**

The VOC emission limit for the P1 emission units and the change in the P1 VOC Usage Quarterly Report was addressed in Comment 19.

#### **Comment 40:**

P2 VOC Usage Quarterly Report: Please revise the VOC limitation from P2 Molding Machine, P2 Core Machine, P2 Filler / Putty Application, P2 Paint Booth #1 and P2 Paint Booth #2, from 62.0 tons per 12-month consecutive period to 95.04 tons per 12-month consecutive period (99 – 3.96 tons per year from P2 Shakeout and P2 Pouring and Cooling with the production limitation of 88,000 tons per 12-month consecutive period).

#### **Response to Comment 40:**

The VOC emission limit for the P2 emission units and the change in the P2 VOC Usage Quarterly Report was addressed in Comment 32.

#### **Comment 41:**

In the P2 BACT Limit Quarterly Report, material usage limits are included for each process in core making. Since Plant 2 is limited to 88,000 tons per year of metal, the limited potential to emit from this process is 20.9 tons of VOC per year. No further material limitations are warranted.

Please revise this as follows; "The amount of VOC used in the P2 Core Machine will be limited to less than 25 tons per 12-month consecutive month period."

**Response to Comment 41:**

The BACT limit for the P2 Core Machine and the change in the P2 BACT Limit Quarterly Report was addressed in Comment 33.

**Comment 42:**

The Technical Support Document should also be updated to reflect the comments listed above.

**Response to Comment 42:**

No changes have been made to the TSD because the OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

Upon further review, the OAQ has decided to make the following revisions to the permit (bolded language has been added, the language with a line through it has been deleted). The Table of Contents has been modified, if applicable, to reflect these changes.

1. Condition D.3.6(a) specifies compliance determination requirements for particulate control. This condition incorrectly refers to Condition D.3.3, which is a VOC usage limit. This reference has been changed to Condition D.3.4 as follows:

**D.3.6 Particulate Control [326 IAC 2-7-6(6)]**

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- (a) To comply with Conditions D.3.1 and D.3.3~~4~~, the baghouses for particulate control shall be in operation and control emissions from the electric induction furnaces (Baghouse 1), the mold sand handling operation and shakeout operations (Baghouse 2), the shot blast machine (Baghouse 3), the prefinish station and the coarse grinding stations (Baghouse 4), and the buffing booth (Baghouse 5) at all times that these facilities are in operation.

2. IDEM has determined that carbon monoxide and VOC testing of the P1-Shakeout and P1-Pouring/Cooling is necessary to verify that the source is in compliance with the PSD Minor limits for CO and VOC in Condition D.1.1. Also, in order to clarify the intent of Condition of Condition D.1.7, the following change has been made:

**D.1.7 Testing Requirements [326 IAC 2-6.1-5(a)(2), (4)] [326 IAC 2-1.1-11]**

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- (a) By August 9, 2008, in order to demonstrate compliance with Conditions D.1.1(a) and **D.1.3(a)**, the Permittee shall perform PM and PM-10 testing on the baghouses controlling the electric induction furnaces utilizing methods as approved by the Commissioner. PM-10 includes filterable and condensable PM-10. This test 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 using methods approved by the Commissioner.
- (b) **Within 180 days of issuance of the permit, and in order to demonstrate compliance with Condition D.1.1(c), the Permittee shall perform CO testing on the P1-Pouring/Cooling and P1-Shakeout or the P2-Pouring/Cooling and P2-Shakeout utilizing methods as approved by the Commissioner. This test 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.**

3. Condition D.1.6 has been revised to add a condition requiring that the integral vacuum system be in operation when the pouring/cooling process is in operation.

D.1.6 Particulate Control [326 IAC 2-7-6(6)]

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...

- (c) The integral vacuum system shall be in operation at all times when the floor pouring/cooling is in operation.**

4. Condition D.3.7 has been revised to require testing while all three furnaces are in operation. Because the baghouse controls all three furnaces, it would not be representative to test a single furnace since the baghouse would be sized to handle all 3 furnaces. Also, testing under a one furnace scenario would not be representative of worst case nor would it give IDEM assurances that the units were in compliance when all three are operating. Since all three furnaces can be operated simultaneously, the language for the testing condition has been rewritten to state that testing shall be conducted on baghouse 1 to determine compliance with D.3.1(a), D.3.2(b) and D.3.4(c). Also, IDEM has determined that carbon monoxide and VOC testing of the P2-Shakeout and P2-Pouring/Cooling is necessary to verify that the source is in compliance with the PSD Minor limits for CO and VOC in Condition D.3.1. The permit has been changed as follows:

D.3.7 Testing Requirements [326 IAC 2-6.1-5(a)(2), (4)] [326 IAC 2-1.1-11]

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- (a)** By August 9, 2008, in order to demonstrate compliance with Conditions D.3.1(~~ha~~) and ~~D.3.3(e)~~ **D.3.4(c)**, the Permittee shall perform PM and PM-10 testing on ~~one of the three~~ **(3)** electric induction furnaces **and the control device (Baghouse 1)** utilizing methods as approved by the Commissioner. PM-10 includes filterable and ~~condensable~~ **condensable** PM-10. This test 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 using methods approved by the Commissioner.
- (b)** **Within 180 days of issuance of the permit, and in order to demonstrate compliance with Condition D.3.1(c), the Permittee shall perform CO testing on the P1-Pouring/Cooling and P1-Shakeout or the P2-Pouring/Cooling and P2-Shakeout utilizing methods as approved by the Commissioner. This test 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.**

5. IDEM has made the following changes to Conditions D.1.2 and D.3.2 to clarify the intent of the condition:

D.1.2 HAP Minor Limitations [326 IAC 2-4.1][40 CFR 63, Subpart EEEEE][40 CFR 63, Subpart MMMM]

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- (a) Metal throughput to P1 emissions units shall be limited to less than 74,400 tons per ~~year~~ **twelve (12) consecutive month period.**
- (b) Particulate emissions from the P1 emission units shall be ~~controlled~~ **limited** as specified in Condition D.1.1.

...

D.3.2 HAP Minor Limitations [326 IAC 2-4.1][40 CFR 63, Subpart EEEEE][40 CFR 63, Subpart MMMM]

---

- (a) Metal throughput to P2 emissions units shall be limited to less than 88,000 tons per ~~year~~ **twelve (12) consecutive month period.**

- (b) Particulate emissions from the P2 emission units shall be ~~controlled~~ **limited** as specified in Condition D.3.1.

6. The PSD limits in Condition D.1.3 have been revised to keep total emissions of PM below 100 tons per year.

**D.3.1 PSD Minor Limitations [326 IAC 2-2]**

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- (a) For the P2 emission units listed below, the metal throughput rate per (12) twelve consecutive month period, and PM emissions and PM10 emissions shall be limited as follows:

Emission Unit ID	Metal Throughput Limit (tons per year)	PSD Emission Limit (lbs PM/PM10 per ton metal)	
		PM	PM10
P2-EIF#1, P2-EIF#2, P2-EIF #3	88,000 total	0.75	0.75
P2-Shakeout, P2-Mold Sand Handling	88,000 each	0.32	0.32
P2-Shot Blast Machine	88,000	0.03	0.03
P2-Pre-Finish, P2-Putty Booth, P2-Grinding #1 - #5	88,000 each	0.08	0.08
P2-Core Removal	88,000	0.065	0.01
P2-Charge	88,000	<del>0.6</del> <b>0.36</b>	0.36
P2-Pouring/Cooling	88,000	0.1	0.1
P2-Core Sand Handling	88,000	0.075	0.011
P2-Buffing Booth	88,000	0.08	0.08

7. IDEM has determined that it is necessary to limit VOC and CO emissions from the Pouring/Cooling and Shakeout operations in order to insure that the emission units constructed in 1998 (P1) and the modifications performed under SSM 079-17819-00018 (P2) are minor under PSD. The permit has been changed as follows:

**D.1.1 PSD Minor Limitations [326 IAC 2-2]**

---

...

- (b) ...

- (3) **The P1-Shakeout and P1-Pouring/Cooling operations shall be limited to less than a total of 0.18 pounds of VOC per ton of metal throughput.**

- (c) **The emissions of CO from the P1-Shakeout and P1-Pouring/Cooling operations shall be limited to a total of less than 2.40 pounds per ton of metal throughput.**

Combined with the limits in Sections D.2, compliance with the above limits ensures that the VOC, **CO**, PM and PM10 emissions from the emissions units constructed in 1998 are limited to less than 100 tons per year. Therefore, the requirements of 326 IAC 2-2 are not applicable to the emissions units constructed in 1998.

**D.3.1 PSD Minor Limitations [326 IAC 2-2]**

---

...

- (b) ...

**(3) The P2-Shakeout and P2-Pouring/Cooling operations shall be limited to less than a total of 0.18 pounds of VOC per ton of metal throughput.**

**(c) The emissions of CO from the P2-Shakeout and P2-Pouring/Cooling operations shall be limited to less than a total of 1.87 pounds per ton of metal throughput.**

Combined with the limits in Section D.4, compliance with the above limits ensures that the PM, PM10, **CO**, and VOC emissions from the emissions units constructed under SSM 079-17819-00018 are limited to less than 100 tons per year. Compliance by the Permittee with these limitations makes the requirements of 326 IAC 2-2 (PSD) not applicable to the emissions units constructed under SSM 079-17819-00018.

8. In order to clarify the intent of Condition B.9, IDEM has made the following change:

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. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted ~~in letter form~~ no later than July 1 of each year to:

9. The contact phone and FAX numbers for IDEM have changed. The permit has been revised as follows:

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 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-~~5674~~ **0178** (ask for Compliance Section)

Facsimile Number: 317-233-~~5967~~ **6865**

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
Phone: 317-233-~~5674~~ **0178**  
Fax: 317-233-~~5967~~ **6865**

PART 70 OPERATING PERMIT  
EMERGENCY OCCURRENCE REPORT

Source Name: North Vernon Industry Corporation  
Source Address: 3750 North County Road 75 West, North Vernon, Indiana 47265  
Mailing Address: P.O. Box 894, North Vernon, Indiana 47265  
Part 70 Permit No.: 079-15119-00018

This form consists of 2 pages

Page 1 of 2

- |   |
|---|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none"><li>C The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-<del>5674</del> <b>0178</b>, ask for Compliance Section); and</li><li>C The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-<del>5967</del> <b>6865</b>), and follow the other requirements of 326 IAC 2-7-16.</li></ul> |
|---|

**Indiana Department of Environmental Management  
Office of Air Quality**

Technical Support Document (TSD) for a Part 70 Operating Permit

**Source Background and Description**

Source Name:	North Vernon Industry Corporation
Source Location:	3750 North County Road 75 West, North Vernon, IN 47265
County:	Jennings
SIC Code:	3321
Operation Permit No.:	079-15119-00018
Permit Reviewer:	ERG/ST

The Office of Air Quality (OAQ) has reviewed a Part 70 Operating Permit application from North Vernon Industry Corporation (NVIC) relating to the operation of a stationary gray iron foundry.

This Part 70 operating permit contains provisions intended to satisfy the requirements of the construction permit rules. Limits taken at the time of construction to make the source minor under PSD have been revised in this permit.

**History**

On August 26, 1996, North Vernon Industries Corporation applied for a construction permit (CP 079-5754-00018) to construct a stationary gray iron foundry. The emission units built under CP 079-5754-00018 were completed in 1998 and are collectively referred to in this permit as P1. In Significant Source Modification (SSM) 079-17819-00018, issued on December 3, 2003, the source was permitted to build a second gray iron foundry. The emission units built under SSM 079-17819-00018 are collectively referred to in this permit as P2.

**Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) Melting Operation consisting of the following emission units:
  - (1) Two (2) electric induction furnaces, identified as P1-EIF #1 and P1-EIF#2, installed in 1998, each having a nominal melting rate of 6.00 tons of metal per hour, with particulate emissions controlled by a dust collector (ID No. Area 1), and exhausting to stack P1B1.
  - (2) One (1) natural gas-fired rotary kiln, identified as P1-Rotary Kiln Dryer, installed in 1998, with a rated capacity of 7.50 tons of scrap per hour and a heat input capacity of 8.00 MMBtu per hour, and exhausting to stack P1RKD.
  - (3) One (1) scrap and charge handling operations, identified as P1-Charge, installed in 1998, with a rated capacity of 12.00 tons of scrap metal per hour, exhausting inside the building, then to general ventilation.

- (4) One (1) natural gas-fired ladle preheater, identified as P1-Ladle Preheater, installed in 1998 with a rated capacity of 0.4 MMBtu/hr, exhausting inside the building, and then to general ventilation.
- (b) One (1) mold making operation consisting of the following emission units:
  - (1) One (1) mold sand handling operation, identified as P1-Mold Sand Handling, installed in 1998, with a rated capacity of 55.00 tons of sand per hour, with particulate emissions controlled by a dust collector (ID No. Area 2), and exhausting to stack P1B2.
  - (2) One (1) mold making machine, identified as P1-Molding Machine, installed in 1998, using 4.0 pounds of plastic per hour, 0.07 gallons of release agent per hour and 5.20 gallons of mold wash per hour, exhausting inside the building, then to general ventilation.
- (c) One (1) metal floor pouring, cooling area operation, identified as P1-Pouring/Cooling, installed in 1998, with a rated capacity of 12.00 tons of metal per hour, utilizing a vacuum suction process during pouring and cooling operations, exhausting inside the building, and then to general ventilation.
- (d) One (1) shakeout operation, identified as P1-Shakeout, installed in 1998, with a rated capacity of 20.00 tons per hour, with particulate emissions controlled by a dust collector (ID No. Area 2), and exhausting to stack P1B2.
- (e) One (1) core making operation consisting of the following emission units:
  - (1) One (1) core sand process sand handling operation, identified as P1-Core Sand Handling, installed in 1998, with a rated capacity of 0.125 tons of sand per hour, exhausting inside the building, then to general ventilation.
  - (2) One (1) Beta set core machine, identified as P1-Core Machine, installed in 1998, with a rated capacity of 0.125 tons of cores per hour, using 1.3 gallons of resin per hour, 0.75 gallons of release agent 1 per hour, and 0.30 gallons of release agent 2 per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (3) One (1) butane torch used to flash off excess core release agent, identified as P1-Butane Torch, with a maximum firing rate of .144 gallons per hour and 2.4 MMBTU/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (f) One (1) Pre-Finishing Operation consisting of the following emission units:
  - (1) One (1) pre-finish station which contains three grinders, identified as P1-Pre-Finish Station, installed in 1998, with a total rated capacity of 20.00 tons of metal per hour (14 molds per hour), with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (2) One (1) core removal station, identified as P1-Core Removal Operation, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (14 molds per hour), with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (3) One (1) shot blast machine, installed in 1998, identified as P1-Shot Blast Machine #1, with a rated capacity of 20.00 tons of metal per hour (14 molds per

