



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
MC 61-53
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant
DATE: March 3, 2008
RE: North Vernon Industry Corporation / 079-25476-00018
FROM: Matthew Stuckey, Deputy Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, 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 and IC 13-15-6-1 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, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER.dot12/03/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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Mr. Kenji Yasuda
North Vernon Industry Corporation
P.O. Box 894
North Vernon, Indiana 47265

March 3, 2008

Re: 079-25476-00018
Significant Source Modification to
Part 70 No. T079-15119-00018

Dear Mr. Yasuda:

North Vernon Industry Corporation was issued Part 70 Operating Permit T079-15119-00018 on September 1, 2006 for a stationary gray iron foundry. An application to modify the source was received on October 2, 2007. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

- (a) One (1) Furan Mold Making Operation, consisting of the following emissions units:
 - (1) One (1) furan mold sand handling and storage system, identified as P2exp-Mold Sand Handling, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.
 - (2) One (1) furan mold mixer, identified as P2exp-Mold Mixer, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, 112 tons of resin per year, 33.63 tons of catalyst per year, and 390 gallons of release agent per year; with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.
 - (3) One (1) mold wash, identified as P2exp-Mold Wash, approved for construction in 2008, with a maximum capacity of 0.187 gallons of mold wash per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (b) One (1) Floor Molding Operation, consisting of the following emissions units:
 - (1) One (1) floor pouring and cooling operation, identified as P2exp-Pouring/Cooling, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, utilizing vacuum suction during pouring and cooling operations, exhausting inside the building, then to general ventilation.
 - (2) One (1) shakeout system for casting operation, identified as P2exp-Shakeout, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, with the particulate emissions controlled by Baghouse B7, and exhausting to stack P2expB7. Baghouse B7 will recycle all the sand collected back into the furan mold sand process.

- (c) One (1) enclosed Pre-Finishing Operation, consisting of the following four (4) emissions units, all with a maximum capacity of 0.5625 tons of metal per hour, all with particulate emissions controlled by Baghouse B8, and all exhausting to stack P2expB8:
- (1) One (1) pre-finish station, identified as P2exp-Pre-Finish Station, approved for construction in 2008.
 - (2) One (1) enclosed blast cabinet, identified as P2exp-Blast Cabinet, approved for construction in 2008.
 - (3) One (1) core removal operation, identified as P2exp-Core Removal Operation, will remove the remaining sand cores from the casting, approved for construction in 2008.
 - (4) One (1) coarse grinding area, identified as P2exp-Grinding Station, approved for construction in 2008.
- (d) One (1) Finishing Operation, consisting of one (1) paint booth, identified as P2exp-Paint Booth, approved for construction in 2008, with a maximum capacity of 1,560 gallons of yellow primer per year, utilizing an HVLP spray gun, using dry filters for particulate control, and exhausting to stack P2exp9.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Mr. Stephen Treimel, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7902 to speak directly to Mr. Treimel. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, or call (800) 451-6027 and ask for Duane Van Laningham or extension 3-6878, or dial (317) 233-6878.

Sincerely/Original Signed By:

Matthew Stuckey, Deputy Branch Chief
Permits Branch
Office of Air Quality

Attachments

ERG/ST

cc: File - Jennings County
Jennings County Health Department
Air Compliance Section Inspector
Compliance Data Section
Administrative and Development
Billing, Licensing and Training Section



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PART 70 SIGNIFICANT SOURCE MODIFICATION 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.

Significant Source Modification No: 079-25476-00018	
Issued by/Original Signed By: Matthew Stuckey, Deputy Branch Chief Permits Branch Office of Air Quality	Issuance Date: March 3, 2008

SECTION A SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary gray iron foundry.

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)]

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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed in 2004, 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, constructed 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, with a maximum capacity of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.
- (n) One (1) Furan Mold Making Operation, consisting of the following emissions units:
- (1) One (1) furan mold sand handling and storage system, identified as P2exp-Mold Sand Handling, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.
 - (2) One (1) furan mold mixer, identified as P2exp-Mold Mixer, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, 112 tons of resin per year, 33.63 tons of catalyst per year, and 390 gallons of release agent per year; with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.
 - (3) One (1) mold wash, identified as P2exp-Mold Wash, approved for construction in 2008, with a maximum capacity of 0.187 gallons of mold wash per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (o) One (1) Floor Molding Operation, consisting of the following emissions units:
- (1) One (1) floor pouring and cooling operation, identified as P2exp-Pouring/Cooling, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, utilizing vacuum suction during pouring and cooling operations, exhausting inside the building, then to general ventilation.
 - (2) One (1) shakeout system for casting operation, identified as P2exp-Shakeout, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, with the particulate emissions controlled by Baghouse B7, and exhausting to stack P2expB7. Baghouse B7 will recycle all the sand collected

back into the furan mold sand process.

- (p) One (1) enclosed Pre-Finishing Operation, consisting of the following four (4) emissions units, all with a maximum capacity of 0.5625 tons of metal per hour, all with particulate emissions controlled by Baghouse B8, and all exhausting to stack P2expB8:
 - (1) One (1) pre-finish station, identified as P2exp-Pre-Finish Station, approved for construction in 2008.
 - (2) One (1) enclosed blast cabinet, identified as P2exp-Blast Cabinet, approved for construction in 2008.
 - (3) One (1) core removal operation, identified as P2exp-Core Removal Operation, will remove the remaining sand cores from the casting, approved for construction in 2008.
 - (4) One (1) coarse grinding area, identified as P2exp-Grinding Station, approved for construction in 2008.
- (q) One (1) Finishing Operation, consisting of one (1) paint booth, identified as P2exp-Paint Booth, approved for construction in 2008, with a maximum capacity of 1,560 gallons of yellow primer per year, utilizing an HVLP spray gun, using dry filters for particulate control, and exhausting to stack P2exp9.