- hour), with particulate emissions controlled by a dust collector (ID No. Area 4), and exhausting to stack P1B4.
- (4) Five (5) coarse grinding stations, identified as P1-Grinding Station #1 through P1-Grinding Station #5, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (14 molds per hour), with particulate emissions controlled by a dust collector (ID No. Area 5), and exhausting to stack P1B5.
  - (5) One (1) shot blast machine, identified as P1-Shot Blast Machine #2, constructed in 2005, with a maximum rated capacity of 20 tons of metal per hour, controlled by a dust collector (ID No. Area 6), with an airflow rate of 8,350 scfm, with an outlet grain loading of 0.005, and exhausting to stack P1B6.
- (g) One (1) Finishing Operation consisting of the following emission units:
- (1) Two (2) filler/putty application stations, identified as P1-Filler/Putty Application, installed in 1998, with a rated capacity of 1.75 gallons per hour of filler/putty, exhausting inside the building, then to general ventilation.
  - (2) One (1) paint booth, identified as P1-Paint Booth #2, installed in 1998, with a rated capacity of 5.76 gallons of primer per hour, with dry filters for overspray control, exhausting through stack 12-CD-1.
  - (3) One (1) paint booth, identified as P1-Paint Booth #3, installed in 1998, with a rated capacity of 1.43 gallons of primer per hour, with dry filters for overspray control, exhausting through stack 12-CD-1.
  - (4) One (1) putty station, identified as P1-Putty Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (14 molds per hour), exhausting inside the building, then to general ventilation.
  - (5) One (1) final inspection paint booth, identified as P1-Final Inspection Paint Booth, installed in 1998, with a rated capacity of 0.50 gallons of primer per hour, using dry filters for overspray control, and exhausting to stack Paint Filter-Final Inspection.
  - (6) One (1) buffing station containing three buffers, identified as P1-Buffing Booth, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (14 molds per hour), with particulate emissions controlled by a dust collector (ID. No. Area 3), and exhausting to stack P1B3.
  - (7) One (1) final inspection buffing station, identified as P1-Final Inspection Buffing Station, installed in 1998, with a rated capacity of 20.00 tons of metal per hour (14 molds per hour), controlled by the final buffing dust collector, (ID No. Final Inspection Collector), exhausting inside the building, then to general ventilation.
- (h) One (1) Core Making Operation, consisting of the following emissions units:
- (1) One (1) raw core sand handling and storage system, identified as P2-Core Sand Handling, with a maximum capacity of 750 pounds of sand per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (2) One (1) Beta set core machine, identified as P2-Core Machine, installed in 2004, with a rated capacity of 750 pounds of cores per hour, using 2.93 gallons of resin per hour, 1.25 gallons of release agent 1 per hour, and 0.50 gallons of release

- agent 2 per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (3) One (1) butane torch used to flash off excess core release agent, identified as P2-Butane Torch, with a maximum firing rate of 0.36 gallons per hour and 6 MMBTU/hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (i) One (1) Mold Making Operation, consisting of the following emissions units:
- (1) One (1) raw mold sand handling and storage system, identified as P2-Mold Sand Handling, with a maximum capacity of 66.0 tons of sand per hour, with particulate emissions controlled by Baghouse 2, and exhausting to stack P2B2.
- (2) One (1) molding machine, identified as P2-Molding Machine, with a maximum capacity of 66.0 tons of sand per hour, 5.21 pounds of plastic per hour, and 0.23 gallons of release agent per hour; with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (3) One (1) mold wash, identified as P2-Mold Wash, with a maximum capacity of 7.1 gallons of mold wash per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (4) Two (2) natural gas fired mold machine dryers, identified as P2- Mold Dryer #1 and P2-Mold Dryer #2, each rated at 0.00113 million (MM)BTU per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (j) One (1) Melting Operation, consisting of the following emissions units:
- (1) One (1) charge handling system utilizing mechanical conveyors and magnetic overhead cranes, identified as P2-Charge, with maximum capacity of 18 tons of metal per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (2) Three (3) electric induction furnaces, identified as P2-EIF#1, P2-EIF#2, and P2-EIF#3, each rated at 6 tons of metal per hour, and with a donut hood exhausting to a dust collector (Baghouse 1), and exhausting to stack P2B1.
- (3) One (1) ladle with a natural gas fired preheater, identified as P2-Ladle Preheater, with a maximum capacity of 1 MMBTU per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation. This preheater is used to dry the ladle prior to each filing.
- (k) One (1) Floor Molding Operation, consisting of the following emissions units:
- (1) One (1) floor pouring and cooling, identified as P2-Pouring/Cooling, with a maximum rate of 18 tons of metal per hour, utilizing a vacuum suction during pouring and cooling operations, exhausting inside the building, then to general ventilation.
- (2) One (1) shakeout unit/system for casting operation, identified as P2-Shakeout, with a maximum rate of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 2, and exhausting to stack P2B2. Baghouse 2 will recycle all the sand collected back into the mold sand process.

- (l) One (1) Pre-Finishing Operation, consisting of the following emissions units:
  - (1) One (1) pre-finish knock out station/area, identified as P2-Pre-Finish Station, consisting of three (3) sanders, with a maximum capacity of 24 tons of metal per hour, with particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.
  - (2) One (1) enclosed shot blast machine, identified as P2-Shot Blast Machine, using steel shot as media, with a maximum capacity of 24 tons of metal per hour, with particulate emissions controlled by Baghouse 3, and exhausting to stack P2B3.
  - (3) One (1) core removal operation, identified as P2-Core Removal Operation, rated at 24 tons of metal per hour, will remove the remaining sand cores from the casting, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
  - (4) One (1) coarse grinding area consisting of five (5) coarse grinding stations, identified as P2-Grinding Station #1 through P2-Grinding Station #5, with maximum capacity of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.
  
- (m) One (1) Finishing Operation, consisting of the following emissions units:
  - (1) Filler/putty application to the casting to fill in any divots or scratches, identified as P2-Filler/Putty Application, with a maximum rate 1.6 gallons per hour for the entire finishing operations, with emissions exhausting inside the building, then to general ventilation.
  - (2) Two (2) paint booths, identified as P2-Paint Booth #1 and P2-Paint Booth #2, each utilizes an HVLP spray gun, using dry filters for particulate control, exhausting inside the building, then to general ventilation..
    - (A) P2-Paint Booth #1 has a maximum capacity of 5.25 gallons of primer per hour.
    - (B) P2-Paint Booth #2 has a maximum capacity of 2.24 gallons of primer per hour.
  - (3) Two (2) paint booth dryers using natural gas as fuel, identified as P2-Paint Booth #1 Dryer and P2-Paint Booth #2 Dryer, each rated at 0.0014125 MMBTU per hour, with the uncontrolled emissions exhausting to stacks P2PB1 and P2PB2.
  - (4) One (1) buffing booth containing three (3) fine grinders or buffers, identified as P2-Buffing Booth, with a maximum capacity of 24 tons of metal per hour, with particulate emissions controlled by Baghouse 5, and exhausting to stack P2B5.
  - (5) One (1) putty booth used for additional repair, identified as P2-Putty Booth, with a maximum capacity of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.

### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted emission units operating at this source during this review process.

## Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Degreasing operations that do not exceed 145 gallons per 12 months, including:
  - (1) One (1) parts washing station, identified as P1-Maintenance Parts Washing Station, using a maximum of 0.002 gallons of washing solution per hour. [326 IAC 8-3-2]
  - (2) One (1) Maintenance Department parts washing station, identified as P2-Maintenance Parts Washing Station, rated at 0.002 gallons of parts wash solution per hour. [326 IAC 8-3-2]
- (b) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]
- (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]
- (d) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (e) Diesel generators not exceeding 1600 horsepower, including:
  - (1) One (1) emergency generator, identified as P1-Emergency Generator, using a maximum 8.8 gallons of diesel fuel #2 per hour.
  - (2) Two (2) emergency generators, identified as P2-Emergency Generator #1 and P2-Emergency Generator #2, each is rated at 5.6 gallons of No. 2 diesel fuel per hour (125 kilowatts).
- (f) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour, including:
  - (1) One (1) natural gas-fired ladle preheater, identified as P1-Ladle Preheater, installed in 1998, with a maximum heat input capacity of 0.40 MMBtu per hour.
  - (2) Two (2) natural gas-fired mold dryers, identified as P1-Mold Dryer #1 and P1-Mold Dryer #2, installed in 1998, with a maximum heat input capacity of 0.0045 MMBtu per hour and 0.012 MMBtu per hour, respectively.
  - (3) Two (2) natural gas-fired paint booth dryers, identified as P1-Paint Booth #2 Dryer and P1-Paint Booth #3 Dryer, installed in 1998, each with a maximum heat input capacity of 0.0017 MMBtu per hour.
  - (4) Three (3) natural gas-fired air makeup units, identified as P1-Air Makeup Unit #1 through P1-Air Makeup Unit #3, installed in 1998, each rated at a maximum heat input capacity of 5.28 MMBtu per hour.
  - (5) One (1) natural gas-fired water heater identified as P1-Water Heater #1, installed in 1998, rated at a maximum heat input capacity of 0.20 MMBtu per hour.

- (6) Two (2) natural gas-fired space heaters, identified as P1-Space Heater #1 and P1-Space Heater #2, each rated at a maximum heat input capacity of 0.12 MMBtu per hour.
- (7) Three (3) natural gas-fired heaters, identified as P1-Space Heater #3 through P1-Space Heater #5, each rated at a maximum heat input capacity of 0.45 MMBtu per hour.
- (8) Eight (8) natural gas fired air make up units, identified as P2-Air Makeup Unit #1 through P2-Air Makeup Unit #8, each rated at 4.34 MMBTU/hour.
- (9) Four (4) natural gas fired space heaters, identified as P2-Space Heater #1 through P2-Space Heater #4, each rated at 0.3 MMBTU per hour.
- (10) Six (6) natural gas fired space heaters, identified as P2-Space Heater #5 through P2-Space Heater #10, each rated at 1.125 MMBTU per hour.
- (11) Two (2) natural gas fired water heaters, identified as P2-Water Heater #1 and P2-Water Heater #2, each rated at 0.199 MMBTU per hour.
- (g) Propane or liquefied petroleum gas or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour, consisting of one (1) shell core machine butane torch, identified as P1-Butane Torch, installed in 1998, with a rated capacity of 0.144 gallons of butane per hour or 0.014 MMBtu per hour of butane.
- (h) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

### Existing Approvals

The source has been operating under previous approvals including, but not limited to the following:

- (a) CP 079-5754-00018, issued on August 26, 1996;
- (b) First Significant Source Modification 079-17819-00018, issued on December 3, 2003; and
- (c) Second Significant Source Modification 079-20064-00018, issued on March 11, 2005.

All conditions from previous approvals were incorporated into this permit except the following:

- (a) Operation Condition 3 in CP 079-5754-00018 has been modified to only require PM and PM10 testing for one of the electric induction furnaces. The shot blast machine, the grinders, the shakeout operation, the mold sand handling operation, the putty station and the buffing station are not required to test because they each account for a small portion of the potential to emit before controls.
- (b) The monthly throughput limits for the melting operation and the sand handling system in Operation Condition 4 in CP 079-5754-00018 have been modified. Production limits for the P1 facilities have been revised due to updated emission calculations. The PM emissions limits in Operating Condition 4 of CP 079-5754-00018 have also been revised to reflect stack testing and updated emissions calculations.
- (c) Operation Condition 10 in CP 079-5754-00018, issued on August 26, 1996, has been removed. Stack testing on the Rotary Kiln Dryer done in 2003 and accepted by IDEM on

September 2, 2003 show that the use of the afterburner is not required to limit VOC emissions from P1 emission units to below 100 tons per year. Stack tests show that the potential to emit of VOC from the rotary kiln dryer was 2.27 tons per year, before use of the afterburner.

- (d) The core sand and mold sand usage limitations in Conditions D.1.1(a) and D.2.1(a) of SSM 079-17819-00018, issued on December 3, 2003, for P2-Core Sand Handling, P2-Mold Sand Handling are revised to be in terms of metal throughput so that these conditions are more practically enforceable. Also, the PM and PM10 emission limits for these emission units are changed to keep PM and PM10 emissions from the modification under the 100 ton per year PSD threshold. In Conditions D.3.1(c) and D.4.1(c) of SSM 079-17819-00018, issued on December 3, 2003, the PM and PM10 emission limits for the electric induction furnaces (P2-EIF #1, P2-EIF #2 and P2-EIF #3), and P2-Shakeout are changed to keep PM and PM10 emissions from the modification under the 100 ton per year PSD threshold. Reporting Forms have been revised accordingly.
- (e) Condition D.3.1 of SSM 079-17819-0018, issued on December 3, 2003, lacks a throughput limitation for the electric induction furnaces P2-EIF #1, P2-EIF #2 and P2-EIF #3. A throughput limit has been added to keep PM and PM10 emissions from the modification under 100 tons per year.
- (f) Conditions D.5.1(a) and (b) of SSM 079-17819-0018, a PM and PM10 emission limitation for the prefinish knockout area (P2-Pre-Finish Station), coarse grinding stations (P2-Grinding Stations #1 - #5) and shot blast machine (P2-Shot Blast Machine), has been changed to keep PM and PM10 emissions from the modification under 100 tons per year. A separate condition limiting PM and PM10 emissions from the core removal operation (P2-Core Removal Operation) has been added to keep PM and PM10 emissions from the modifications under 100 tons per year.
- (g) Condition D.6.1 of SSM 079-17819-0018, issued on December 3, 2003, has been changed to add a condition limiting PM and PM10 emissions from the buffing booth (P2-Buffing Booth) in order to keep PM and PM10 emissions from the modification under 100 tons per year.
- (h) Conditions D.2.6, D.3.5 and D.7.4 of SSM 079-17819-00018, issued on December 3, 2003, which require the use of natural gas as fuel in emissions units that are capable of burning only natural gas, have been removed from this permit. The requirements are deemed unnecessary for emissions units that are capable of burning only natural gas.
- (i) Conditions D.1.1(b), D.1.1(c), D.2.1(b), D.2.1(c), D.2.1(d), D.4.1(a), D.6.1(a), and D.6.1(b) of SSM 079-17819-00018, issued on December 3, 2003, which set emission unit-specific limits on the usage amounts and VOC composition of the core resin, core wash, mold plastic, mold release agent, mold wash, floor mold wash, filler putty and paint used in the P2 core making operations, P2 mold making operations and P2 pre-finish and P2 painting operations, has been changed to a general limit. The limit will be set to keep total VOC emissions from the P2 emission units to less than 100 tons per year. Therefore, PSD will not be triggered. Appropriate recordkeeping and reporting requirements will be added.
- (j) The VOC usage limitations in Conditions D.1.1(b) and D.1.1(c) of SSM 079-17819-00018, issued on December 3, 2003, for the P2-Core Machine and Core Wash kept this emissions unit from exceeding 25 tons of VOC per year. The PTE and materials usage figures have been revised to reflect the results of a VOC and HAP emissions study performed by Technicon LLC on the Foseco Metallurgical resin/CO<sub>2</sub> binder system used in the core making operations and also to reflect changes in the materials used in these processes made during the construction phase of the emission units constructed under

SSM 079-17819-00018, issued on December 3, 2003. The unlimited PTE of the P2-Core Machine (including resin, release agent 1 and release agent 2) is 37.4 tons per year. However, actual emissions of VOC have never exceeded 25 tons per year. Therefore, no violation of 326 IAC 8-1-6 (BACT) has occurred. Also, this process is bottlenecked by metal throughput limits for P2-Core Sand Handling and P2-Core Removal. The maximum bottlenecked PTE for VOC for this unit is 20.9 tons of VOC per year. The Permittee has agreed to limit the input of VOC for P2-Core Machine to less than 25 tons per year. (See the State Rule Applicability section for a full discussion.) Therefore, the requirements of 326 IAC 8-1-6 (BACT) will not be applicable to this emissions unit.