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:
 - 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]

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 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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

Emission Unit ID	Metal Throughput Limit (tons per year)	PSD Emission Limit (lbs PM/PM10 per ton metal)	
		PM	PM10
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	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, P2-Paint Booth #2, and P2exp-Paint Booth (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 19.0 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]

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]

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)]

- (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]

- (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 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.
- (c) By August 11, 2010, and in order to demonstrate compliance with Condition D.1.1(b)(3), the Permittee shall perform VOC testing on the P1-Pouring/Cooling and P1-Shakeout utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the last 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]

- (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]

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 a daily record 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). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (d) To document compliance with Condition D.1.9 the Permittee shall maintain a daily record of the pressure drop across the baghouses controlling the processes when venting to the atmosphere. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (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, constructed 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, constructed 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, constructed 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, constructed 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, constructed 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, P2-Paint Booth #2, and P2exp-Paint Booth (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 19.0 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

- (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

- (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, constructed in 2004, 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, constructed 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, 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, constructed in 2004, with a maximum capacity of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.
- (n) One (1) Furan Mold Making Operation, consisting of the following emissions units:
- (1) One (1) furan mold sand handling and storage system, identified as P2exp-Mold Sand Handling, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.
 - (2) One (1) furan mold mixer, identified as P2exp-Mold Mixer, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, 112 tons of resin per year, 33.63 tons of catalyst per year, and 390 gallons of release agent per year; with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.

- (3) One (1) mold wash, identified as P2exp-Mold Wash, approved for construction in 2008, with a maximum capacity of 0.187 gallons of mold wash per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
 - (o) One (1) Floor Molding Operation, consisting of the following emissions units:
 - (1) One (1) floor pouring and cooling operation, identified as P2exp-Pouring/Cooling, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, utilizing vacuum suction during pouring and cooling operations, exhausting inside the building, then to general ventilation.
 - (2) One (1) shakeout system for casting operation, identified as P2exp-Shakeout, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, with the particulate emissions controlled by Baghouse B7, and exhausting to stack P2expB7. Baghouse B7 will recycle all the sand collected back into the furan mold sand process.
 - (p) One (1) enclosed Pre-Finishing Operation, consisting of the following four (4) emissions units, all with a maximum capacity of 0.5625 tons of metal per hour, all with particulate emissions controlled by Baghouse B8, and all exhausting to stack P2expB8:
 - (1) One (1) pre-finish station, identified as P2exp-Pre-Finish Station, approved for construction in 2008.
 - (2) One (1) enclosed blast cabinet, identified as P2exp-Blast Cabinet, approved for construction in 2008.
 - (3) One (1) core removal operation, identified as P2exp-Core Removal Operation, will remove the remaining sand cores from the casting, approved for construction in 2008.
 - (4) One (1) coarse grinding area, identified as P2exp-Grinding Station, approved for construction in 2008.
- (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 renders 326 IAC 2-2 (PSD) not applicable to the emissions units constructed under SSM 079-17819-00018.

- (d) In order to render 326 IAC 2-2 (PSD) not applicable to the modifications performed under Significant Source Modification 079-25476-00018, the Permittee shall limit PM and PM10 emissions as shown in the following table:

Emission Unit	Control Device (Stack)	PM Limit (lbs/hr)	PM10 Limit (lbs/hr)
P2exp-Pouring/Cooling	none	0.23	0.23
P2exp-Mold Sand Handling	Baghouse B6 (P2exp-B6)	1.37	0.68
P2exp-Shakeout	Baghouse B7 (P2exp-B7)	0.68	0.68
P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station	Baghouse B8 (P2exp-B8)	2.74	1.14

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 and P2exp 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, P2-Paint Booth #2, and P2exp-Paint Booth (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 19.0 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]

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]

- (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.
- (e) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission from P2exp-Pouring/Cooling, P2exp-Mold Mixer, P2exp-Mold Sand Handling, P2exp-Shakeout, P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and the P2exp-Grinding Station shall not exceed the pound per hour limitations shown in the table below:

Emission Unit	Process Weight (lbs/hr)	PM Emission Limit (lbs/hr)
P2exp-Pouring/Cooling	3,085 *	5.48
P2exp-Mold Mixer	2,000	4.10
P2exp-Mold Sand Handling	1,960	4.04
P2exp-Shakeout	3,085 *	5.48
P2exp-Pre-Finish Station	1,125	2.79
P2exp-Blast Cabinet	1,125	2.79
P2exp-Core Removal Operation	1,125	2.79
P2exp-Grinding Station	1,125	2.79

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:

$E = 4.10P^{0.67}$ where: E = rate of emissions in pounds per hour, and
 P = 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]

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)]

- (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), the buffing booth (Baghouse 5), the P2exp-Mold Sand Handling (Baghouse B6), the P2exp-Shakeout (Baghouse B7), and the P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station (Baghouse B8) 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 and P2exp-Pouring/Cooling are 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]

- (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 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.
- (c) By August 11, 2010, and in order to demonstrate compliance with Condition D.3.1(b)(3), the Permittee shall perform VOC testing on 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 the last valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.
- (d) In order to demonstrate compliance with Conditions D.3.1(d) and D.3.4(e), the Permittee shall perform PM and PM10 testing as shown in the following table. PM10 includes filterable and condensable PM10. 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.

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
P2exp-Mold Sand Handling	Baghouse B6, Stack P2expB6	Within 180 days of startup	PM/PM10	Every 5 years	1.37 lbs/hr PM 0.68 lbs/hr PM10
P2exp-Shakeout	Baghouse B7, Stack P2expB7	Within 180 days of startup	PM/PM10	Every 5 years	0.68 lbs/hr PM 0.68 lbs/hr PM10
P2exp-Pre-Finish Station	Baghouse B8, Stack P2expB8	Within 180 days of startup	PM/PM10	Every 5 years	2.74 lbs/hr PM 1.14 lbs/hr PM10
P2exp-Blast Cabinet					
P2exp-Core Removal Operation					
P2exp-Grinding Station					

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

D.3.8 Visible Emissions Notations [40 CFR 64]

- (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), the buffing booth (Baghouse 5), the P2exp-Mold Sand Handling (Baghouse B6), P2exp-Shakeout (Baghouse B7), and P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station (Baghouse B8) 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]

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, the buffing booth, the P2exp-Mold Sand Handling, the P2exp-Shakeout, and the P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station 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.

D.3.10 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.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.
 - (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 and P2exp 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 and P2exp 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 a daily record 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), the buffing booth exhaust (Baghouse 5), the P2exp-Mold Sand Handling (Baghouse B6), P2exp-Shakeout (Baghouse B7), and P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station (Baghouse B8). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

- (d) To document compliance with Condition D.3.9 the Permittee shall maintain a daily record of the pressure drop across the baghouses controlling the processes when venting to the atmosphere. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (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.
- (q) One (1) Finishing Operation, consisting of one (1) paint booth, identified as P2exp-Paint Booth, approved for construction in 2008, with a maximum capacity of 1,560 gallons of yellow primer per year, utilizing an HVLP spray gun, using dry filters for particulate control, and exhausting to stack P2exp9.

(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, P2-Paint Booth #2, and P2exp-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 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 19.0 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]

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]

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]

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)]

Pursuant to 326 IAC 6-3-2(d), particulate from the paint booths (P2-Paint Booth #1, P2-Paint Booth #2, and P2exp-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.4.7 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.4.8 Volatile Organic Compounds (VOC) [326 IAC 8-1-2] [326 IAC 8-1-4]

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

- (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

- (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).

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, P2-Paint Booth #2, and P2exp-Paint Booth
Limit: Less than ten (10) tons for a single HAP and less than 19.0 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**

**Technical Support Document (TSD) for a
Part 70 Significant Source Modification and
Part 70 Significant Permit Modification**

Source Description and Location

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.: T079-15119-00018
Operation Permit Issuance Date: September 1, 2006
Significant Source Modification No.: 079-25476-00018
Significant Permit Modification No.: 079-25513-00018
Permit Reviewer: ERG/ST

Existing Approvals

The source was issued Part 70 Operating Permit No. 079-15119-00018 on September 1, 2006.

County Attainment Status

The source is located in Jennings County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO ₂	Attainment
NO ₂	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

Note: On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

- (a) Volatile organic compounds (VOC) and nitrogen oxides (NO_x) 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_x 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_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Jennings County has been classified as attainment for PM_{2.5}. 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 PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions.

- (c) Jennings County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) Fugitive Emissions
Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2, the fugitive emissions are counted toward determination of PSD applicability.

Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	Emissions (tons/year)
PM	Less than 200
PM10	Less than 180
SO ₂	2.52
VOC	129
CO	26.1
NO _x	32.6
Single HAP	Less than 10
Total HAPs	Less than 25

- (a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because regulated pollutants (PM10 and VOC) are emitted at a rate of 100 tons per year or more, and it is in one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-1(gg)(1).
- (b) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because HAPs emissions are limited to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).
- (c) These emissions are based upon TSD for Part 70 Operating Permit No. 079-15119-00018, issued on September 1, 2006.

Actual Emissions

No previous emission data has been received from the source.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by North Vernon Industry Corporation on October 31, 2007, relating to the addition of a new pouring line at their existing foundry. The following is a list of the proposed emission units and pollution control devices:

- (a) One (1) Furan Mold Making Operation, consisting of the following emissions units:
 - (1) One (1) furan mold sand handling and storage system, identified as P2exp-Mold Sand Handling, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.
 - (2) One (1) furan mold mixer, identified as P2exp-Mold Mixer, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, 112

tons of resin per year, 33.63 tons of catalyst per year, and 390 gallons of release agent per year; with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.

- (3) One (1) mold wash, identified as P2exp-Mold Wash, approved for construction in 2008, with a maximum capacity of 0.187 gallons of mold wash per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.
- (b) One (1) Floor Molding Operation, consisting of the following emissions units:
- (1) One (1) floor pouring and cooling operation, identified as P2exp-Pouring/Cooling, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, utilizing vacuum suction during pouring and cooling operations, exhausting inside the building, then to general ventilation.
 - (2) One (1) shakeout system for casting operation, identified as P2exp-Shakeout, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, with the particulate emissions controlled by Baghouse B7, and exhausting to stack P2expB7. Baghouse B7 will recycle all the sand collected back into the furan mold sand process.
- (c) One (1) enclosed Pre-Finishing Operation, consisting of the following four (4) emissions units, all with a maximum capacity of 0.5625 tons of metal per hour, all with particulate emissions controlled by Baghouse B8, and all exhausting to stack P2expB8:
- (1) One (1) pre-finish station, identified as P2exp-Pre-Finish Station, approved for construction in 2008.
 - (2) One (1) enclosed blast cabinet, identified as P2exp-Blast Cabinet, approved for construction in 2008.
 - (3) One (1) core removal operation, identified as P2exp-Core Removal Operation, will remove the remaining sand cores from the casting, approved for construction in 2008.
 - (4) One (1) coarse grinding area, identified as P2exp-Grinding Station, approved for construction in 2008.
- (d) One (1) Finishing Operation, consisting of one (1) paint booth, identified as P2exp-Paint Booth, approved for construction in 2008, with a maximum capacity of 1,560 gallons of yellow primer per year, utilizing an HVLP spray gun, using dry filters for particulate control, and exhausting to stack P2exp9.

This modification will not result in an increase in throughput for the other emission units at this source and will not result in any increase in the limited throughput of metal. The source has proposed to make these changes in order to increase the efficient utilization of existing emission units.

Enforcement Issues

There are no pending enforcement actions related to this modification.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
P2expB6	P2exp-Mold Sand Handling	50	2	10,000	Ambient
General Ventilation	P2exp-Mold Mixer	NA	NA	NA	Ambient
	P2exp-Pouring/Cooling				
P2expB7	P2exp-Shakeout	50	2.5	20,000	Ambient
P2expB8	P2exp-Pre-Finish Station	50	2.5	30,000	Ambient
	P2exp-Blast Cabinet				
	P2exp-Core Removal Operation				
	P2exp-Grinding Station				
P2exp9	P2exp-Paint Booth	50	2	10,000	Ambient

Emission Calculations

See Appendix A of this document for detailed emission calculations (pages 1 through 6).

Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emission 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, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	76.7
PM10	18.1
SO ₂	0.05
VOC	8.62
CO	14.8
NO _x	0.02
Single HAP (manganese)	2.10
Total HAPs	2.63

This source modification is subject to 326 IAC 2-7-10.5(f)(4)(a) because this modification has the potential to emit greater than 25 tons per year of particulate matter (PM). Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d) because this modification requires a case-by-case determination of an emission limit or standard.

Permit Level Determination – PSD

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. Since the addition of new units results in increased utilization of existing emission units, IDEM has used the "Hybrid" test to determine the limits for this project.