- (k) The VOC usage limits on P1 emissions units in Operation Condition 4 in CP 079-5754-00018, issued on August 26, 1996, have been revised to reflect stack testing, changes in materials and updated emissions calculations. CP 079-5754-00018 included specific VOC usage limits on the rotary kiln chip coolant, filler/putty, mold coating application and drying operations and painting operations. Combined with the potential to emit of VOC from the core making, pouring/cooling/shakeout and insignificant activities, these limits kept VOC emissions from P1 below 100 tons per year so that the requirements of PSD would not be applicable. Since the issuance of CP 079-5754-00018, the source has performed stack testing on the rotary kiln dryer, pouring/cooling/shakeout and the core making operations. The source has also made changes in the materials used in the core making operations, mold making operations, filler/putty application and paint operations at P1. Overall, these changes in materials have resulted in a substantial (48%) decrease in potential to emit of VOC before limits from these emission units. The new limits in this permit will maintain the 100 tons per year VOC emission limit on the emission units at P1. Condition 4 in CP 079-5754-00018 set a VOC limit of 6.91 tons per month (equivalent to 82.9 tons per year) on the usage amounts and VOC composition of the filler/putty, mold coating and paints used in P1. This limit will be clarified by specifically including VOC usage at the P1 core making operations, P1 filler/putty application, P1-mold making operations and P1-paint booths. Combined with the potential to emit of VOC from the other P1 emission units (rotary kiln dryer, pouring/cooling/shakeout and insignificant activities), this will keep the combined emissions of VOC from P1 emission units under 100 tons per year. Therefore, PSD will not be triggered. Appropriate recordkeeping and reporting requirements will be added. The new VOC limit is as follows:

The total usage of VOC at the P1-Molding Machine, P1-Core Machine, P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Putty Booth, and the P1-Final Inspection Paint Booth shall be limited to less than 82.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with this limit makes the requirements of 326 IAC 2-2 (PSD) not applicable to the emission units constructed under CP 079-5754-00018, issued on August 26, 1996.

- (l) Condition D.7.3 of SSM 079-17819-00018, issued on December 3, 2003, has been removed from the permit. This condition required that the access roads and parking lots be paved. This was completed in 2004.

### **Air Pollution Control Justification as an Integral Part of the Process**

- (a) NVIC has submitted the following justification such that the vacuum be considered as an integral part of the molding and handling process:
- (1) North Vernon uses an "open" mold casting pattern to shape the exterior of the counterweight. The molds are manufactured using a vacuum molding process that uses a negative pressure differential (supplied by several vacuum pumps arranged in series) to hold the molding sand stationary in the shape of the mold pattern. The negative pressure differential must be maintained until the casting

has cooled and can be transported to the shakeout unit. The molding and casting cannot be made without the use of the vacuum system.

- (2) The vacuum system is also used to collect sand and transport it to a collection area for reuse in the casting operations. Spent molding sand from the shakeout unit is gravity fed to a vibrating table which separates small pieces of metal or burnt plastic from the molding sand. From the vibrating table, the sand is pneumatically transported to a cooler. From the cooler, the sand is bucket elevated to either a storage hopper or immediately back to the mold making operations. From the point that the sand enters the vibrating table, the sand handling system is an enclosed loop. The dust collector used for the sand handling was designed to collect and re-circulate the fine sand and particulate matter from the shakeout process, vibrating table, and cooler back into the sand handling operations. By process of recycling the fine grain spent molding sand and PM/PM-10 emissions, the dust collector subsequently functions as a pollution control device. The sand handling operations cannot operate without the control equipment. In addition, the use of the vacuum system to collect the sand reduces the overall costs of production by reducing the amount of new sand that has to be purchased each year. Therefore, the control equipment used in the vacuum sand handling operation has an overwhelming positive net economic effect and should be considered part of the emission unit's physical and operational design.

IDEM, OAQ has evaluated the justification provided by North Vernon and has determined that the baghouse and vacuum sand handling equipment used in conjunction with the sand handling, molding and casting operations is not integral to these processes for the following reasons: (1) the negative pressure differential used in the molding and casting operation does not ensure that the PM and PM-10 emissions are controlled (i.e., a pressure differential on its own is not a control device); (2) based on the description provided by the source, it is not clear whether the sand is actually collected in the baghouse; and (3) the source has not provided data to support their claim that the collection and recycling of the sand has "an overwhelming positive net economic effect" for the company. Therefore, the permitting level has been determined using the potential to emit before the baghouse and associated vacuum sand handling system.

- (b) NVIC has submitted the following justification such that the dust collector (Baghouse 3) associated with the shot blast machine to be added pursuant to SSM 079-17819-00018 be deemed integral to the process for the shot blast machine, rather than a particulate control. The actual write up submitted in the application is re-stated below for convenience.
  - (1) The collector system will evacuate the fines (from spent shot and scale removed from the parts), which would otherwise decrease the efficiency of the system by reducing the mass of the shot being thrown at the parts and interfering with the contact of clean shot with the part surface.
  - (2) The purpose of the shot blast machine will be to clean the parts for further machining, painting or other process. In all cases, a part that is free from fines will be essential to the quality of the process. Operation of the shot blast system without the collection system would immediately result in parts that do not meet the necessary standards for use in the subsequent process.
  - (3) The collection system protects the fan that creates the draft from the working surface. Without the collection system, particulate would directly impact the fan blades and degrade them.

- (4) The collection system will be necessary to the recycling of the shot blast media. The system will be designed for such recycling to take place, and could not be operated otherwise.

The IDEM OAQ has evaluated the justifications and determined that Baghouse 3 is not consider an integral part of the process. Baghouse 3 serves primarily as particulate control. The justification centers primarily with maintaining the efficiency of the process and producing less defective products if the dust collector is operating; however, this does not necessarily mean that the process can not operate without the dust collector. The shot blaster can operate without the dust collector until the concentration of fines becomes too high. Therefore, the permitting level has been determined using the potential to emit before the baghouse.

### **Enforcement Issue**

IDEM is aware that the source did not apply for a Title V or FESOP within twelve (12) months after the submission of the affidavit of construction on November 26, 1997. A Notice of Violation was sent to North Vernon Industry Corporation on February 25, 2002 and there is a case pending (#2001 – 11109A).

### **Recommendation**

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete application for the purposes of this review was received on October 31, 2001. Additional information was received on June 24, 2002, June 13, 2003, September 3, 2004, November 13, 2004, and December 15, 2004.

### **Emission Calculations**

See Appendix A (pages 1 – 14) of this document for detailed emissions calculations of the emissions units, installed in 1998, and the emissions units to be installed under SSM 079-17819-00018, issued December 3, 2003.

The calculations for potential to emit of VOC from the core making are based on a VOC and HAP emissions study performed by Technicon LLC on the Foseco Metallurgical resin/CO<sub>2</sub> binder system and the MSDS sheets for the release agents. It is assumed that all VOC in the release agents volatilizes and is released prior to pouring. The calculations for potential to emit of VOC from pouring/cooling/shakeout operations are based on the results of stack tests conducted at the source on August 11, 2005. The materials testing results and the stack test results are used in calculating the emission factors for VOC. NVIC uses no organic binder in the sand molds.

The calculations for potential to emit of HAP from the core making are based on a VOC and HAP emissions study performed by Technicon LLC on the Foseco Metallurgical resin/CO<sub>2</sub> binder system and the MSDS sheets for the release agents. The HAP emissions from the pouring/cooling/shakeout operations are calculated using emission factors from "Calculating Emission Factors for Pouring, Cooling and Shakeout", Table 1, Modern Casting magazine, October 1994. In calculating HAP combustion emissions, it is assumed that all organic materials used in the molds and cores, including 100% of plastic and 100% of resins, are completely combusted/volatilized during the pouring, cooling and shakeout operations. This method assumes that the volatile HAP in the core resin binder volatilizes and is emitted before pouring/cooling/shakeout.

### Unrestricted Potential to Emit of the Source

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

The figures in the following table represent PTE for the entire source before controls or limits.

Pollutant	Unrestricted Potential to Emit (tons/yr)
PM	7,300
PM10	1,482
SO <sub>2</sub>	3.0
VOC	145
CO	26.5
NO <sub>x</sub>	35.1

HAPs	Unrestricted Potential to Emit (tons/yr)
Lead	26.1
Manganese	210
Styrene	9.6
Others	0.9
Total	246

- (a) The unrestricted potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10 and VOC are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) The unrestricted potential to emit (as defined in 326 IAC 2-7-1(29)) of a single HAP is greater than ten (10) tons per year and combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (c) Fugitive Emissions  
Since this type of operation is one of the twenty-eight (28) listed source categories under 326 IAC 2-2, the fugitive emissions are counted toward determination of PSD applicability.

### Limited Potential to Emit of the Source

In CP 079-5754-00018, issued August 26, 1996, the source accepted limits on the amount of PM, PM10 and VOC emitted from the emissions units constructed in 1998 and collectively identified as P1. In Significant Source Modification 079-17819-00018, issued on December 3, 2003, the source accepted limits on the amount of PM, PM10 and VOC emitted from the emission units constructed in 2004 and collectively identified as P2. The following tables show the potential to emit, considering all limits, of the emission units constructed in 1998 and 2004.

Limited Potential to Emit of the Emissions Units Constructed in 1998 (P1) (tons/year)							
Process/facility	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
P1-Rotary Kiln Dryer	8.0 *	8.0 *	--	2.47	2.94	3.5	0.04
P1-EIF#1 and P1-EIF#2	Less than 29.8 *	Less than 29.8 *	--	--	--	--	1.04
P1-Charge	22.3 *	13.4 *	--	--	--	--	0.78
P1-Ladle Preheater	--	--	--	--	0.15	0.18	--
P1-Pouring/Cooling	7.44 *	7.44 *	1.05	4.7	--	0.53	0.41
P1-Shakeout, P1-Mold Sand Handling	Less than 12.3 *	Less than 12.3 *	--		--	--	
P1-Molding Machine, P1-Mold Wash, P1-Molding Dryer #1, P1-Molding Dryer #2	--	--	--	5.72	--	--	
P1-Core Machine	0.6	0.6	--	22.4	--	--	0.06
P1-Core Sand Handling	1.4	0.22	--	--	--	--	--
P1-Shot Blast Machine #1	Less than 1.12 *	Less than 1.12 *	--	--	--	--	0.26
P1-Core Removal, P1-Pre-Finish, P1-Grinding Stations #1-#5	Less than 3.4 *	Less than 3.4 *	--	--	--	--	
P1-Buffing Booth	Less than 3.0 *	Less than 3.0 *	--	--	--	--	
P1-Paint Booths #1, #2, & #3, P1-Paint Booth Dryers #1, #2 & #3, P1-Final Inspection Paint Booth	Less than 7.44 *	Less than 7.44 *	--	24.2	--	--	Styrene 5.0
P1-Filler/Putty Application	--	--	--	1.46	--	--	
P1-Putty Booth	0.17	0.17	--	--	--	--	--
P1-Final Inspection Buffing Booth	0.17	0.39	--	--	--	--	--
P1-Insignificant Activities	0.62	0.62	0.08	0.54	6.59	8.18	0.01
Subtotal P1- Emissions	Less than 100	Less than 90	1.17	61.5	9.7	12.4	Single HAP 5.0 Combination of HAPs 7.55

Note: "--" means emissions of this pollutant are negligible.

\* Emissions of PM and PM10 are limited by conditions in the permit. Therefore, the requirements of 326 IAC 2-2 are not applicable.

Limited Potential to Emit of the Emissions Units Constructed Under SSM 079-17819-00018 (P2) (tons/year)							
Process/facility	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
P2-EIF#1, P2-EIF#2, P2-EIF #3	33.0 *	33.0 *	--	--	--	--	1.15
P2-Charge	26.4 *	15.8 *	--	--	--	--	0.92
P2-Ladle Preheater	--	--	--	--	0.37	0.44	--
P2-Pouring/Cooling	4.4 *	4.4 *	8.8	3.94	--	0.44	0.53
P2-Shakeout, P2-Mold Sand Handling	Less than 14.1 *	Less than 14.1 *	--		--	--	
P2-Molding Machine, P2-Molding Dryer #1, P2-Molding Dryer #2, P2-Mold Wash	--	--	--	10.5	--	--	
P2-Core Machine	1.2	1.2	--	Less than 25 **	--	--	0.15
P2-Core Sand Handling	3.3 *	0.54 *	--	--	--	--	--
P2-Shot Blast Machine	Less than 1.3 *	Less than 1.3 *	--	--	--	--	0.18
P2-Pre-Finish, P2-Grinding Stations #1 - #5, P2- Putty Booth	Less than 2.6 *	Less than 2.6 *	--	--	--	--	
P2-Buffering Booth	Less than 2.6 *	Less than 2.6 *	--	--	--	--	
P2-Paint Booths #1, #2, P2-Paint Booth Dryers #1, #2,	5.9 *	5.9 *	--	25.6	--	--	Styrene – 4.55
P2-Filler/Putty Application	--	--	--	1.33	--	--	
P2-Core Removal	2.85	0.43	--	--	--	--	--
P2-Insignificant Activities	1.47	1.47	0.14	1.18	15.9	19.3	--
Subtotal P2- Emissions	Less than 100	Less than 90	1.35	Less than 67.6	16.3	20.2	Single HAP 4.55 Combination of HAPs 7.5

Note: "--" means emissions of this pollutant are negligible.

\* Emissions of PM and PM10 are limited by conditions in the permit. Therefore, the requirements of 326 IAC 2-2 are not applicable.

\*\* VOC emissions are limited by conditions in the permit. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

Limited Potential to Emit of the Emissions Units Constructed Under SSM 079-20064-00018 (tons/year)							
Process/facility	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
P1-Shot Blast Machine #2	1.12	1.12	0	0	0	0	0.06

Limited Potential to Emit for Entire Source (tons/year)							
Process/emission unit	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
All P1- Emissions Units	Less than 100	Less than 90	1.17	61.5	9.7	12.4	Single HAP 5.0 Combination of HAPs 7.55
All P2- Emissions Units	Less than 100	Less than 90	1.35	Less than 67.6	16.3	20.2	Single HAP 4.55 Combination of HAPs 7.5
Total PTE – Entire Source	Less than 200	Less than 180	2.52	129	26.1	32.6	Less than 10 tpy for a single HAP Less than 25 tpy for a combination of HAPs. ***

\*\*\* Conditions in the permit limit the amount of HAP emitted from the entire source to less than 25 tons per year for any combination of HAPs.

### County Attainment Status

The source is located in Jennings County.

Pollutant	Status
PM-10	Attainment
PM2.5	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Jennings County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 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 surrogate for PM2.5 emissions. See the State Rule Applicability – Entire Source section.
- (b) Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) 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 NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Jennings County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) Jennings County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the

requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

### Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assure that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

### Federal Rule Applicability

- (a) The source is subject to the provisions of 40 CFR 64, Compliance Assurance Monitoring. In order for this rule to apply, a specific emissions unit must meet three criteria for a given pollutant: 1) the unit is subject to an emission limitation or standard for the applicable regulated air pollutant, 2) the unit uses a control device to achieve compliance with any such emission limitation or standard, and, 3) the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal or greater than 100 percent of the amount required for a source to be classified as a major source. The following facilities at this source have the potential to emit greater than one hundred (100) tons per twelve (12) consecutive month period of a specific pollutant and use a control device to comply with an emission limitation for that specific pollutant: P1-Shakeout, P1-Mold Sand Handling, P1-Shot Blast Machine #1, P1-Pouring/Cooling, P1-Shot Blast Machine #2, P2-Pouring/Cooling, P2-Shakeout, P2-Mold Sand Handling and P2-Shot Blast Machine.

Visible emission notations of the P1-Shakeout, P1-Mold Sand Handling, P1-Shot Blast Machine, P2-Shakeout, P2-Mold Sand Handling and P2-Shot Blast Machine stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

The pollutant-specific emission units are not “large units” as described in 40 CFR 64.5. Therefore, the Permittee shall submit a CAM plan pursuant to 40 CFR 64 as part of the Part 70 renewal application.

- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit.
- (c) The requirements of the New Source Performance Standard for Surface Coating of Metal Furniture (40 CFR 60, Subpart EE) are not included in this permit for the surface coating operations because this source does not coat metal furniture. The source only coats iron castings used as counterweights on forklift trucks.
- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this permit. The source has accepted limits on HAP emissions of less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of a combination of HAPs. The conditions specifying the limits and controls that will restrict HAP emissions from this source to below the major source levels are as follows:

- (1) Metal throughput to P1 emissions units shall be limited to less than 74,400 tons per year. Metal throughput to P2 emission units shall be limited to less than 88,000 tons per year.
- (2) Particulate emissions from the P1 and P2 emission units shall be controlled as specified in the PSD conditions of this permit (See State Rule Applicability – Entire Source, 326 IAC 2-2 (Prevention of Significant Deterioration) for full discussion).
- (3) The usage of HAP in the P1-Core Making, P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Final Inspection Paint Booth, P2-Core Making, P2-Filler/Putty Application, P2-Paint Booth #1, P2-Paint Booth #2, and P2-Final Inspection Paint Booth shall be limited to less than ten (10) tons per twelve (12) consecutive month period for any single HAP and less than 19.6 tons per twelve (12) consecutive month period for any combination of HAPs. Records shall be kept of all HAP-containing materials used at the source in order to verify compliance with these limits.

After these limits and controls, combined with HAP emissions from other emission units at this source, the source's potential to emit of a single HAP is less than ten (10) tons per twelve (12) consecutive month period and the source's potential to emit of a combination of HAPs is less than twenty-five (25) tons per twelve (12) consecutive month period. Any change that would increase HAP emissions to greater than ten (10) tons per twelve (12) consecutive month period for a single HAP or greater than twenty-five (25) tons per twelve (12) consecutive month period for a combination of HAPs requires prior approval from IDEM, OAQ.

- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) (40 CFR 63, Subpart ZZZZ) are not included in this permit for the emergency generators at this source (P1-Emergency Generator and P2-Emergency Generator) because the units are existing emergency stationary RICE, as defined by 40 CFR 63.6675 and are located at a minor source of HAP emissions. Pursuant to 40 CFR 63.6590(b)(3), there are no applicable requirements from 40 CFR 63, Subpart ZZZZ and 40 CFR 63, Subpart A for existing emergency stationary RICE.
- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants for Halogenated Solvent Cleaning (40 CFR 63, Subpart T) are not included in this permit for the degreasing operations because the degreasing operations do not use halogenated solvents and this source is not a major source of HAP emissions.
- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries (40 CFR 63, Subpart EEEEE) are not included in this permit for the iron foundry operations. The source is an iron foundry and has the potential to emit greater than 10 tons per year of a single HAP. However, the source has accepted a limit on the potential to emit for a single HAP of less than 10 tons per year and a limit on the potential to emit for a combination of HAPs of less than 25 tons per year. By limiting the HAP emissions prior to the April 22, 2007 compliance date, this iron foundry is not subject to 40 CFR 63, Subpart EEEEE, National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries because the source is not a major source, as defined in 40 CFR 63, Subpart A. Recordkeeping and reporting requirements are included in this permit to ensure that the source does not exceed the HAP emission threshold.
- (h) The requirements of the National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (40 CFR 63, Subpart

MMMM) are not included in this permit for the surface coating operations. The source applies surface coating to metal parts and products and has the potential to emit greater than 10 tons per year of a single HAP. However, the source has accepted a limit on the potential to emit for a single HAP of less than 10 tons per year and a limit on the potential to emit for a combination of HAPs of less than 25 tons per year. By limiting the HAP emissions prior to the January 2, 2007 compliance date, the surface coating operations are not subject to 40 CFR 63, Subpart MMMM, National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products because the source is not a major source of HAPs, as defined in 40 CFR 63, Subpart A. Recordkeeping and reporting requirements are included in this permit to ensure that the source does not exceed the HAP emission threshold.

- (i) The requirements of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR 63, Subpart DDDDD) are not included in this permit for the natural gas-fired ladle preheaters at this source (P1-Ladle Preheater and P2-Ladle Preheater) and the rotary kiln dryer because these natural gas-fired preheaters do not meet the definition of a "process heater" stated in 40 CFR 63.7575 and this source is not a major source of HAP emissions. The ladle preheaters are used to dry the ladle prior to filling with metal charge. The preheaters do not heat the process material (the metal charge). The combustion gases from the rotary kiln come into direct contact with the process materials.

#### **State Rule Applicability - Entire Source**

##### **326 IAC 2-6 (Emission Reporting)**

Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3, an emission statement must be submitted triennially by July 1 beginning in 2006 and every 3 years after. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

##### **326 IAC 5-1 (Opacity Limitations)**

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

##### **326 IAC 2-2 (Prevention of Significant Deterioration)**

This source is one (1) of the twenty-eight (28) listed source categories and was constructed in 1998. The emission units at this source that were constructed in 1998 have the potential to emit greater than one hundred (100) tons per year of PM and PM10 before controls.

In CP 079-5754-00018, issued August 26, 1996, the emissions of PM and PM10 from the entire source were limited to less than 100 tons per year in order to make the requirements of 326 IAC 2-2 not applicable. This Part 70 Operating Permit includes limits on emissions of PM and PM10 from the emissions units constructed in 1998 that will keep emissions of PM and PM10 from these units less than 100 tons per year. The PM and PM10 limits for the emission units constructed in 1998 are shown in the following table:

Emission Unit ID	Metal Throughput Limit (tons per year)	Emission Limit (lbs PM/PM10 per ton metal)		PM/PM10 Emissions (tons per year)	
		PM	PM10	PM	PM10
P1-EIF#1, P1-EIF#2	74,400 total	0.8	0.8	29.8	29.8
P1-Shakeout, P1-Mold Sand Handling	74,400 each	0.33	0.33	12.3	12.3
P1-Shot Blast Machine #1	74,400	0.03	0.03	1.1	1.1
P1-Core Removal, P1-Pre-Finish, P1-Grinding #1 - #5	74,400 each	0.09	0.09	3.35	3.35
P1-Buffing Booth	74,400	0.08	0.08	2.98	2.98
P1-Charge	74,400	0.6	0.36	22.3	13.4
P1-Rotary Kiln Dryer	74,400	0.2	0.2	7.44	7.44
P1-Pouring/Cooling	74,400	0.2	0.2	7.44	7.44
P1-Core Sand Handling	74,400	0.037	0.006	1.4	0.2
P1-Paint Booth #2, P1-Paint Booth #3	6,200 hrs/yr each	2.4 lbs/hr total	2.4 lbs/hr total	7.44 total	7.44 total
P1-Final Inspection Paint	6,200 hrs/yr	0.11 lbs/hr	0.11 lbs/hr	0.4	0.4
P1-Final Inspection Buffing	74,400	0.0045	0.0045	0.17	0.17
P1-Putty Booth	74,400	0.0045	0.0045	0.17	0.17
Total		NA		96.3	86.2

Use of the dry filters, baghouses and/or dust collectors will ensure compliance with the PM and PM10 limits specified above.

In CP 079-5754-00018, issued August 26, 1996, the emissions of VOC from the entire source were limited to less than 100 tons per year. At the time that CP 079-5754-00018 was issued, the PTE for VOC for the entire source was greater than 100 tons per year. Since that time, the source has changed the formulation of resins used in the core making and provided stack test results for the pouring/cooling/shakeout with the result that the PTE for VOC for the emission units constructed under CP 079-5754-00018 is calculated to be less than 100 tons per year. However, VOC limits for the emission units constructed in 1998 are retained in this permit and are as follows:

- (a) The total usage of VOC at the P1-Molding Machine, P1-Core Machine, P1-Filler/Putty Application, P1-Paint Booth #2, P1-Paint Booth #3, P1-Putty Booth, and the P1-Final Inspection Paint Booth shall be limited to less than 82.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The P1-Shakeout and P1-Pouring/Cooling operations shall be limited to 74,400 tons of metal throughput per twelve (12) consecutive month period.

These throughput limitations and materials usage limits, combined with VOC emissions from other emission units at this source constructed in 1998, will limit the emissions of VOC from the emissions units at this source constructed in 1998 to less than 100 tons per twelve consecutive month period.

Compliance with these emission limits ensures that the PM, PM10 and VOC emissions from the emissions units constructed in 1998 under CP 079-5754-00018 are less than 100 tons per year and 326 IAC 2-2 (Prevention of Significant Deterioration) is not applicable.

After construction of the emissions units constructed in 1998, the source was a minor source under PSD.

The source was issued Significant Source Modification 079-17819-00018 on December 3, 2003. At the time that SSM 079-17819-00018 was issued, the PTE for PM and PM10 before controls for the emissions units permitted in SSM 079-17819-00018 were greater than 100 tons per year. In order not to trigger PSD review for this modification, the source agreed to limit emissions of PM and PM10 from the modifications permitted under SSM 079-17819-00018 to less than 100 tons per year. The specific PSD limitations for PM and PM10 for the emissions units constructed under SSM 079-17819-00018 are as shown in the following table:

Emission Unit ID	Metal Throughput Limit (tons per year)	PSD Emission Limit (lbs PM/PM10 per ton metal)		PM/PM10 Emissions (tons per year)	
		PM	PM10	PM	PM10
P2-EIF#1, P2-EIF#2, P2-EIF #3	88,000 total	0.75	0.75	33.0	33.0
P2-Shakeout, P2-Mold Sand Handling	88,000 each	0.32	0.32	14.1	14.1
P2-Shot Blast Machine	88,000	0.03	0.03	1.3	1.3
P2-Pre-Finish, P2-Putty Booth, P2-Grinding #1 - #5	88,000 each	0.06	0.06	2.6	2.6
P2-Core Removal	88,000	0.065	0.01	2.85	0.43
P2-Charge	88,000	0.6	0.36	26.4	15.8
P2-Pouring/Cooling	88,000	0.1	0.1	4.4	4.4
P2-Core Sand Handling	88,000	0.075	0.011	3.3	0.5
P2-Paint Booth #1	4,889 hrs/yr	1.9 lbs/hr	1.9 lbs/hr	4.6	4.6
P2-Paint Booth #2	4,889 hrs/yr	0.5 lbs/hr	0.5 lbs/hr	1.25	1.25
P2-Buffering Booth	88,000	0.06	0.06	2.6	2.6
Total		NA		96.4	80.6

Use of the dry filters, baghouses and/or dust collectors will ensure compliance with the PM and PM10 limits specified above.

At the time that SSM 079-17819-00018 was issued, the PTE for VOC before controls and limits for the emissions units permitted in SSM 079-17819-00018 was greater than 100 tons per year. In order not to trigger PSD review for this modification, the source agreed to limit emissions of VOC from the modifications permitted under SSM 079-17819-00018 to less than 100 tons per year. Since that time, the source has changed the formulation of resins and release agents used in the core making, removed two of the planned paint booths and provided stack test results for the pouring/cooling/shakeout with the result that the PTE for VOC for the emission units constructed under SSM 079-17819-00018 is calculated to be less than 100 tons per year. The 100 ton per year VOC limit for the emission units constructed under SSM 079-17819-00018 is retained in this permit. However, it has been modified to a general limit in order to give the source more flexibility in its usage of materials. The VOC limit is as follows:

- (a) The total usage of VOC in the P2-Molding Machine, P2-Core Machine, P2-Filler/Putty Application, P2-Paint Booth #1 and P2-Paint Booth #2 shall be limited to less than 62.0 tons per twelve (12) consecutive month period.
- (b) The P2-Shakeout and P2-Pouring/Cooling operations shall be limited to 88,000 tons of metal throughput per twelve (12) consecutive month period.

These throughput limitations and materials usage limits, combined with VOC emissions from other emission units at this source constructed under Significant Source Modification 079-17819-00018, will limit the emissions of VOC from the emissions units at this source constructed under Significant Source Modification 079-17819-00018 to less than 100 tons per twelve consecutive month period. Compliance with these emission limits ensures that the PM, PM10 and VOC

emissions from the emissions units constructed under Significant Source Modification 079-17819-00018 are less than 100 tons per year and 326 IAC 2-2 (Prevention of Significant Deterioration) is not applicable. After this modification the source became a major source under PSD.

Under Significant Source Modification 079-20064-00018, issued on March 11, 2005, the source added P1-Shot Blast Machine #2. Conditions in the permit limited the potential to emit of PM, PM10 and Lead to less than 25, 15 and 5 tons per year, respectively. Therefore, this modification to a major PSD source did not trigger PSD review.

The PTE of the entire source, including both the emission units constructed in 1998, those constructed under SSM 079-17819-00018, and those constructed under SSM 079-20064-00018, after limits and controls, is now greater than 100 tons per year for PM and PM10. The source is a major source under PSD.

#### 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

This source was issued a construction permit on August 26, 1996, which is before the July 27, 1997 applicability date for this rule; therefore, the requirements of 326 IAC 2-4.1-1 are not applicable to the emissions units listed in paragraphs (a) through (g) of the Permitted Emission Units and Pollution Control Equipment section of this Technical Source Document. Significant Source Modification 079-17819-00018, issued on December 13, 2003, allows this source to add the emissions units listed in paragraphs (h) through (m) of the Permitted Emission Units and Pollution Control Equipment section of this Technical Source Document. These additional facilities are not subject to the requirements of 326 IAC 2-4.1-1 because pursuant to SSM 079-17819-00018, the source has limited the amount of HAPs emitted from that modification to less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. This permit limits the entire source to less than these thresholds in order to make this source a minor source of HAP. Therefore this limit also makes the source not subject to 326 IAC 2-4.1 for the modification permitted in SSM 079-17819-00018.

#### 326 IAC 11-1 (Emissions Limitations for Foundries)

This source was constructed after December 6, 1968. Pursuant to 326 IAC 11-1-1, the source shall comply with the emissions limitations specified in 326 IAC 6-3.

### **State Rule Applicability – Surface Coating**

#### 326 IAC 6-3-2(d) (Particulate Emission Limitations for Manufacturing Processes)

Particulate from the surface coating operations shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

#### 326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)

The surface coating facilities at this source P1-Putty Booth, P1-Paint Booth #2, P1-Paint Booth #3, P1-Final Inspection Paint Booth, P2-Filler/Putty Application, P2-Paint Booth #1, P2-Paint Booth #2 and P2-Putty Booth are subject to 326 IAC 8-2-9. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

#### 326 IAC 8-2-9 (Miscellaneous Metal Coating)

This source was constructed after July 1, 1990, applies surface coatings to metals, and has actual emissions of greater than fifteen (15) pounds of VOC per day before add-on controls. Therefore, 326 IAC 8-2-9 applies to the surface coating operations at this source.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the paint booths shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings. Compliance with the VOC content limit shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a daily volume weighted average of coatings. This volume weighted average shall be determined using the following equation:

$$A = [3 (C \times U) / 3 U]$$

Where: A is the volume weighted average in pounds VOC per gallon less water as applied  
 C is the VOC content of the coating in pounds VOC per gallon less water as applied  
 and U is the usage rate of the coating in gallons day

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the VOC contents in the MSDS, these booths comply with the VOC content requirement of 3.5 pounds/gallon (326 IAC 8-2-9).

**State Rule Applicability – Melting, Mold Making, Core Making, Floor Molding, Pre-Finish and Finishing Operations**

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from each of the electric induction furnaces, rotary kiln, dryers, scrap and charge handling operations, pouring lines, shakeout units, pre-finish stations, core removal stations, shot blast machines, coarse grinding stations, and buffers installed in 1998 and 2004, shall not exceed the pound per hour limitation shown in the table below:

Emission Unit	Process Weight (lbs/hr)	PM Emission Limit (lbs/hr)
Electric Induction Furnaces (each)	12,000	13.6
P1-Rotary Kiln Dryer	15,000	15.8
P1-Charge	24,000	21.7
P1-Pouring/Cooling	24,000	21.7
P2-Charge	36,000	28.4
P2-Pouring/Cooling	36,000	28.4
P1-Core Removal	40,000	30.5
P1-Shot blast Machine	40,000	30.5
P1-Pre-Finish	40,000	30.5
P1-Grinding Stations #1-#5	40,000	30.5
P1-Buffering Booth	40,000	30.5
P1-Final Insp. Buffering	40,000	30.5
P2-Core Removal	48,000	34.5
P2-Shot blast Machine	48,000	34.5
P2-Pre-Finish	48,000	34.5
P2-Grinding Stations #1-#5	48,000	34.5
P2-Buffering Booth	48,000	34.5
P1-Shakeout	40,000	30.5
P2-Shakeout	48,000	34.5
P1-Core Sand Handling	750	2.13
P2-Core Sand Handling	750	2.13
P1-Mold Sand Handling	110,000	45.5
P2-Mold Sand Handling	330,000	56.4

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:

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

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

- (a) The potential to emit of volatile organic compound (VOC) from the P1-Rotary Kiln Dryer is less than twenty-five (25) tons per year. This is based on stack testing on VOC emissions from the rotary kiln dryer done in 2003 and accepted by IDEM on September 2, 2003. Therefore, 326 IAC 8-1-6 is not applicable. Any change or modification which increases the potential emissions to equal to or greater than twenty-five (25) tons per year must receive prior approval from IDEM, OAQ.
- (b) The potential volatile organic compound (VOC) emissions from the P1-Molding Machine are greater than twenty-five (25) tons per year. Pursuant to CP 079-5754-00018 issued August 26, 1996, the mold coating application and drying process installed in 1998 is subject to 326 IAC 8-1-6 (Best Available Control Technology (BACT)) because it has potential volatile organic compound emissions in excess of 25 tons per year. The company submitted to OAQ a top-down BACT analysis in 1996. For this operation BACT was determined to be the use of proprietary high solids pattern coating with less than or equal to 6 pounds of VOC per gallon of coating less water.
- (c) The potential volatile organic compound (VOC) emissions from the P1-Pouring/Cooling and P1-Shakeout are less than twenty-five (25) tons per year. Stack tests of the pouring/cooling/shakeout were conducted on August 11, 2005 and the results were accepted by IDEM on October 21, 2005. Therefore, 326 IAC 8-1-6 is not applicable. Any change or modification which increases the potential emissions to equal to or greater than twenty-five (25) tons per year must receive prior approval from IDEM, OAQ.
- (d) The potential volatile organic compound (VOC) emissions from P1-Core Machine are less than twenty-five (25) tons per year. On July 18, 2005, the source submitted the results of testing performed by Tecknicon LLC on the Foseco Metallurgical resin/CO2 binder system used in the P1 core making at this foundry. This data showed that VOC emissions (0.07 tons per year) from the resin used in P1 core making are negligible. The PTE for VOC for the release agents used in P1 core making is 22.3 tons per year. Therefore, 326 IAC 8-1-6 is not applicable. Any change or modification which increases the potential emissions to equal to or greater than twenty-five (25) tons per year must receive prior approval from IDEM, OAQ.
- (e) The potential volatile organic compound (VOC) emissions from the P2-Molding Machine are less than twenty-five (25) tons per year. Therefore, 326 IAC 8-1-6 is not applicable. Any change or modification which increases the potential emissions to equal to or greater than twenty-five (25) tons per year must receive prior approval from IDEM, OAQ.
- (f) The potential volatile organic compound (VOC) emissions from the P2-Pouring/Cooling and P2-Shakeout are less than twenty-five (25) tons per year. Stack tests of the pouring/cooling/shakeout were conducted on August 11, 2005 and these results were accepted by IDEM on October 21, 2005. Therefore, 326 IAC 8-1-6 is not applicable. Any change or modification which increases the potential emissions to equal to or greater than twenty-five (25) tons per year must receive prior approval from IDEM, OAQ.
- (g) The potential volatile organic compound (VOC) emissions from P2-Core Machine are greater than twenty-five (25) tons per year. On July 18, 2005, the source submitted the results of testing performed by Tecknicon LLC on the Foseco Metallurgical resin/CO2 binder system on the core making at this foundry. This data showed that VOC emissions from the resin used in the P2 core making (0.15 tons per year) are negligible. However, the unlimited PTE for VOC for the release agents used in the P2 core making is 37.2 tons per year. The Permittee has accepted a limit on the usage of resin and release agents

such that the total VOC emissions from the P2 core resin and P2 release agents are less than 25 tons per year. Therefore, 326 IAC 8-1-6 is not applicable. Any change or modification which increases the potential emissions to equal to or greater than twenty-five (25) tons per year must receive prior approval from IDEM, OAQ. The following limit shall be included in the permit:

The usage of release agent 1 in the P2-Core Machine shall be limited to less than 6875 gallons and 4.13 pounds of VOC per gallon per twelve (12) consecutive month period, with compliance determined at the end of each month. The usage of release agent 2 in the P2-Core Machine shall be limited to less than 2750 gallons and 6.67 pounds of VOC per gallon per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with these limits makes the requirements of 326 IAC 8-1-6 (BACT) not applicable to the P2-Core Machine.

#### 326 IAC 11-1 (Emissions Limitations for Foundries)

This source was constructed after December 6, 1968. Pursuant to 326 IAC 11-1-1, the source shall comply with the emissions limitations specified in 326 IAC 6-3.

### **State Rule Applicability – Generators**

#### 326 IAC 7-1 (SO<sub>2</sub> Limitations)

The emergency generators burning No. 2 diesel fuel are not subject to the requirements of 326 IAC 7-1 because these facilities do not have a potential to emit 25 tons per year of SO<sub>2</sub> or ten (10) pounds per hour of SO<sub>2</sub>.

### **State Rule Applicability - Degreasing Operations**

#### 326 IAC 8-3-2 Cold Cleaner operations

This cold cleaner degreasing facility is located in Jennings County, was constructed after January 1, 1980 and is used to perform organic solvent degreasing operations. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator of a cold cleaning facility shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

#### 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

Although constructed after July 1, 1990, the degreasing facility is not subject to the provisions of 326 IAC 8-3-5 because the facility is equipped with a remote solvent reservoir.

### **Testing Requirements**

This source is required to perform a PM/PM-10 stack test on one of the electric induction furnaces to verify that the emissions are below the PSD thresholds. The PM and PM10 testing shall utilize methods as approved by the Commissioner. These tests shall be repeated at least

once every five years from the date of the last valid compliance demonstration. PM-10 includes filterable and condensable PM-10.

The shot blast machines, the grinders, the shakeout operations, the mold sand handling operations, the putty stations and the buffing stations are not required to test because they each account for a small portion of the potential to emit before controls.

The source is not required to test for VOC and HAPs from the paint booths because the source will maintain records of the amount of coating used, and the HAP and VOC content for each coating material applied.

## Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less 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 requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions 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.

The compliance monitoring requirements applicable to this source are as follows:

1. The electric induction furnaces, scrap and charge handling operations, pouring/cooling lines, shakeout units, mold sand handling operations, pre-finish stations, core removal stations, shot blast machines, coarse grinding stations, buffing stations, and final inspection buffing station have applicable compliance monitoring conditions as specified below:
  - (a) Visible emission notations of the electric induction furnaces, scrap and charge handling operations, pouring/cooling lines, shakeout units, mold sand handling operations, pre-finish stations, core removal stations, shot blast machines, coarse grinding stations, buffing stations, and final inspection buffing station stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal. 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. 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. 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. 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.

- (b) The Permittee shall record the pressure drop across the baghouses controlling the electric induction furnaces, scrap and charge handling operations, pouring/cooling lines, shakeout units, mold sand handling operations, pre-finish stations, core removal stations, shot blast machines, coarse grinding stations, buffing stations, and final inspection buffing station, at least once per day when these units are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 to 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 or 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 or 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.
- (c) 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) 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).
- (e) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the process line. 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).
- (f) 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.

These monitoring conditions are necessary because the baghouses for the units listed above must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), 326 IAC 2-7 (Part 70) and 326 IAC 2-2 (PSD).

- 2. The paint booths have applicable compliance monitoring conditions as specified below:
  - (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth

stacks while one or more of the booths are in operation. If a condition exists which should result in a response step, 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.

- (b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is 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.

These monitoring conditions are necessary because the dry filters for the paint booths must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), 326 IAC 2-7 (Part 70) and 326 IAC 2-2 (PSD).

### **Conclusion**

The operation of this gray iron foundry shall be subject to the conditions of this Part 70 Permit 079-15119-00018.

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

Emission Unit	Maximum Capacity	Pollutant	Emission Factor (units)	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	PTE Before Controls		PTE After Controls		PTE			
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
Scrap and Charge Handling P1-Charge 3-04-003-15	12.0 (tons/hr) metal	PM PM10	0.60 0.36 (lb/ton)	FIRE 6.25 FIRE 6.25	0	0	31.5	18.9	31.5	18.9				
P1-Ladle Preheater 1-03-006-03	0.40 (MMBTU/hr) natural gas	PM PM10 SOx NOx VOC CO	7.60 7.60 0.60 100 5.50 84.0 (lb/MMCF)	FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25	0	0	0.01	0.01	0.01	0.01	0.001	0.18	0.01	0.15
P1-Rotary Kiln Dryer Chip Emissions	3,000 (acfm)	PM PM10	0.10 0.10 (gr/dscf)	Manufacturer <sup>a</sup> Manufacturer <sup>a</sup>	0	0	11.3	11.3	11.3	11.3				
	7.50 (tons/hour)	VOC	0.069 (lbs/ton)	2003 stack test <sup>b</sup> (before controls)	0.0%							2.27		
P1-Rotary Kiln Dryer Natural Gas Gas Combustion Emissions 1-03-006-03 Emission Factor = lb/MMCF	8.00 (MMBTU/hr) natural gas	PM PM10 SOx NOx VOC CO	7.60 7.60 0.60 100 5.50 84.0 (lb/MMCF)	FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25	0	0	0.27	0.27	0.27	0.27	0.02	3.50	0.19	2.94
Electric Induction Furnaces P1-EIF#1 & P1-EIF#2 3-04-003-03	12.0 (tons/hr) metal	PM PM10	0.90 0.86 (lbs/ton)	FIRE 6.25 FIRE 6.25	11.1%		47.3	45.2						
		PM PM10	0.80 0.80 (lbs/ton)	2003 stack test <sup>b</sup> 2003 stack test <sup>b</sup> (after controls)				42.0	42.0					
P1-Pouring/Cooling <sup>c</sup> 3-04-003-18 and 3-04-003-20  (VOC emissions on page 2) (HAP Emissions on Page 6)	12.0 (tons/hr) metal	PM PM10	4.20 2.06 (lbs/ton)	FIRE 6.25 FIRE 6.25	95.1%		221	108						
		PM PM10	0.10 0.10 (lbs/ton)	engineering est. <sup>c</sup> engineering est. <sup>c</sup>				5.3	5.3					
		SOx NOx	0.02 0.01 (lbs/ton)	FIRE 6.25 FIRE 6.25					1.05	0.53				
<b>PTE Totals</b>							<b>311</b>	<b>184</b>	<b>90.4</b>	<b>77.8</b>	<b>1.07</b>	<b>4.20</b>	<b>2.47</b>	<b>3.09</b>

a These emission factors are provided by the manufacturer of the kiln dryer.

b Stack tests were conducted at the source on April 28 - May 1, 2003 and August 13, 2003 and the results were accepted by IDEM on September 2, 2003. The stack test results are used in calculating the emission factors after c

c The Pouring/Cooling operation utilizes a vacuum process during pouring/cooling that holds sand, metal and particulate in the mold. Resultant PM/PM10 emissions are minimal.

**Methodology**

PTE for Scrap & Charge Handling (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)

PTE for Natural Gas-fueled facilities (tons/yr) = Max. Capacity (MMBTU/hr) x Emission Factor ((lb/MMCF) x 8760 (hr/yr) x 1/2000 (ton/lb) x 1/1000 (MMCF/MMBTU)

PTE for PM/PM10 for Rotary Kiln Dryer (tons/yr) = 3,000 acfm x Emission Factor (gr/dscf) x 1/7000 (lb/gr) x 1/2000 (ton/lbs) x 60 (min/hr) x 8760 (hr/yr)

PTE for VOC for Rotary Kiln Dryer After Controls (tons/yr) = Emission Factor (lbs/hr) x 8760 (hrs/yr) x 1/2000 (ton/lbs)

PTE for PM/PM10 for Elec. Induction Furnace Before Controls (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)

PTE for PM/PM10 for Elec. Induction Furnace After Controls (tons/yr) = Emission Factor (lb/hr) x 8760 (hr/yr) x 1/2,000 (ton/lbs)

PTE for PM/PM10 for Pouring/Cooling (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs) x (1-Control Eff%)

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	PTE Before Controls		PTE After Controls		PTE			
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
P1-Shakeout & P1-Mold Sand Handling 3-04-003-31 These two operations are controlled by a single baghouse (Area 2).	12.00 (tons/hr) metal	PM	3.20 (lbs/ton)	FIRE 6.25	94.1%		168	118						
	55.00 (tons/hr) sand	PM10	2.24 (lbs/ton) before controls	FIRE 6.25			0.33 (lbs/ton) after controls	2003 stack test <sup>a</sup>	2003 stack test <sup>a</sup>	17.34	17.34			
P1-Pouring/Cooling P1-Shakeout	12.00 (tons/hr) metal	VOC	0.09 (lbs/ton)	2005 stack test <sup>b</sup>									4.7	
P1-Core Making	10.0 (lbs/hour) resin	VOC	0.0015 (lbVOC/lb resin)	Foseco <sup>c</sup>									0.07	
	0.75 (gals/hr) release agent 1	VOC	4.13 (lbVOC/gal)	MSDS									13.6	
	0.3 (gals/hr) release agent 2	VOC	6.67 (lbVOC/gal)	MSDS									8.76	
P1-Molding Machine 3-04-003-98	0.60 lbs/hour plastic	VOC	0.19 (lbs VOC/lb plastic)	MSDS	0	0							0.50	
	0.07 gals/hour release agent II	VOC	4.40 (lbVOC/gal)	MSDS									1.35	
	5.20 gals/hour mold wash	VOC	0.17 (lbVOC/gal)	MSDS									3.87	
P1-Mold Dryer #1 P1-Mold Dryer #2 1-03-006-03	0.0045 0.0121 (MMBTU/hr) natural gas	PM PM10 SOx NOx VOC CO	7.60 7.60 0.60 100 5.50 84.0 (lb/MMCF)	FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25	0	0	5.53E-04	5.53E-04	5.53E-04	5.53E-04	4.37E-05	7.28E-03	4.00E-04	6.12E-03
P1-Core Sand Handling 3-04-003-50	0.125 (tons/hr) sand	PM PM10	3.60 0.54 (lb/ton)	FIRE 6.25 FIRE 6.25	0	0	1.97	0.30	1.97	0.30				
Core Machine Butane Torch P1-Butane Torch 1-03-010-01	0.144 (gallons/hour)	PM PM10 SOx NOx VOC CO	0.60 0.60 0.09 21.0 0.40 3.60 (lb/1,000 gals)	FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25	0	0	3.78E-04	3.78E-04	3.78E-04	3.78E-04	5.68E-05	1.32E-02	2.52E-04	2.27E-03
<b>PTE Totals</b>							<b>170.2</b>	<b>118.0</b>	<b>19.32</b>	<b>17.64</b>	<b>0.00</b>	<b>0.02</b>	<b>32.8</b>	<b>0.01</b>

a Stack tests were conducted at the source on April 28 - May 1, 2003 and August 13, 2003 and the results were accepted by IDEM on September 2, 2003. The stack test results are used in calculating the emission factors after controls.

b Stack tests of the pouring/cooling/shakeout were conducted on August 11, 2005 and the results were accepted by IDEM on October 21, 2005. The stack test results are used in calculating the emission factors for VOC.

c VOC emission factor for core making is from a study performed by Technicon LLC on the Foseco Metallurgical resin/CO<sub>2</sub> binder system.