Process/Emission Unit	Potential to Emit (tons/year)						
	PM	PM10	SO ₂	VOC	CO	NO _x	Lead*
P2exp-Pouring/Cooling	Less than 1	Less than 1	0.05	0.34	0	0.02	0.04
P2exp-Mold Mixer	0	0	0	1.13	0	0	0
P2exp-Mold Wash	0	0	0	5.37	0	0	0
P2exp-Mold Sand Handling	Less than 6.0	Less than 3.0	0	0	0	0	0
P2exp-Shakeout	Less than 3.0	Less than 3.0	0	0.22	14.8	0	0.03
P2exp-Pre-Finish Station	Less than 12.0	Less than 5.0	0	0	0	0	0.16
P2exp-Blast Cabinet			0	0	0	0	
P2exp-Core Removal Operation			0	0	0	0	
P2exp-Grinding Station			0	0	0	0	
P2exp-Paint Booth	0.20	0.20	0	1.56	0	0	0
Total for New Emission Units (P2exp)	Less than 22.2	Less than 12.2	0.05	8.62	14.8	0.02	0.23
Actual to Projected Actual Emissions increase at existing P2 emission units (from table below)	2.46	2.06	0	3.19	0	0	0
Total Emissions Increase for Modification	Less than 24.66	Less than 14.26	0.05	11.8	14.8	0.02	0.23
Significant Level Threshold	25	15	40	40	100	40	0.6

* PTE of lead is before controls. Limits are not needed to keep lead emissions to less than the PSD significant level (0.6 tons per year).

This modification will result in an increase in potential to emit due to the addition of the new emission units (P2exp). The Permittee has provided information as part of the application for this approval that, based on Actual to Projected Actual test in 326 IAC 2-2-2, this modification at a major stationary source will result in an increase of emissions from certain existing emission units at Plant 2 (P2-Charge, P2-Ladle Preheater, P2-EIF#1, P2-EIF#2, P2-EIF#3, P2-Core Sand Handling, P2-Core Machine, P2-Butane Torch, P2-Buffing Booth, and P2-Filler/Putty Application) due to increased utilization of these units. The information for actual emissions from the existing emission units is for the period August 2005 through July, 2007. Although the existing units have throughput limits, they cannot currently be utilized up to the throughput limits. A summary of the information submitted by the Permittee is presented in the following table.

Existing Emission Units at Plant #2 Actual to Projected Actual Emissions (with Control Devices)						
Pollutant	PM	PM10	SO ₂	VOC	CO	NO _x
Baseline Actual Emissions (P2 emission units)	19.67	16.49	0	5.82	0	0.01
Projected Actual Emissions (P2 emission units)	22.13	18.54	0	9.01	0	0.01
Increase Due to Increased Utilization	2.46	2.06	0	3.19	0	0

IDEM, OAQ has not reviewed this information and will not be making any determination in this

regard as part of this approval. The applicant will be required to keep records and report in accordance with Source obligation in 326 IAC 2-2-8.

This modification to an existing major stationary source is not major because the Permittee has accepted limits on the emissions increase such that the increase in emissions from the new units and the increased utilization of existing emission units is limited to less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Since this source is considered a major PSD source and the unrestricted potential to emit of this modification is greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM₁₀ per year, this source has elected to limit the potential to emit of this modification as follows:

Emission Unit	Control Device (Stack)	PM Limit (lbs/hr)	PM10 Limit (lbs/hr)
P2exp-Pouring/Cooling	none	0.23	0.23
P2exp-Mold Sand Handling	Baghouse B6 (P2exp-B6)	1.37	0.68
P2exp-Shakeout	Baghouse B7 (P2exp-B7)	0.68	0.68
P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station	Baghouse B8 (P2exp-B8)	2.74	1.14

Compliance with these emission limits will ensure that the increase in potential to emit due to this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM10 per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this modification:

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) included in this permit for this proposed modification.

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 operation (P2exp-Paint Booth) because this source does not coat metal furniture. The source only coats iron castings used as counterweights on forklift trucks.

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit for this proposed modification. The source has accepted source-wide 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 included in Part 70 Operation Permit 079-15119-00018, issued on September 1, 2006.

- (1) 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 modification for the iron foundry operations. 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 prior to the April 22, 2007 compliance date for this NESHAP. Recordkeeping and reporting requirements are included in this permit to ensure that the source does not exceed the HAP emission threshold.

- (2) The requirements of the National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (40

CFR 63, Subpart M) are not included in this permit modification for the surface coating operations. 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 prior to the January 2, 2007 compliance date for this NESHAP. Recordkeeping and reporting requirements are included in this permit to ensure that the source does not exceed the HAP emission threshold.

- (c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:
- (1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant; and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

None of the emission units being added in this modification has a potential to emit before controls equal to or greater than the major source threshold for PM, PM₁₀, SO₂, VOC, CO, NO_x, and single HAP, or any combination of HAPs. Therefore, the requirements of 40 CFR 64 (CAM) are not applicable to any of the new emission units as a part of this permit modification.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

PSD applicability is discussed under the Permit Level Determination - PSD section.

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

The operation of the emission units in this modification will emit 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. Therefore, 326 IAC 2-4.1 does not apply.

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 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 operation (P2exp-Paint Booth) 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 facility (P2exp-Paint Booth) has a potential to emit before control of less than 25 tons per year of VOC. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

326 IAC 8-2-9 (Miscellaneous Metal Coating)
 The paint booth (P2exp-Paint Booth) is approved for construction after July 1, 1990, applies surface coatings to metals, and has actual emissions of less than fifteen (15) pounds of VOC per day before add-on controls. Therefore, the requirements of 326 IAC 8-2-9 are not applicable.

State Rule Applicability – Mold Making, Floor Molding, and Pre-Finish 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 P2exp-Pouring/Cooling, P2exp-Mold Mixer, P2exp-Mold Sand Handling, P2exp-Shakeout, P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and the P2exp-Grinding Station shall not exceed the pound per hour limitation shown in the table below:

Emission Unit	Process Weight (lbs/hr)	PM Emission Limit (lbs/hr)
P2exp-Pouring/Cooling	3,085 *	5.48
P2exp-Mold Mixer	2,000	4.10
P2exp-Mold Sand Handling	1,960	4.04
P2exp-Shakeout	3,085 *	5.48
P2exp-Pre-Finish Station	1,125	2.79
P2exp-Blast Cabinet	1,125	2.79
P2exp-Core Removal Operation	1,125	2.79
P2exp-Grinding Station	1,125	2.79

* Process weight for P2exp-Pouring/Cooling and P2exp-Shakeout includes sand and metal.