**Methodology**

PTE for PM/PM10 for Shakeout/Mold Sand Handling Before Controls (tons/yr) = Maximum Capacity (tons sand/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)

PTE for PM/PM10 for Shakeout/Mold Sand Handling After Controls (tons/yr) = Emission Factor (lb/hr) x 8760 (hr/yr) x 1/2,000 (ton/lbs)

PTE for VOC for Molding Machine and Core Machine (tons/yr) = Maximum Capacity (gal/hr) x VOC Content (lb VOC/gal) x 8760 (hr/yr) x 1/2000 (ton/lbs)

PTE for Natural Gas-fueled facilities (tons/yr) = Max. Capacity (MMBTU/hr) x Emission Factor ((lb/MMCF) x 8760 (hr/yr) x 1/2000 (ton/lb) x 1/1000 (MMCF/MMBTU)

PTE for PM/PM10 for Core Sand Handling (tons/yr) = Maximum Capacity (tons sand/hr) x Emission Factor (lb/ton) x 8760 (hr/yr) x 1/2000 (ton/lbs)

PTE for Shell Core Machine Butane Torch (tons/yr) = Maximum Capacity (gal/hr) x Emission Factor (lb/1000 gal) x 1/1000 \* 8760 (hr/yr) \* 1/2000 (ton/lbs)

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7.99701

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	PTE Before Controls		PTE After Controls		PTE			
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
P1-Shot Blast Machine #1 3-04-003-40  This emission unit is controlled by a single baghouse (Area 4).	12.00 (tons/hr) metal	PM	17.00 (lbs/ton)	FIRE 6.25	99.82%		894	89.4						
		PM10	1.70 (lbs/ton)	FIRE 6.25										
P1-Shot Blast Machine #2 3-04-003-40  This emission unit is controlled by a single baghouse (Area 6).	20.00 (tons/hr) metal	PM	17.0 (lbs/ton)	FIRE 6.25	99%		1489	149						
		PM10	1.70 (lbs/ton)	FIRE 6.25										
P1-Core Removal Operator 3-04-003-50 and P1-Pre-Finish Station 3-04-003-60 and Coarse Grinding Stations #1- #4 P1-Grinding Stations #1- #5 3-04-003-40 These three emission units are controlled by a single baghouse (Area 5).	0.125 (tons/hr) sand	PM	3.60 (lb/ton)	FIRE 6.25	99.5%		1.97	0.30						
		PM10	0.54 (lb/ton)	FIRE 6.25										
P1-Filler/Putty Applicator	1.75 (gals/hr)	VOC	0.19 (lb VOC/gal)	MSDS	0	0						1.46		
<b>PTE Totals</b>							<b>3278</b>	<b>328.2</b>	<b>7.87</b>	<b>7.87</b>	<b>0.00</b>	<b>0.00</b>	<b>1.46</b>	<b>0.00</b>

P1-EIF#1, P1-EIF#2	0.8	0.8	29.8	29.8	29.76	29.76
P1-Shakeout, P1-Mold Sand	0.33	0.33	12.3	12.3	12.28	12.28
P1-Shot Blast Machine #1	0.03	0.03	1.1	1.1	1.12	1.12
P1-Core Removal, P1-Pre-Finish	0.09	0.09	3.35	3.35	3.35	3.35
P1-Buffering Booth	0.08	0.08	2.98	2.98	2.98	2.98
P1-Shot Blast Machine #2	0.03	0.03	1.1	1.1	1.12	1.12
P1-Charge	0.6	0.36	22.3	13.4	22.32	13.39
P1-Rotary Kiln Dryer	0.2	0.2	8.35	8.35	7.44	7.44
P1-Pouring/Cooling	0.2	0.2	3.7	3.7	7.44	7.44
P1-Core Sand Handling	0.037	0.006	1.4	0.2	1.38	0.22
P1-Paint Booth #2, #3	2.4 lbs/hr	2.4 lbs/hr	10.5	10.5	7.44	7.44
P1-Final Inspection Paint	0.11 lbs/hr	0.11 lbs/hr	0.5	0.5	0.34	0.34
P1-Final Inspection Buffering	0.0045	0.0045	0.17	0.17	0.17	0.17
P1-Putty Booth	0.0045	0.0045	0.17	0.17	0.17	0.17
				SUM	97.28	87.20
					98.50	88.42

6199.452							
P2-EIF#1, P2-EIF#2, P2-EIF #3	88,000	0.75	0.75	33	33	33.00	33.00
P2-Shakeout, P2-Mold Sand	88,000	0.32	0.32	14.1	14.1	14.08	14.08
P2-Shot Blast Machine	88,000	0.03	0.03	1.3	1.3	1.32	1.32
P2-Pre-Finish, P2-Putty Booth	88,000	0.08	0.08	3.5	3.5	3.52	3.52
P2-Core Removal	88,000	0.065	0.01	2.85	0.43	2.86	0.44
P2-Charge	88,000	0.6	0.36	26.4	15.8	26.40	15.84
P2-Pouring/Cooling	88,000	0.1	0.1	4.4	4.4	4.40	4.40
P2-Core Sand Handling	88,000	0.075	0.011	3.3	0.5	3.30	0.48
P2-Paint Booth #1	4,889	1.9 lbs/hr	1.9 lbs/hr	4.6	4.6	4.64	4.64
P2-Paint Booth #2	4,889	0.5 lbs/hr	0.5 lbs/hr	1.25	1.25	1.22	1.22
P2-Buffering Booth	88,000	0.08	0.08	3.5	3.5	3.52	3.52
				SUM	98.27	82.47	

a Stack tests were conducted at the source on April 28 - May 1, 2003 and August 13, 2003 and the results were accepted by IDEM on September 2, 2003. The stack test results are used in calculating the emission factors after

**Methodology**

PTE for PMPM10 for Shot Blast Machine Before Controls (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)  
PTE for PMPM10 for Shot Blast Machine After Controls (tons/yr) = Emission Factor (lb/hr) x 8760 (hr/yr) x 1/2,000 (ton/lbs)  
PTE for PMPM10 for Shot Blast Machine After Controls (tons/yr) = Air Flow Rate (scfm) x Outlet Grain Loading (gr/scf) x 17,000 (lb/gr) x 8760 (hrs/yr) x 1/2,000 (ton/lbs)  
PTE for PMPM10 for Core Removal, Prefinish and Grinding Station (before controls) (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)  
PTE for PMPM10 for Core Removal, Prefinish and Grinding Station (after controls) (tons/yr) = 8760 (hr/yr) x Emission Factor (lb/hr) x 1/2,000 (ton/lbs)  
PTE for VOC for Filler/Putty (tons/yr) = Max. Capacity (gal/hr) x VOC Content (lb VOC/gal) x 1/2000 (ton/lb) x 8760 (hr/yr)

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Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Transfer Efficiency %	Control Efficiency %	PTE Before Controls		PTE After Controls		PTE			
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
P1-Paint Booth #2 White Primer 4-02-006-10 Primer is 88.9% solids	5.76 (gals/hr) 9.0 density (lb/gal)	VOC PM PM10	0.39 (lb VOC/gal) 8.00 (lb solids/gal)	MSDS	70%	85%	60.6	60.6	9.08	9.08			9.8	
P1-Paint Booth #3 Yellow Primer 4-02-006-10 Primer is 50% Solids	1.43 (gals/hr) 10.16 density (lb/gal)	VOC PM PM10	1.70 (lb VOC/gal) 5.08 (lb solids/gal)	MSDS	70%	85%	9.55	9.55	1.43	1.43			10.6	
P1-Final Inspection Paint Yellow Primer 4-02-006-10 Primer is 50% Solids	0.50 (gals/hr) 10.2 density (lb/gal)	VOC PM PM10	1.70 (lb VOC/gal) 5.08 (lb solids/gal)	MSDS	70%	85%	3.34	3.34	0.50	0.50			3.72	
P1-Paint Booth #2 Dryer P1-Paint Booth #3 Dryer 1-03-006-03	0.00165 0.00165 (MMBTU/hr) natural gas	PM PM10 SOx NOx VOC CO	7.60 7.60 0.60 100 5.50 84.0 (lbs/MMCF)	FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25	NA	NA	1.10E-04	1.10E-04	1.10E-04	1.10E-04	8.67E-06	1.45E-03	7.95E-05	1.21E-03
P1-Buffering Station 3-04-003-60  This emission unit is controlled by a single baghouse (Area 3).	12.00 (tons/hr) metal	PM PM10  PM PM10	0.0045 0.0045 (lbs/ton)  0.080 0.080 (lbs/ton)	FIRE 6.25 FIRE 6.25  2003 stack test 2003 stack test (after controls)	NA		0.24	0.2	4.20	4.20				
P1-Final Inspection Buffering 3-04-003-60	12.00 (tons/hr) metal	PM PM10	0.0045 0.0045 (lbs/ton)	FIRE 6.25 FIRE 6.25			0.24	0.24	0.24	0.24				
<b>PTE Totals</b>							<b>73.9</b>	<b>73.9</b>	<b>15.5</b>	<b>15.5</b>	<b>0.00</b>	<b>0.00</b>	<b>24.2</b>	<b>0.00</b>

a Emission Inventory Improvement Program, Volume II, Chapter 14 (7/01)

c AP-42, Chapter 1.4 - Natural Gas Combustion, Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4. (AP-42 Supplement D 7/98)

Stack tests were conducted at the source on April 28 - May 1, 2003 and August 13, 2003 and the results were accepted by IDEM on September 2, 2003. The stack test results are used in calculating the emission factors after controls.

**Methodology**

PTE for VOC for Painting (tons/yr) = Max. Capacity (gal/hr) x VOC Content (lb VOC/gal) x 1/2000 (ton/lb) x 8760 (hr/yr)

PTE for PM/PM10 for Painting Before Controls (ton/yr) = Max. Capacity (gal/hr) x density (lb/gal) x % Solids x 8760 (hr/yr) x 1/2000 (ton/lb) x (1-Transfer Efficiency(%))

PTE for PM/PM10 for Painting After Controls (ton/yr) = Max. Capacity (gal/hr) x density (lb/gal) x % Solids x 8760 (hr/yr) x 1/2000 (ton/lb) x (1-Transfer Efficiency(%)) x (1- Control Efficiency(%))

PTE for Natural Gas-fueled facilities (tons/yr) = Max. Capacity (MMBTU/hr) x Emission Factor ((lb/MMCF) x 8760 (hr/yr) x 1/2000 (ton/lb) x 1/1000 (MMCF/MMBTU))

PTE for PM/PM10 for Buffering Before Controls (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2000 (ton/lbs)

PTE for PM/PM10 for Buffering After Controls (tons/yr) = Emission Factor (lb/hr) x 8760 (hr/yr) x 1/2000 (ton/lbs)

**Appendix A: Emissions Calculations: Insignificant Activities**

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	PTE Before Controls		PTE After Controls		PTE			
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
P1-Emergency Generator 2-02-001-02	8.8 (gals/hour) diesel #2	PM	0.31	FIRE 6.25	0	0	0.09	0.09	0.09	0.09	0.09	1.33	0.11	0.29
		PM10	0.31	FIRE 6.25										
	SOx	0.29	FIRE 6.25											
	NOx	4.41	FIRE 6.25											
	VOC	0.36	FIRE 6.25											
	1.20 (MMBtu/hr)	CO	0.95	FIRE 6.25										
Air Makeup Unit 19A	5.28	PM	7.60	FIRE 6.25	0	0	0.59	0.59	0.59	0.05	7.72	0.42	6.49	
Air Makeup Unit 19B	5.28	PM10	7.60	FIRE 6.25										0.59
Air Makeup Unit 19C	5.28	SOx	0.60	FIRE 6.25										
Water Heater 19D	0.20	NOx	100	FIRE 6.25										
Natural Gas Heater 19E	0.12	VOC	5.50	FIRE 6.25										
Natural Gas Heater 19F	0.12	CO	84.0	FIRE 6.25										
Natural Gas Heater 19G	0.45		(lbs/MMCF)											
Natural Gas Heater 19H	0.45													
Natural Gas Heater 19I	0.45													
total	17.6 (MMBtu/hr)													
P1-Maintenance Parts Washing	0.002 (gallons/hour)	VOC	0.392 (lbVOC/gal)	MSDS	0	0						2.94E-03		
<b>PTE Totals</b>							<b>0.68</b>	<b>0.68</b>	<b>0.68</b>	<b>0.68</b>	<b>0.13</b>	<b>9.0</b>	<b>0.54</b>	<b>6.77</b>

Diesel fuel has heat input value of 19,300 Btu/lb and density of 7.08 lbs/gallon.

c AP-42, Chapter 1.4 - Natural Gas Combustion, Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4. (AP-42 Supplement D 7/98)

g AP-42, Chapter 3.3 - Gasoline and Diesel Industrial Engines, Table 3.3-1. (10/96)

**Methodology**

PTE for Emergency Generator (tons/yr) = Maximum Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) x 1/2,000 (ton/lbs) x 8760 (hr/yr)

PTE for Natural Gas-fueled facilities (tons/yr) = Max. Capacity (MMBtu/hr) x Emission Factor ((lb/MMCF) x 8760 (hr/yr) x 1/2000 (ton/lb) x 1/1000 (MMCF/MMBtu)

PTE for VOC for Parts Washing (tons/yr) = Max. Capacity (gal/hr) x VOC Content (lb VOC/gal) x 1/2000 (ton/lb) x 8760 (hr/yr)

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<b>Metallic HAPs</b>	Limited Capacity	PTE PM (limited)	PTE lead	PTE manganese	Total Metallic HAP
Process:	(tons iron/yr)	(tons/yr)	(ton/yr)	(ton/yr)	(ton/yr)
P1-Scrap and Charge Handling <sup>b</sup>	74,400	22.3	0.086	0.69	2.10
P1-Electric Induction Furnaces (PM) <sup>b</sup>	74,400	29.8	0.115	0.92	
P1-Pouring/Cooling <sup>b</sup>	74,400	3.72	0.014	0.12	
P1-Castings Cleaning and Finishing <sup>b</sup>	74,400	4.5	0.017	0.14	

<b>Misc. Combustion HAPs</b>	Maximum Capacity	Units	Combustion HAP Emission Factor	PTE	Total Misc. Combustion HAP
Process:			(lb HAP/lb input)	(ton/yr)	(ton/yr)
P1-Pouring/Cooling & P1-Shakeout <sup>a</sup>	46.4	(tons plastic and resin/yr)	0.01121 lbs Benzene/lb	0.52	0.90
P1-Pouring/Cooling & P1-Shakeout <sup>a</sup>	46.4	(tons plastic and resin/yr)	0.000975 lbs Phenol/lb	0.05	
P1-Pouring/Cooling & P1-Shakeout <sup>a</sup>	46.4	(tons plastic and resin/yr)	0.003989 lbs other HAPs/lb	0.19	
P1-Emergency Generators <sup>c</sup>	1.20	MMBtu/hr	0.00405 lbs/MMBtu	0.001	
P1-Natural Gas Combustion <sup>c</sup>	17.6	MMBtu/hr	1.89 lbs/MMCF	0.146	

<b>Volatile HAPs</b>	Maximum Emission/Use Rate	HAP	Emission Factor <sup>d</sup>	PTE	Total Volatile HAP
Process:				(ton/yr)	(ton/yr)
P1-Rotary Kiln Dryer	2.27 tons VOC/yr	Glycol	1 lb Glycol/lb VOC	2.27	7.32
P1-Core Making	10 lbs resin/hr	Formaldehyde	0.001 lbs/lb resin	0.04	
P1-Core Making	10 lbs resin/hr	Phenol	0.0005 lbs/lb resin	0.02	
P1-Fill/Putty Application	1.75 gal putty/hr	Styrene	0.19 lb/gal	1.46	
P1-Paint Booth #2	5.76 gal paint/hr	Styrene	0.14 lb/gal	3.53	
<b>Total P1 HAP</b>					<b>10.32</b>

<sup>a</sup> PTE for Miscellaneous Combustion HAPs for Pouring/Cooling and Shakeout are based on total input of organic materials to the mold making and core making process. Assume that the resin in the cores (1.3 gal/hr) and plastic in the molds (0.6 lbs/hr) are combusted/volatilized during pouring/cooling/shakeout. Emission factor for Pouring/Cooling & Shakeout is from Modern Casting: "Calculating Emission Factors for Pouring, Cooling and Shakeout" Table 1: Phenolic Nobake Binder, October 1994. HAPs include benzene, phenol, toluene, aldehydes, and others in trace amounts.