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:

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

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)
 The potential to emit of volatile organic compound (VOC) from each of the P2exp-Pouring/Cooling, P2exp-Mold Mixer, P2exp-Mold Wash, P2exp-Mold Sand Handling, P2exp-Shakeout, P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and the P2exp-Grinding Station is less than twenty-five (25) tons per year. Stack tests of the existing 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.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate

compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The Compliance Determination Requirements applicable to this modification are as follows:

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
P2exp-Mold Sand Handling	Baghouse B6, Stack P2expB6	Within 180 days of startup	PM/PM10	Every 5 years	1.37 lbs/hr PM 0.68 lbs/hr PM10
P2exp-Shakeout	Baghouse B7, Stack P2expB7	Within 180 days of startup	PM/PM10	Every 5 years	0.68 lbs/hr PM 0.68 lbs/hr PM10
P2exp-Pre-Finish Station	Baghouse B8, Stack P2expB8	Within 180 days of startup	PM/PM10	Every 5 years	2.74 lbs/hr PM 1.14 lbs/hr PM10
P2exp-Blast Cabinet					
P2exp-Core Removal Operation					
P2exp-Grinding Station					

To demonstrate compliance with these combined limits, all emission units controlled by a single baghouse must be operated simultaneously during the testing period.

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

1. The pouring/cooling operation, shakeout unit, mold mixing operation, mold sand handling operation, pre-finish station, blast cabinet, core removal operation, and grinding station have applicable compliance monitoring conditions as specified below:
 - (a) Visible emission notations of the pouring/cooling operation, shakeout unit, mold mixing operation, mold sand handling operation, pre-finish station, blast cabinet, core removal operation, and grinding 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 (B6, B7, and B8) controlling the shakeout unit, mold sand handling operation, pre-finish station, blast cabinet, core removal operation, and grinding 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 1.0 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 booth (P2exp-Paint Booth) has 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 booth 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).

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. T079-15119-00018. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

1. The following changes have been made to incorporate this modification and its requirements:

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) . . .

(n) One (1) Furan Mold Making Operation, consisting of the following emissions units:

- (1) **One (1) furan mold sand handling and storage system, identified as P2exp-Mold Sand Handling, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.**
- (2) **One (1) furan mold mixer, identified as P2exp-Mold Mixer, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, 112 tons of resin per year, 33.63 tons of catalyst per year, and 390 gallons of release agent per year; with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.**
- (3) **One (1) mold wash, identified as P2exp-Mold Wash, approved for construction in 2008, with a maximum capacity of 0.187 gallons of mold wash per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.**

(o) One (1) Floor Molding Operation, consisting of the following emissions units:

- (1) **One (1) floor pouring and cooling operation, identified as P2exp-Pouring/Cooling, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, utilizing vacuum suction during pouring and cooling operations, exhausting inside the building, then to general**

ventilation.

- (2) **One (1) shakeout system for casting operation, identified as P2exp-Shakeout, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, with the particulate emissions controlled by Baghouse B7, and exhausting to stack P2expB7. Baghouse B7 will recycle all the sand collected back into the furan mold sand process.**
- (p) **One (1) enclosed Pre-Finishing Operation, consisting of the following four (4) emissions units, all with a maximum capacity of 0.5625 tons of metal per hour, all with particulate emissions controlled by Baghouse B8, and all exhausting to stack P2expB8:**
 - (1) **One (1) pre-finish station, identified as P2exp-Pre-Finish Station, approved for construction in 2008.**
 - (2) **One (1) enclosed blast cabinet, identified as P2exp-Blast Cabinet, approved for construction in 2008.**
 - (3) **One (1) core removal operation, identified as P2exp-Core Removal Operation, will remove the remaining sand cores from the casting, approved for construction in 2008.**
 - (4) **One (1) coarse grinding area, identified as P2exp-Grinding Station, approved for construction in 2008,.**
- (q) **One (1) Finishing Operation, consisting of one (1) paint booth, identified as P2exp-Paint Booth, approved for construction in 2008, with a maximum capacity of 1,560 gallons of yellow primer per year, utilizing an HVLP spray gun, using dry filters for particulate control, and exhausting to stack P2exp9.**

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

- (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, **and P2exp-Paint Booth** (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 ~~49.6~~ **19.0** tons per twelve (12) consecutive month period for any combination of HAPs.

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, **and P2exp-Paint Booth** (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 ~~49.6~~ **19.0** tons per twelve (12) consecutive month period for any combination of HAPs.

SECTION D.3

FACILITY OPERATION CONDITIONS

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

(m) . . .

(n) **One (1) Furan Mold Making Operation, consisting of the following emissions units:**

- (1) **One (1) furan mold sand handling and storage system, identified as P2exp-Mold Sand Handling, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.**
- (2) **One (1) furan mold mixer, identified as P2exp-Mold Mixer, approved for construction in 2008, with a maximum capacity of 0.98 tons of sand per hour, 112 tons of resin per year, 33.63 tons of catalyst per year, and 390 gallons of release agent per year; with particulate emissions controlled by Baghouse B6, and exhausting to stack P2expB6.**
- (3) **One (1) mold wash, identified as P2exp-Mold Wash, approved for construction in 2008, with a maximum capacity of 0.187 gallons of mold wash per hour, with the uncontrolled emissions exhausting inside the building, then to general ventilation.**

(o) **One (1) Floor Molding Operation, consisting of the following emissions units:**

- (1) **One (1) floor pouring and cooling operation, identified as P2exp-Pouring/Cooling, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, utilizing vacuum suction during pouring and cooling operations, exhausting inside the building, then to general ventilation.**
- (2) **One (1) shakeout system for casting operation, identified as P2exp-Shakeout, approved for construction in 2008, with a maximum rate of 0.5625 tons of metal per hour, with the particulate emissions controlled by Baghouse B7, and exhausting to stack P2expB7. Baghouse B7 will recycle all the sand collected back into the furan mold sand process.**

(p) **One (1) enclosed Pre-Finishing Operation, consisting of the following four (4) emissions units, all with a maximum capacity of 0.5625 tons of metal per hour, all with particulate emissions controlled by Baghouse B8, and all exhausting to stack P2expB8:**

- (1) **One (1) pre-finish station, identified as P2exp-Pre-Finish Station, approved for construction in 2008.**
- (2) **One (1) enclosed blast cabinet, identified as P2exp-Blast Cabinet, approved for construction in 2008.**
- (3) **One (1) core removal operation, identified as P2exp-Core Removal Operation, will remove the remaining sand cores from the casting, approved for construction in 2008.**
- (4) **One (1) coarse grinding area, identified as P2exp-Grinding Station, approved for construction in 2008.**

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

...