<sup>b</sup> PTE for metallic HAPs is based on percentage of HAPs in casting metal. Assume all PM/PM10 emitted from these processes is from metallic castings. Casting metal is 0.385% lead and 3.1% manganese by weight.

<sup>c</sup> Emission factors for Emergency Generator Combustion and Natural Gas Combustion are from FIRE 6.25.

<sup>d</sup> Emission Factors for Volatile HAPs in filler putty and paint are provided by source from MSDS sheets.

<sup>d</sup> Emission Factors for Volatile HAPs in the Core Making Resin are from analytical testing of the resin provided by source.

<sup>d</sup> Emission Factors for Volatile HAPs in the Rotary Kiln Dryer are conservatively estimated to be equivalent to VOC emissions.

**Methodology**

PTE Metallic HAPs (tons/yr) = Limited PM/PM10 emissions (tons/yr) x Weight % HAPs (%)

PTE Misc. Combustion HAPs (tons/yr) = Maximum Capacity (ton/yr) x Emission Factor (lb HAP/lb input)

PTE Misc. Combustion HAPs (Emerg. Generator) (tons/yr) = Maximum Capacity (MMBtu/hr) x Emission Factor (lb HAP/MMBtu x 8760 (hrs/yr) x 1 ton/2,000 lbs

PTE for Volatile HAP (tons/yr) = Maximum Usage Rate (gallons/hr) x Emission Factor (lb/gallon) x 8760 (hr/yr) x 1/2000 (ton/lb)

**Company Name:** North Vernon Industry Corporation  
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**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
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Emission Unit	Maximum Capacity	Pollutant	Emission Factor (units)	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	PTE Before Controls		PTE After Controls		PTE			
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
Metal and Charge Handling P2-Charge 3-04-003-15	18.0 (tons/hr) metal	PM PM10	0.60 0.36 (lb/ton)	FIRE 6.25 FIRE 6.25	0	0	47.3	28.4	47.3	28.4				
Ladle Preheater P2-Ladle Preheater 1-03-006-03	1.00 (MMBTU/hr) natural gas	PM PM10 SOx NOx VOC CO	7.60 7.60 0.60 100 5.50 84.0 (lbs/MMCF)	FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25	0	0	0.03	0.03	0.03	0.03	0.003	0.44	0.02	0.37
Electric Induction Furnaces P2-EIF#1, P2-EIF#2 and P2-EIF#3 3-04-003-03	18.0 (tons/hr) metal	PM PM10	0.90 0.86 (lbs/ton)	FIRE 6.25 FIRE 6.25	16.7%		71.0	67.8	59.1	59.1				
Particulate emissions are controlled by a baghouse (#1) (HAP Emissions on Page 12)		PM PM10	0.75 0.75 (lbs/ton)	2003 stack test <sup>a</sup> 2003 stack test <sup>a</sup> (after controls)										
P2-Pouring/Cooling b 3-04-003-18 and 3-04-003-20	18.0 (tons/hr) metal	PM PM10	4.20 2.06 (lbs/ton)	FIRE 6.25 FIRE 6.25	40.0%		331	162	7.88	7.88	1.58	0.79		
		PM PM10	0.10 0.10 (lbs/ton)	engineering est. <sup>b</sup> engineering est. <sup>b</sup>										
		SOx NOx	0.02 0.01 (lbs/ton)	FIRE 6.25 FIRE 6.25										
<b>PTE Totals</b>							<b>449</b>	<b>259</b>	<b>114.4</b>	<b>95.4</b>	<b>1.58</b>	<b>1.23</b>	<b>0.02</b>	<b>0.37</b>

h The Pouring/Cooling operation utilizes a vacuum process during pouring/cooling that holds sand, metal and particulate in the mold. Resultant PM/PM10 emissions are minimal. Stack tests were conducted at the source on April 28 - May 1, 2003 and August 13, 2003 and the results were accepted by IDEM on September 2, 2003. The stack test results are used in calculating the emission factors after controls.

**Methodology**

PTE for Scrap & Charge Handling (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)  
 PTE for Natural Gas-fueled facilities (tons/yr) = Max. Capacity (MMBTU/hr) x Emission Factor ((lb/MMCF) x 8760 (hr/yr) x 1/2000 (ton/lb) x 1/1000 (MMCF/MMBTU)  
 PTE for PM/PM10 for Rotary Kiln Dryer (tons/yr) = 3,000 acfm x Emission Factor (gr/dscf) x 1/7000 (lb/gr) x 1/2000 (ton/lbs) x 60 (min/hr) x 8760 (hr/yr)  
 PTE for PM/PM10 for Elec. Induction Furnace Before Controls (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)  
 PTE for PM/PM10 for Elec. Induction Furnace After Controls (tons/yr) = Emission Factor (lb/hr) x 8760 (hr/yr) x 1/2,000 (ton/lbs)  
 PTE for PM/PM10 for Pouring/Cooling (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs) x (1-Control Eff%)

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	PTE Before Controls		PTE After Controls		PTE			
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
P2-Shakeout & P2-Mold Sand Handling 3-04-003-31 These two operations are controlled by a single baghouse ( #2).	18.0 (tons metal/hr)	PM	3.20	FIRE 6.25	89.7%		252	177						
		PM10	2.24 (lbs/ton) before controls	FIRE 6.25							26.0	26.0		
	66.0 (tons sand/hr)	PM	0.33	2003 stack test <sup>a</sup>										
		PM10	0.33 (lbs/ton) (after controls)	2003 stack test <sup>a</sup>										
P2-Pouring/Cooling P2-Shakeout	18.00 (tons/hr) metal	VOC	0.09 (lbs/ton)	2005 stack test <sup>b</sup>									7.1	
P2-Core Making	22.5 (lbs/hour) resin	VOC	0.0015 (lbVOC/lb resin)	Foseco <sup>c</sup>										0.15
	1.25 gals/hour release agent 1	VOC	4.13 (lbVOC/gal)	MSDS										22.6
	0.5 gals/hour release agent 2	VOC	6.67 (lbVOC/gal)	MSDS										14.6
							Assume all VOC volatilizes and is released							
P2-Molding Machine 3-04-003-98	1.00 lbs/hour plastic	VOC	0.19 (lbs VOC/lb plastic)	MSDS	0	0								0.83
	0.228 gals/hour release agent II	VOC	4.40 (lbVOC/gal)	MSDS										4.40
	7.10 gals/hour mold wash	VOC	0.17 (lbVOC/gal)	MSDS										5.29
							Assume all VOC volatilizes and is released							
P2-Mold Dryer #1 P2-Mold Dryer #2 1-03-006-03	0.0011 (MMBTU/hr) natural gas	PM PM10 SOx NOx VOC CO	7.60 7.60 0.60 100.00 5.50 84.00 (lb/MMCF)	FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25	0	0	7.52E-05	7.52E-05	7.52E-05	7.52E-05	5.94E-06	9.90E-04	5.44E-05	8.31E-04
P2-Core Sand Handling 3-04-003-50	0.375 (tons/hr) sand	PM PM10	3.60 0.54 (lb/ton)	FIRE 6.25 FIRE 6.25	0	0	5.91	0.89	5.91	0.89				
Core Machine Butane Torch P2-Butane Torch 1-03-010-01	0.36 (gallons/hour)	PM PM10 SOx NOx VOC CO	0.60 0.60 0.09 21.0 0.40 3.60 (lbs/1,000 gals)	FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25	0	0	9.46E-04	9.46E-04	9.46E-04	9.46E-04	1.42E-04	3.31E-02	6.31E-04	5.68E-03
<b>PTE Totals</b>							<b>258.2</b>	<b>177.5</b>	<b>31.93</b>	<b>26.91</b>	<b>0.00</b>	<b>0.03</b>	<b>54.9</b>	<b>0.01</b>

a Stack tests were conducted at the source on April 28 - May 1, 2003 and August 13, 2003 and the results were accepted by IDEM on September 2, 2003. The stack test results are used in calculating the emission factors after controls.  
b Stack tests of the pouring/cooling/shakeout were conducted on August 11, 2005 and the results were accepted by IDEM on October 21, 2005. The stack test results are used in calculating the emission factors for VOC.  
c VOC emission factor for core making is from a study performed by Technicon LLC on the Foseco Metallurgical resin/CQ binder system.

**Methodology**

PTE for PM/PM10 for Shakeout/Mold Sand Handling Before Controls (tons/yr) = Maximum Capacity (tons sand/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)  
PTE for PM/PM10 for Shakeout/Mold Sand Handling After Controls (tons/yr) = Emission Factor (lb/hr) x 8760 (hr/yr) x 1/2,000 (ton/lbs)  
PTE for VOC for Molding Machine and Core Machine (tons/yr) = Maximum Capacity (gal/hr) x VOC Content (lb VOC/gal) x 8760 (hr/yr) x 1/2000 (ton/lbs)  
PTE for Natural Gas-fueled facilities (tons/yr) = Max. Capacity (MMBTU/hr) x Emission Factor ((lb/MMCF) x 8760 (hr/yr) x 1/2000 (ton/lb) x 1/1000 (MMCF/MMBTU)  
PTE for PM/PM10 for Core Sand Handling (tons/yr) = Maximum Capacity (tons sand/hr) x Emission Factor (lb/ton) x 8760 (hr/yr) x 1/2000 (ton/lbs)  
PTE for Shell Core Machine Butane Torch (tons/yr) = Maximum Capacity (gal/hr) x Emission Factor (lb/1000 gal) x 1/1000 \* 8760 (hr/yr) \* 1/2000 (ton/lbs)

**Appendix A: Emissions Calculations: P2 Finish Prep**

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	PTE Before Controls		PTE After Controls		PTE			
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)
P2-Shot Blast Machine 3-04-003-40  This emission unit is controlled by a single baghouse (Area 3).	18.0 (tons/hr) metal	PM	17.0	FIRE 6.25	98.2%		1340	134.0	2.37	2.37				
		PM10	1.70 (lbs/ton)	FIRE 6.25										
P2-Pre-Finish Station 3-04-003-60 and P2-Putty Booth 3-04-003-60 and Coarse Grinding Stations #1- #5 P2-Grinding Stations #1- #5 3-04-003-40 These emission units are controlled by a single baghouse (#4)	18.0 (tons/hr) metal each	PM	0.0045	FIRE 6.25	NA		0.35	0.35	4.73	4.73				
		PM10	0.0045 (lbs/ton)	FIRE 6.25										
		PM	0.0045	FIRE 6.25			0.35	0.35						
		PM10	0.0045 (lbs/ton)	FIRE 6.25										
P2-Core Removal Operation 3-04-003-60	0.325 (tons/hr) sand	PM	3.60	FIRE 6.25	0	0	5.12	0.77	5.12	0.77				
		PM10	0.54 (lbs/ton)	FIRE 6.25										
P2-Filler/Putty Application	1.60 (gals/hr)	VOC	0.19 (lb VOC/gal)	MSDS	0	0							1.33	
<b>PTE Totals</b>							<b>2686</b>	<b>269.5</b>	<b>12.22</b>	<b>7.86</b>	<b>0.00</b>	<b>0.00</b>	<b>1.33</b>	<b>0.00</b>

b Emission Inventory Improvement Program, Volume II, Chapter 14. (7/01)

e AP-42, Chapter 12.10 - Gray Iron Foundries, Table 12.10-7. (1/95)

Stack tests were conducted at the source on April 28 - May 1, 2003 and August 13, 2003 and the results were accepted by IDEM on September 2, 2003. The stack test results are used in calculating the emission factors after controls.

**Methodology**

PTE for PM/PM10 for Shot Blast Machine Before Controls (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)

PTE for PM/PM10 for Shot Blast Machine After Controls (tons/yr) = Emission Factor (lb/hr) x 8760 (hr/yr) x 1/2,000 (ton/lbs)

PTE for PM/PM10 for Core Removal, Prefinish and Grinding Station (before controls) (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2,000 (ton/lbs)

PTE for PM/PM10 for Core Removal, Prefinish and Grinding Station (after controls) (tons/yr) = 8760 (hr/yr) x Emission Factor (lb/hr) x 1/2,000 (ton/lbs)

PTE for VOC for Filler/Putty (tons/yr) = Max. Capacity (gal/hr) x VOC Content (lb VOC/gal) x 1/2000 (ton/lb) x 8760 (hr/yr)

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Transfer Efficiency %	Control Efficiency %	PTE Before Controls		PTE After Controls		PTE				
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)	
P2-Paint Booth #1 White Primer 4-02-006-10	5.25 (gals/hr)	VOC	0.39 (lb VOC/gal)	MSDS										9.0	
Primer is 88.9% solids	9.0 density (lb/gal)	PM PM10	8.00 (lb solids/gal)	MSDS	70%	85%	55.2	55.2	8.28	8.28					
P2-Paint Booth #2 Yellow Primer 4-02-006-10	2.24 (gals/hr)	VOC	1.70 (lb VOC/gal)	MSDS										16.7	
Primer is 50% solids	10.2 density (lb/gal)	PM PM10	5.08 (lb solids/gal)	MSDS	70%	85%	15.0	15.0	2.24	2.24					
P2-Paint Booth #1 Dryer P2-Paint Booth #2 Dryer 1-03-006-03	0.00165 0.00165 (MMBTU/hr) natural gas	PM PM10 SOx NOx VOC CO	7.60 7.60 0.60 100 5.50 84.0 (lbs/MMCF)	FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25 FIRE 6.25	NA	NA	1.10E-04	1.10E-04	1.10E-04	1.10E-04	8.67E-06	1.45E-03	7.95E-05	1.21E-03	
P2-Buffering Booth 3-04-003-60	18.0 (tons/hr) metal	PM PM10	0.0045 0.0045 (lbs/ton)	FIRE 6.25 FIRE 6.25			0.35	0.35							
This emission unit is controlled by a single baghouse (#5).		PM PM10	0.060 0.060 (lbs/ton)	2003 stack test 2003 stack test (after controls)		NA			4.73	4.73					
<b>PTE Totals</b>							<b>70.5</b>	<b>70.5</b>	<b>15.3</b>	<b>15.3</b>	<b>0.00</b>	<b>0.00</b>	<b>25.6</b>	<b>0.00</b>	

a Emission Inventory Improvement Program, Volume II, Chapter 14 (7/01)

c AP-42, Chapter 1.4 - Natural Gas Combustion, Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4. (AP-42 Supplement D 7/98)

Stack tests were conducted at the source on April 28 - May 1, 2003 and August 13, 2003 and the results were accepted by IDEM on September 2, 2003. The stack test results are used in calculating the emission factors after

**Methodology**

PTE for VOC for Painting (tons/yr) = Max. Capacity (gal/hr) x VOC Content (lb VOC/gal) x 1/2000 (ton/lb) x 8760 (hr/yr)

PTE for PM/PM10 for Painting Before Controls (ton/yr) = Max. Capacity (gal/hr) x density (lb/gal) x % Solids x 8760 (hr/yr) x 1/2000 (ton/lb) x (1-Transfer Efficiency(%))

PTE for PM/PM10 for Painting After Controls (ton/yr) = Max. Capacity (gal/hr) x density (lb/gal) x % Solids x 8760 (hr/yr) x 1/2000 (ton/lb) x (1-Transfer Efficiency(%)) x (1- Control Efficiency(%))

PTE for Natural Gas-fueled facilities (tons/yr) = Max. Capacity (MMBTu/hr) x Emission Factor ((lb/MMCF) x 8760 (hr/yr) x 1/2000 (ton/lb) x 1/1000 (MMCF/MMBTu)

PTE for PM/PM10 for Buffering Before Controls (tons/yr) = Maximum Capacity (tons metal/hr) x 8760 (hr/yr) x Emission Factor (lb/ton) x 1/2000 (ton/lbs)

PTE for PM/PM10 for Buffering After Controls (tons/yr) = Emission Factor (lb/hr) x 8760 (hr/yr) x 1/2000 (ton/lbs)

Appendix A: Emissions Calculations: P2 Insignificant Activities

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Control Efficiency %	Capture Efficiency %	PTE Before Controls		PTE After Controls		PTE					
							PM (Tons/Year)	PM10 (Tons/Year)	PM (Tons/Year)	PM10 (Tons/Year)	SOx (Tons/Year)	NOx (Tons/Year)	VOC (Tons/Year)	CO (Tons/Year)		
P2-Emergency Generator 2-02-001-02  fuel input	11.3 (gals/hour)	PM	0.31	FIRE 6.25	0	0	0.12	0.12	0.12	0.12	0.11	1.70	0.14	0.37		
	1.54 (MMBtu/hr)	PM10	0.31	FIRE 6.25											0.12	0.12
		SOx	0.29	FIRE 6.25												
		NOx	4.41	FIRE 6.25												
		VOC	0.36	FIRE 6.25												
CO	0.95	FIRE 6.25														
P2-Air Makeup Unit#1 through P2-Air Makeup Unit#8  P2-Water Heater #1 and P2-Water Heater #2  P2-Space Heater #1 through P2-Space Heater #10  Total	34.72	PM	7.60	FIRE 6.25	0	0	1.43	1.43	1.43	1.43	0.11	18.86	1.04	15.85		
	0.40	PM10	7.60	FIRE 6.25												
		SOx	0.60	FIRE 6.25												
		NOx	100	FIRE 6.25												
		VOC	5.50	FIRE 6.25												
CO	84.0	FIRE 6.25														
7.95		(lbs/MMCF)														
43.1 (MMBtu/hr)																
P2-Maintenance Parts Washing	0.002 (gallons/hour)	VOC	0.392 (lbVOC/gal)	MSDS	0	0							2.94E-03			
<b>PTE Totals</b>							<b>1.55</b>	<b>1.55</b>	<b>1.55</b>	<b>1.55</b>	<b>0.23</b>	<b>20.6</b>	<b>1.18</b>	<b>16.21</b>		

Diesel fuel has heat input value of 19,300 Btu/lb and density of 7.08 lbs/gallon.

c AP-42, Chapter 1.4 - Natural Gas Combustion, Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4. (AP-42 Supplement D 7/98)

g AP-42, Chapter 3.3 - Gasoline and Diesel Industrial Engines, Table 3.3-1. (10/96)

2.4616

**Methodology**

PTE for Emergency Generator (tons/yr) = Maximum Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) x 1/2,000 (ton/lbs) x 8760 (hr/yr)

PTE for Natural Gas-fueled facilities (tons/yr) = Max. Capacity (MMBtu/hr) x Emission Factor ((lb/MMCF) x 8760 (hr/yr) x 1/2000 (ton/lb) x 1/1000 (MMCF/MMBtu)

PTE for VOC for Parts Washing (tons/yr) = Max. Capacity (gal/hr) x VOC Content (lb VOC/gal) x 1/2000 (ton/lb) x 8760 (hr/yr)

**Appendix A: Emissions Calculations: P2 HAPs**

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

<b>Metallic HAPs</b>	Limited Capacity	PTE PM (limited)	PTE lead	PTE manganese	Total Metallic HAP
Process:	(tons iron/yr)	(tons/yr)	(ton/yr)	(ton/yr)	(ton/yr)
P2-Scrap and Charge Handling <sup>b</sup>	88,000	26.4	0.102	0.82	2.36
P2-Electric Induction Furnaces (PM) <sup>b</sup>	88,000	33.0	0.127	1.02	
P2-Pouring/Cooling <sup>b</sup>	88,000	4.40	0.017	0.14	
P2-Castings Cleaning and Finishing <sup>b</sup>	88,000	3.96	0.015	0.12	

<b>Misc. Combustion HAPs</b>	Maximum Capacity	Units	Combustion HAP Emission Factor	PTE	Total Misc. Combustion HAP
Process:			(lbs HAP/lb input)	(ton/yr)	(ton/yr)
P2-Pouring/Cooling & P2 Shakeout <sup>a</sup>	102.9	(tons plastic and resin/yr)	0.01121 lbs Benzene/lb	1.15	2.03
P2-Pouring/Cooling & P2 Shakeout <sup>a</sup>	102.9	(tons plastic and resin/yr)	0.000975 lbs Phenol/lb	0.10	
P2-Pouring/Cooling & P2 Shakeout <sup>a</sup>	102.9	(tons plastic and resin/yr)	0.003989 lbs other HAPs/lb	0.41	
P2-Emergency Generators <sup>c</sup>	1.54	MMBtu/hr	0.00405 lbs/MMBtu	0.002	
P2-Natural Gas Combustion <sup>c</sup>	44.1	MMBtu/hr	1.89 lbs/MMCF	0.365	

<b>Volatile HAPs</b>	Max. Use Rate	HAP	Emission Factor <sup>d</sup>	PTE	Total Organic HAP
Process:			(lb/gal)	(ton/yr)	(ton/yr)
P2-Core Making	22.5 lbs resin/hr	Formaldehyde	0.001 lbs/lb resin	0.10	4.70
P2-Core Making	22.5 lbs resin/hr	Phenol	0.0005 lbs/lb resin	0.05	
P2-Fill/Putty Application	1.6 gal putty/hr	Styrene	0.19 lbs/gal	1.33	
P2-Paint Booth #1	5.25 gal paint/hr	Styrene	0.14 lbs/gal	3.22	
				<b>Total P2 HAP</b>	<b>9.09</b>
				<b>Total P1 + P2 HAP</b>	<b>19.4</b>

<sup>a</sup> PTE for Miscellaneous Combustion HAPs for Pouring/Cooling and Shakeout are based on total input of organic materials to the mold making and core making process. Assume that the resin in the cores (2.93 gal/hr) and plastic in the molds (1.0 lbs/hr) are combusted/volatilized during pouring/cooling/shakeout. Emission factor for Pouring/Cooling & Shakeout is from Modern Casting: "Calculating Emission Factors for Pouring, Cooling and Shakeout" Table 1: Phenolic Nobake Binder, October 1994. HAPs include benzene, phenol, toluene, aldehydes, and others in trace amounts.

<sup>b</sup> PTE for metallic HAPs is based on percentage of HAPs in casting metal. Assume all PM/PM10 emitted from these processes is from metallic castings. Casting metal is 0.385% lead and 3.1% manganese by weight.

<sup>c</sup> Emission factors for Emergency Generator Combustion are from AP-42, Table 3.3-2. Emission factors for Natural Gas Combustion are from AP-42, Table 3.3-2.

<sup>d</sup> Emission Factors for Volatile HAPs in filler putty and paint are provided by source from MSDS sheets.

<sup>d</sup> Emission Factors for Volatile HAPs in the Core Making Resin are from analytical testing of the resin provided by source.

**Methodology**

PTE Metallic HAPs (tons/yr) = Limited PM/PM10 emissions (tons/yr) x Weight % HAPs (%)

PTE Misc. Combustion HAPs (tons/yr) = Maximum Capacity (ton/yr) x Emission Factor (lb HAP/lb input)

PTE Misc. Combustion HAPs (Emerg. Generator) (tons/yr) = Maximum Capacity (MMBtu/hr) x Emission Factor (lb HAP/MMBtu x 8760 (hrs/yr) x 1 ton/2,000 lbs

PTE for Volatile HAP (tons/yr) = Maximum Usage Rate (gallons/hr) x Emission Factor (lb/gallon) x 8760 (hr/yr) x 1/2000 (ton/lb)

**Appendix A: Emission Factor Development from Stack Tests**

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

**Stack Testing Results**

**One Part = One Mold = 1.4286 tons**

Date of Test	Pollutant	Facility Tested	Test Throughput Rate	Test Emissions Rate	Throughput Rate in tons/hr	Emission Factor (From Testing)	Requested P1 PSD Limit, from Emissions Testing w/ Safety Factor
August 13, 2003	VOC	Rotary Kiln Dryer	7.5 tons chips/hr	0.518 lb VOC/hr inlet	7.5	0.069 lbs VOC/ton chips <sup>a,c</sup>	0.10 lbs VOC/ton chips
August 13, 2003	VOC	Rotary Kiln Dryer	7.5 tons chips/hr	0.008 lb VOC/hr outlet	7.5	0.001 lbs VOC/ton chips	
April 28, 2003 to May 2, 2003	PM	Area 1 Baghouse	5.82 tons metal/hr	0.959 lb PM/hr	5.82	0.165 lbs PM/ton metal	0.30 lbs PM/ton metal
	PM10	Elec. Induction Furnaces EIF-A1&A2	5.85 tons metal/hr	0.857 lb PM10/hr	5.85	0.146 lbs PM10/ton metal	0.30 lbs PM10/ton metal
April 28, 2003 to May 2, 2003	PM	Area 2 Baghouse	46.68 tons sand/hr	0.948 lb PM/hr	46.68	0.020 lbs PM/ton sand	
	PM	Shakeout and Mold Sand Handling	9.83 molds/hr	0.948 lb PM/hr	14.04	0.068 lbs PM/ton metal	0.14 lbs PM/ton metal
April 29, 2003 to May 2, 2004	PM10	Area 2 Baghouse	45.22 tons sand/hr	0.898 lb PM10/hr	45.22	0.020 lbs PM10/ton sand	
	PM10	Shakeout and Mold Sand Handling	9.58 molds/hr	0.898 lb PM10/hr	13.69	0.066 lbs PM10/ton metal	0.14 lbs PM/ton metal
April 28, 2003 to May 2, 2003	PM	Area 3 Baghouse	12.33 parts/hr	0.061 lb PM/hr	17.61	0.003 lbs PM/ton metal	0.03 lbs PM/ton metal
	PM10	Buffing Booth	10.83 parts/hr	0.204 lb PM10/hr	15.47	0.013 lbs PM10/ton metal	0.07 lbs PM10/ton metal
April 28, 2003 to May 2, 2003	PM	Area 4 Baghouse	12 parts/hr	0.070 lb PM/hr	17.14	0.004 lbs PM/ton metal	0.01 lbs PM/ton metal
	PM10	Shot Blast Machine	11.16 parts/hr	0.051 lb PM10/hr	15.94	0.003 lbs PM10/ton metal	0.02 lbs PM10/ton metal
April 28, 2003 to May 2, 2003	PM	Area 5 Baghouse	12 parts/hr	0.107 lb PM/hr	17.14	0.006 lbs PM/ton metal	0.04 lbs PM/ton metal
	PM10	Core Removal, Prefinish and Grinders	11.13 parts/hr	0.314 lb PM10/hr	15.90	0.020 lbs PM10/ton metal	0.10 lbs PM10/ton metal
Auust 11, 2005	VOC	Pouring/Cooling/Shakeout	11.83 tons metal/hr	1.060 lb VOC/hr	11.83	0.090 lbs VOC/ton metal	

Note: the Shakeout, Buffing Booth, Shot Blast Machine, Core Removal, Prefinish and Grinders have a maximum capacity of 14 molds per hour. This is equivalent to a maximum capacity of 14 parts per hour or 20 tons of metal per hour. Each part weighs 1.4286 tons.

Stack tests for PM, PM10 and VOC were conducted at the source on April 28 - May 1, 2003 and August 13, 2003. Stack test results used in these calculations are as reported to IDEM in a letter dated September 2, 2003.

Stack testing for VOC for the Pouring/Cooling/Shakeout was conducted at the source on August 11, 2005. These stack test results were validated by IDEM in a letter dated October 21, 2005.

a The emission factor before controls for the Rotary Kiln Dryer is calculated using inlet air VOC concentrations from the August 2003 stack test of VOC emissions for this emissions unit.

**Methodology**

20 tons of metal per hour / 14 parts per hour = 1.4286 tons/part

Throughput Rate (tons metal/hr) = parts/hr x 1.4286 tons metal/part

Throughput Rate (tons sand and metal/hr) = (tons sand/hr + (parts/hr x 1.4286 tons metal/part))

Emission Factor (After Controls) (lbs/ton) = Test Emissions Rate (lb PM/PM10/VOC/hr) / Test Throughput Rate (tons metal/hr)

Emission Factor (Before Controls) (lbs/ton) = Test Emissions Rate (lb PM/PM10/VOC/hr) / Test Throughput Rate (tons metal/hr) / (1- Control Efficiency %)

**Appendix A: Emissions Summary**

**Company Name:** North Vernon Industry Corporation  
**Address:** 3750 North County Road 75 West  
**Title V:** 079-15119-00018  
**Reviewer:** ERG/ST  
**Date:** February 17, 2006

<b>PTE Before Controls/Limits</b>						
	PM	PM10	VOC	SOx	NOx	CO
	(Tons/Year)	(Tons/Year)	(Tons/Year)	(Tons/Year)	(Tons/Year)	(Tons/Year)
<b>Plant 1</b>	<b>3834</b>	<b>705</b>	<b>61</b>	<b>1.21</b>	<b>13.3</b>	<b>9.87</b>
<b>Plant 2</b>	<b>3466</b>	<b>778</b>	<b>83</b>	<b>1.80</b>	<b>21.8</b>	<b>16.6</b>

<b>PTE After Controls</b>						
	PM	PM10	VOC	SOx	NOx	CO
	(Tons/Year)	(Tons/Year)	(Tons/Year)	(Tons/Year)	(Tons/Year)	(Tons/Year)
<b>Plant 1</b>	<b>133.7</b>	<b>119.4</b>	<b>61</b>	<b>1.21</b>	<b>13.3</b>	<b>9.87</b>
<b>Plant 2</b>	<b>175</b>	<b>147.0</b>	<b>83</b>	<b>1.80</b>	<b>21.8</b>	<b>16.6</b>

<b>Production Limits (tons metal/year)</b>					
<b>Plant 1</b>			<b>Plant 2</b>		
Unlimited	105,120		Unlimited	157,680	
Limited	74,400		Limited	88,000	

<b>PTE After Production Limits</b>						
	PM	PM10	VOC	SOx	NOx	CO
	(Tons/Year)	(Tons/Year)	(Tons/Year)	(Tons/Year)	(Tons/Year)	(Tons/Year)
<b>Plant 1</b>	<b>94.8</b>	<b>84.7</b>	<b>43.7</b>	<b>0.90</b>	<b>13.1</b>	<b>9.87</b>
<b>Plant 2</b>	<b>98.5</b>	<b>82.7</b>	<b>46.9</b>	<b>1.11</b>	<b>21.5</b>	<b>16.6</b>