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 renders 326 IAC 2-2 (PSD) not applicable to the emissions units constructed under SSM 079-17819-00018.

- (d) In order to render 326 IAC 2-2 (PSD) not applicable to the modifications performed under Significant Source Modification 079-25476-00018, the Permittee shall limit PM and PM10 emissions as shown in the following table:**

Emission Unit	Control Device (Stack)	PM Limit (lbs/hr)	PM10 Limit (lbs/hr)
P2exp-Pouring/Cooling	none	0.23	0.23
P2exp-Mold Sand Handling	Baghouse B6 (P2exp-B6)	1.37	0.68
P2exp-Shakeout	Baghouse B7 (P2exp-B7)	0.68	0.68
P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station	Baghouse B8 (P2exp-B8)	2.74	1.14

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

...

- (b) Particulate emissions from the P2 and P2exp 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, and P2exp-Paint Booth (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 ~~49.6~~ **19.0** tons per twelve (12) consecutive month period for any combination of HAPs.

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

...

- (e) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission from P2exp-Pouring/Cooling, P2exp-Mold Mixer, P2exp-Mold Sand Handling, P2exp-Shakeout, P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and the P2exp-Grinding Station shall not exceed the pound per hour limitations shown in the table below:**

Emission Unit	Process Weight (lbs/hr)	PM Emission Limit (lbs/hr)
P2exp-Pouring/Cooling	3,085 *	5.48
P2exp-Mold Mixer	2,000	4.10
P2exp-Mold Sand Handling	1,960	4.04
P2exp-Shakeout	3,085 *	5.48
P2exp-Pre-Finish Station	1,125	2.79
P2exp-Blast Cabinet	1,125	2.79
P2exp-Core Removal Operation	1,125	2.79

P2exp-Grinding Station	1,125	2.79
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Compliance Determination Requirements

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

- (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), **the P2exp-Mold Sand Handling (Baghouse B6), the P2exp-Shakeout (Baghouse B7), and the P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station (Baghouse B8)** 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 **and P2exp-Pouring/Cooling are** ~~is~~ in operation.

...

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

- (d) In order to demonstrate compliance with Conditions D.3.1(d) and D.3.4(e), the Permittee shall perform PM and PM10 testing as shown in the following table. PM10 includes filterable and condensable PM10. 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.

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
P2exp-Mold Sand Handling	Baghouse B6, Stack P2expB6	Within 180 days of startup	PM/PM10	Every 5 years	1.37 lbs/hr PM 0.68 lbs/hr PM10
P2exp-Shakeout	Baghouse B7, Stack P2expB7	Within 180 days of startup	PM/PM10	Every 5 years	0.68 lbs/hr PM 0.68 lbs/hr PM10
P2exp-Pre-Finish Station	Baghouse B8, Stack P2expB8	Within 180 days of startup	PM/PM10	Every 5 years	2.74 lbs/hr PM 1.14 lbs/hr PM10
P2exp-Blast Cabinet					
P2exp-Core Removal Operation					
P2exp-Grinding Station					

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

D.3.8 Visible Emissions Notations [40 CFR 64]

- (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), **the P2exp-Mold Sand Handling (Baghouse B6), P2exp-Shakeout (Baghouse B7), and P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station (Baghouse B8)** 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.

...

D.3.9 Baghouse Parametric Monitoring [40 CFR 64]

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, **the P2exp-Mold Sand Handling, the P2exp-Shakeout, and the P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station** 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.

...

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

D.3.11 Record Keeping Requirements

(a) To document compliance with Conditions D.3.1 and D.3.3, the Permittee shall:

...

(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 **and P2exp** 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:

...

(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 **and P2exp** 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 **a daily record** ~~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), the **P2exp-Mold Sand Handling (Baghouse B6), P2exp-Shakeout (Baghouse B7), and P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station (Baghouse B8)** ~~once per day~~. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

...

SECTION D.4

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:	
(m)	...
(q)	One (1) Finishing Operation, consisting of one (1) paint booth, identified as P2exp-Paint Booth, approved for construction in 2008, with a maximum capacity of 1,560 gallons of yellow primer per year, utilizing an HVLP spray gun, using dry filters for particulate control, and exhausting to stack P2exp9.

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, **and P2exp-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 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~~ **19.0** tons per twelve (12) consecutive month period for any combination of HAPs.

...

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

Pursuant to 326 IAC 6-3-2(d), particulate from the paint booths (P2-Paint Booth #1, ~~and~~ P2-Paint Booth #2, **and P2exp-Paint Booth**) shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

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, **and P2exp-Paint Booth**
Limit: Less than ten (10) tons for a single HAP and less than ~~19.6~~ **19.0** tons for a combination of HAPs per twelve (12) month consecutive period.

2. IDEM, OAQ has removed the identification of the Responsible Official in Condition A.1. IDEM will continue to maintain records of the name, title, and contact information for the responsible official.

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

The Permittee owns and operates a stationary 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

3. IDEM, OAQ has decided to add the specific mail codes (MC) for each of the IDEM branches to improve mail delivery, as follows:

Permits Branch: **MC 61-53 IGCN 1003**
Compliance Branch: **MC 61-53 IGCN 1003**
Air Compliance Section: **MC 61-53 IGCN 1003**
Compliance Data Section: **MC 61-53 IGCN 1003**
Asbestos Section: **MC 61-52 IGCN 1003**
Technical Support and Modeling: **MC 61-50 IGCN 1003**

4. Condition C.18 has been updated to clarify the intent of this condition. Condition C.19 has been updated to include the correct rule citation.

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

...

- (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~~, **source with a Plantwide Applicability Limitation (PAL)**, 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:

...

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

...

5. Conditions D.1.11 and D.3.11 have been updated to clarify the intent of these conditions.

D.1.11 Record Keeping Requirements

...

- (c) To document compliance with Condition D.1.8, the Permittee shall maintain a **daily record** ~~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~~. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).**

- (d) To document compliance with Condition D.1.9 the Permittee shall maintain a **daily record** ~~records~~ of the pressure drop **across the baghouses controlling the processes** ~~once per day during normal operation~~ when venting to the atmosphere. **The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).**

D.3.11 Record Keeping Requirements

...

- (c) To document compliance with Condition D.3.8, the Permittee shall maintain a **daily record** ~~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),~~ **the P2exp-Mold Sand Handling (Baghouse B6), P2exp-Shakeout (Baghouse B7), and P2exp-Pre-Finish Station, P2exp-Blast Cabinet, P2exp-Core Removal Operation, and P2exp-Grinding Station (Baghouse B8)** ~~once per day~~. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).**
- (d) To document compliance with Condition D.3.9 the Permittee shall maintain a **daily record** ~~records~~ of the pressure drop **across the baghouses controlling the processes** ~~once per day during normal operation~~ when venting to the atmosphere. **The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).**

...

6. Descriptions of the emission units constructed under Significant Source Modification 079-17819-00018 have been revised to indicate that they were constructed in 2004. The change to the description for these emission units is shown below.

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:
- (1) One (1) raw core sand handling and storage system, identified as P2-Core Sand Handling, **constructed in 2004**, 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, **constructed 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, with a maximum capacity of 24 tons of metal per hour, with the particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.

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, **constructed in 1998**, 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.

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, **constructed in 2004**, 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, **constructed 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, with a maximum capacity of 24 tons of metal per hour, with the

particulate emissions controlled by Baghouse 4, and exhausting to stack P2B4.
...

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, **constructed in 2004**, 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, **constructed in 2004**, 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, **constructed in 2004**, each rated at 0.00165 MMBtu per hour, with the uncontrolled emissions exhausting to stacks P2PB1 and P2PB2.

...

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification 079-25476-00018 and Significant Permit Modification 079-25513-00018. The staff recommend to the Commissioner that this Part 70 Significant Source Modification and Significant Permit Modification be approved.

Appendix A: Emissions Calculations: P2 Expansion Foundry Operations

Company Name: North Vernon Industry Corporation
 Address: 3750 North County Road 75 West
 Significant Source Modification: 079-25476-00018
 Reviewer: ERG/ST
 Date: December 7, 2007

Emission Unit	Maximum Capacity	Pollutant	Emission Factor (lbs/ton)	Source of Emission Factor	Potential to Emit							
					Before Controls		After Controls		SOx (ton/yr)	NOx (ton/yr)	VOC (ton/yr)	CO (ton/yr)
					PM (ton/yr)	PM10 (ton/yr)	PM (ton/yr)	PM10 (ton/yr)				
P2exp-Pouring/Cooling * 3-04-003-18 and 3-04-003-20	0.56 (tons metal/hr)	PM	4.20	FIRE 6.25	10.3	5.08			0.05	0.02	0.34	
		PM10	2.06	FIRE 6.25								
		SOx	0.02	FIRE 6.25								
		NOx	0.01	FIRE 6.25								
		VOC	0.14	FIRE 6.25								
	After Controls	PM	0.10	engineering est *	0.25							
	PM10	0.10	engineering est *	0.25								
PTE Totals					10.3	5.08	0.25	0.25	0.05	0.02	0.34	0.0

* 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. CO emissions from pouring, cooling and shakeout are accounted for on page 2.

Methodology

PTE for Pouring/Cooling (tons/yr) = Maximum Capacity (tons metal/yr) x Emission Factor (lbs/ton) x 1 ton/2,000 lbs

Appendix A: Emissions Calculations: P2 Expansion Molding Operations

Company Name: North Vernon Industry Corporation
 Address: 3750 North County Road 75 West
 Significant Source Modification: 079-25476-00018
 Reviewer: ERG/ST
 Date: December 7, 2007

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Overall Control Efficiency %	Potential to Emit							
						Before Controls		After Controls		SOx (ton/yr)	NOx (ton/yr)	VOC (ton/yr)	CO (ton/yr)
						PM (ton/yr)	PM10 (ton/yr)	PM (ton/yr)	PM10 (ton/yr)				
P2Exp-Shakeout SCC 3-04-003-31	0.56 (tons metal/hr)	PM PM10	3.20 2.24 (lbs/ton)	FIRE 6.25 FIRE 6.25	99.0%	7.88	5.52	0.079	0.055				
P2Exp-Pouring/Cooling P2-Shakeout	0.56 (tons metal/hr)	VOC CO	0.09 6.00 (lbs/ton)	2005 stack test ^a c								0.22	14.8
P2Exp-Furan Mold Sand Handling SCC 3-04-003-50	0.98 (tons sand/hr)	PM PM10	3.6 0.54 (lbs/ton)	FIRE 6.25 FIRE 6.25	99.0%	15.5	2.33	0.16	0.023				
P2Exp-Mold Wash	1,638 gals/yr	VOC	6.56 (lbVOC/gal)	MSDS Assume all VOC volatilizes and is released								5.37	
P2Exp- Furan Mold Mixer 3-04-003-98	112 tons/yr resin	VOC	0.72 lb/ton	OCMA test ^b								0.04	
	33.6 tons/yr catalyst	VOC	0.00 lb/ton	MSDS ^d								0.00	
	390 gals/yr release agent	VOC	5.58 (lb VOC/gal)	MSDS Assume all VOC volatilizes and is released								1.09	
PTE Totals						23.4	7.85	0.23	0.08	0.00	0.00	6.72	14.8

^a Stack tests of the pouring/cooling/shakeout in Plant P1 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 for P2exp-Pouring/Cooling.

^b Tests on the Furan NoBake resin were performed by OCMA

^c The CO emission factor for pouring, cooling and shakeout is based on the best available information for CO emissions from pouring, cooling and shakeout operations. This represents total emissions from pouring, cooling and shakeout combined.

^d The catalyst does not contain VOC.

Methodology

PTE for Shakeout/Mold Sand Handling Before Controls (tons/yr) = Maximum Capacity (tons metal or sand/yr) x Emission Factor (lbs/ton) x 1 ton/2,000 lbs

PTE for PM/PM10 for Shakeout/Mold Sand Handling After Controls (tons/yr) = PTE Before Controls (tons/yr) x (1 - Control Efficiency %)

PTE for VOC for Mold Wash and Furan Mold Mixer (tons/yr) = Maximum Capacity (gals/yr) x VOC Content (lb VOC/gal) x 1/2000 (ton/lbs)

PTE for VOC for Furan Mold Mixer (tons/yr) = Maximum Capacity (tons/yr) x Emission Factor (lb VOC/ton) x 1/2000 (ton/lbs)

Appendix A: Emissions Calculations: P2 Expansion Finish Prep

Company Name: North Vernon Industry Corporation
 Address: 3750 North County Road 75 West
 Significant Source Modification: 079-25476-00018
 Reviewer: ERG/ST
 Date: December 7, 2007

Emission Unit	Maximum Capacity	Pollutant	Emission Factor	Source of Emission Factor	Overall Control Efficiency %	PTE Before Controls		PTE After Controls	
						PM (ton/yr)	PM10 (ton/yr)	PM (ton/yr)	PM10 (ton/yr)
P2exp-Blast Cabinet 3-04-003-40	0.56 (tons/hr) metal	PM PM10	17.0 1.70 (lbs/ton)	AP 42 AP 42	99.0%	41.9	4.19	0.42	0.042
P2exp-Pre-Finish Station 3-04-003-60	0.56 (tons/hr) metal	PM PM10	0.0045 0.0045 (lbs/ton)	FIRE 6.25 FIRE 6.25	99.0%	0.01	0.01	0.0001	0.0001
P2exp-Core Removal 3-04-003-60	0.56 (tons/hr) metal	PM PM10	0.0045 0.0045 (lbs/ton)	FIRE 6.25 FIRE 6.25	99.0%	0.01	0.01	0.0001	0.0001
P2exp-Coarse Grinding 3-04-003-60	0.56 (tons/hr) metal	PM PM10	0.0045 0.0045 (lbs/ton)	FIRE 6.25 FIRE 6.25	99.0%	0.01	0.01	0.0001	0.0001
PTE Totals						41.9	4.22	0.42	0.04

Emission Factor are from AP-42, Chapter 12.10 - Gray Iron Foundries, Table 12.10-7 (1/95) and FIRE 6.25.

Methodology

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

PTE for PM/PM10 After Controls (tons/yr) = PTE Before Controls (tons/yr) x (1 - Control Efficiency %)

Appendix A: Emissions Calculations: P2 Expansion Painting and Finishing

Company Name: North Vernon Industry Corporation
 Address: 3750 North County Road 75 West
 Significant Source Modification: 079-25476-00018
 Reviewer: ERG/ST
 Date: December 7, 2007

Emission Unit	Maximum Capacity	Pollutant	Emission Factor (lbs/gal)	Source of Emission Factor	Transfer Efficiency %	Control Efficiency %	Potential to Emit				
							Before Controls		After Controls		VOC (ton/yr)
							PM (ton/yr)	PM10 (ton/yr)	PM (ton/yr)	PM10 (ton/yr)	
P2exp-Paint Booth Yellow Primer 4-02-006-10	1,560 (gals/yr)	VOC	2.00	MSDS	75%	80%					1.56
Primer is 50% solids	10.2 density (lb/gal)	PM PM10	5.08 5.08	MSDS			0.99		0.20		
								0.99	0.20	0.20	
PTE Totals							0.99	0.99	0.20	0.20	1.56

Methodology

PTE VOC for Painting (tons/yr) = Max. Capacity (gal/yr) x Emission Factor (lb VOC/gal) x 1 ton/2,000 lbs

PTE for PM/PM10 for Painting Before Controls (ton/yr) = Max. Capacity (gal/yr) x density (lb/gal) x Emission Factor (lbs/gal) x 1 ton/2,000 lbs x (1 - Transfer Efficiency(%))

PTE for PM/PM10 for Painting After Controls (ton/yr) = PTE for PM/PM10 for Painting Before Controls (ton/yr) x (1- Control Efficiency(%))

Appendix A: Emissions Calculations: P2 Expansion HAPs

TSD Ap

Company Name: North Vernon Industry Corporation
 Address: 3750 North County Road 75 West
 Significant Source Modification: 079-25476-00018
 Reviewer: ERG/ST
 Date: December 7, 2007

Metallic HAPs	Capacity	PTE PM	PTE lead	PTE manganese	Total Metallic HAP Before Controls
Process:	(tons metal/yr)	(tons/yr)	(ton/yr)	(ton/yr)	(ton/yr)
P2exp-Pouring/Cooling ^b	0.56	10.3	0.04	0.32	2.10
P2exp-Shakeout ^b	0.56	7.88	0.03	0.24	
P2exp-Castings Cleaning and Finishing ^b	0.56	41.9	0.16	1.30	

Misc. Combustion HAPs	Maximum Capacity	Units	Combustion HAP Emission Factor	PTE	Total Misc. Combustion HAP
Process:		(tons/yr)	(lbs HAP/lb input)	(ton/yr)	(ton/yr)
P2exp-Pouring/Cooling & P2 Shakeout ^a	112	(tons resin and plastic/yr)	0.002956 lbs Xylene/lb	0.33	0.54
P2exp-Pouring/Cooling & P2 Shakeout ^a	112	(tons resin and plastic/yr)	0.000648 lbs Benzene/lb	0.07	
P2exp-Pouring/Cooling & P2 Shakeout ^a	112	(tons resin and plastic/yr)	0.001173 lbs other HAPs/lb	0.13	

^a 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. As the cores (112 ton/yr) and plastic in the molds (0.1 lbs/hr) are combusted/volatilized during pouring/cooling/shakeout. Emission factor for Pouring/Cooling & Shakeout is from "Calculating Emission Factors for Pouring, Cooling and Shakeout" Table 7: Low Nitrogen Furan, October 1994. HAPs include benzene, phenol, toluene, aldehydes, and other

^b 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 0.1% manganese by weight. There are no HAPs in the furan no bake resin mold wash, release agent, and paint.

Methodology

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

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

Total Metallic HAP After Controls
(ton/yr)
0.026

sume that the resin in
Modern Casting:
rs in trace amounts.

385% lead and 3.1%

Appendix A: Emissions Summary

Company Name: North Vernon Industry Corporation
Address: 3750 North County Road 75 West
Significant Source Modification: 079-25476-00018
Reviewer: ERG/ST
Date: December 7, 2007

PTE of Modification Before Controls (ton/yr)						
PM	PM10	VOC	SOx	NOx	CO	HAPs
76.7	18.1	8.62	0.05	0.02	14.8	2.63

PTE of Modification After Controls (ton/yr)						
PM	PM10	VOC	SOx	NOx	CO	HAPs
1.10	0.57	8.62	0.05	0.02	14.8	0.56