



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: March 3, 2009

RE: Ford Meter Box Company, Inc / 169-27137-00003

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

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, 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



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John Flesher
Ford Meter Box Company, Inc.
PO Box 398, 775 Manchester Dr.
Wabash, IN 46992-0398

March 3, 2009

Re: 169-27137-00003
Second Significant Revision to
F169-5469-00003

Dear Mr. Flesher:

Ford Meter Box Company, Inc. was issued Federally Enforceable State Operating Permit (FESOP) No. F169-5469-00003 on December 13, 1996 for a stationary captive brass foundry located at 775 Manchester Drive, Wabash, Indiana. On November 13, 2008, the Office of Air Quality (OAQ) received an application from the source requesting the addition of a new cut-off saw and shot blasting machine. The attached Technical Support Document (TSD) provides additional explanation of the changes to the permit. Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

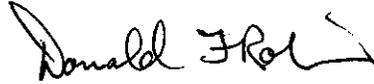
The following construction conditions are applicable to the proposed project:

- 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).
- 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.
- Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
- Pursuant to 326 IAC 2-1.1-9 (Revocation), 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.
- 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.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.
If you have any questions on this matter, please contact Laura Spriggs, of my staff, at 317-233-5693 or 1-800-451-6027, and ask for extension 3-5693.

Sincerely,



Donald F. Robin, P.E., Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

DFR/Iss

cc: File - Wabash County
Wabash County Health Department
U.S. EPA, Region V
Air Compliance Section
Compliance Data Section
Technical Support and Modeling
Permits Administration and Support



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FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR QUALITY

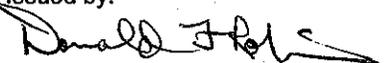
Ford Meter Box Company, Inc.
775 Manchester Drive
Wabash, Indiana 46992

(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 provision of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; and denial of a permit renewal application. 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 2-8 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 new source review requirements and is intended to fulfill the new source review procedures and permit revision requirements pursuant to 326 IAC 2-8-11.1, applicable to those conditions.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation, or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F 169-5469-00003	
Issued by/Original signed by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: December 13, 1996 Expiration Date: December 13, 2001
First Administrative Amendment No.: 169-10615-00003, issued on March 8, 1999 Second Administrative Amendment No.: 169-11779-00003, issued on February 10, 2000 Third Administrative Amendment No.: 169-13843-00003, issued on April 6, 2001 Fourth Administrative Amendment No.: 169-17243-00003, issued on April 17, 2003 First Significant Permit Revision No.: 169-18446-00003, issued on July 19, 2004 Fifth Administrative Amendment No.: 169-20252-00003, issued on December 10, 2004 Sixth Administrative Amendment No.: 169-22003-00003, issued on January 04, 2006 Seventh Administrative Amendment No. 169-25416-00003, issued on December 4, 2007	
Second Significant Permit Revision No. 169-27167-00003	Affected Pages: 4-6, 24-31, 36
Issued by:  Donald F. Robin, P.E., Section Chief Permits Branch Office of Air Quality	Issuance Date: March 3, 2009

SECTION A SOURCE SUMMARY

A.1 General Information

The Permittee owns and operates a brass captive foundry.

Responsible Official:	Senior Vice President
Source Address:	775 Manchester Avenue, Wabash, Indiana, 46992
Mailing Address:	P.O. Box 398, 775 Manchester Avenue, Wabash, IN 46992
SIC Code:	3366, 3494, 3053
County Location:	Wabash
County Status:	Attainment for all criteria pollutants
Source Status:	Synthetic Minor Source, FESOP Program

A.2 Emission Units and Pollution Control Summary

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

- (a) two (2) natural gas fired boilers (Units #1 and #2) with a maximum heat input of 12.5 million British thermal Units per hour, using No. 2 and No. 6 fuel oils as back-up fuels, with Unit #1 and Unit #2 exhausting at Stack "A";
- (b) one (1) Binks Teflon spray coating booth (Unit #21), installed in 1980, using an automatic air atomization application method for coating brass balls and air filters for overspray control exhausting at Stack "OO";
- (c) one (1) nut coating operating (Unit #27), installed in 1996, utilizing a spin coating application system;
- (d) one (1) paint booth for miscellaneous painting and gluing activities, using brush, roller, or aerosol spray applications, with a maximum capacity of 3.75 pounds of coating per hour, using dry filters for particulate control.
- (e) shakeout and sand handling from:
 - (1) unit #6 sand system and shakeout conveyors sand system, for four (4) mold lines, identified as #1 Handline, #1 Harrison, #2 Harrison, and #4 Sinto, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns captured sand particulate back to the system, exhausting to Stack "H";
 - (2) unit #20 sand system and shakeout, for three (3) mold lines, identified as #1 Sinto, #2 Sinto, and #3 Sinto, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns the captured sand particulate back to the system, exhausting to Stack "KK";
- (f) the sand treatment and brass reclaim operations (Unit #13), controlled by a baghouse identified as Baghouse "T";
- (g) one (1) Iron Room (Unit #5) for cast iron grinding, boring and tapping operations. Particulate emissions for all operations conducted in the room are controlled by a baghouse identified as Baghouse "G";
- (h) one (1) Pangborn 12GN steel shot blast cleaner (Unit #11) ventilated to a baghouse identified as Baghouse "Q" for particulate emissions control;
- (i) one (1) Pangborn 6GN steel shot blast cleaner (Unit #12) ventilated to a baghouse identified as Baghouse "S" for particulate emissions control;
- (j) one (1) continuous flow steel shot blast cleaner (Unit #14) for removing sand and internal cores from the casting, ventilated to a baghouse identified as Baghouse "U" for particulate emissions control;
- (k) foundry grinding and cut-off operations (Unit #15) with emissions controlled by a baghouse identified as Baghouse "V";
- (l) various machining, grinding, and polishing operations (Unit #16) ventilated to a baghouse identified as Baghouse "W" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;

- (m) various machining, grinding, and polishing operations (Unit #17) ventilated to a baghouse identified as Baghouse "X" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;
- (n) various machining, grinding, and polishing operations (Unit #18) ventilated to a baghouse identified as Baghouse "Y" for capturing metal particulate;
- (o) the corer room ventilation (Unit #19) including ventilation of thirteen (13) natural gas fired core making units with a total maximum heat capacity of 2.464 million British thermal Units per hour, and a sand throughput of 2.068 tons per hour;
- (p) various machining, grinding, and polishing operations (Unit #26) ventilated to a baghouse identified as Baghouse "BC" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse; and
- (q) unit #23, consisting of:
 - (1) Six (6) 5-ton each electric channel induction furnaces, each with a 1.25 tons per hour melt capacity;
 - (2) One (1) box induction furnace with a 0.695 ton per hour melt capacity;
 - (3) One (1) crucible induction furnace with a 0.53 ton per hour melt capacity; and
 - (4) Pouring/Casting operations associated with seven (7) molding lines, identified as #1 Handline, #1 Harrison, #2 Harrison, #1 Sinto, #2 Sinto, #3 Sinto, and #4 Sinto.Due to power supply limitations the box induction furnace and crucible induction furnace cannot operate simultaneously. The total maximum melt capacity is 8.195 tons per hour. Metallic fume emissions from melting and pouring, including transfer points, controlled by nine (9) baghouse modules, identified as "UU" with a common inlet but nine (9) individual stack discharges.

A.3 Insignificant Activities

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(20):

- (a) the tool grinding operations (Unit 8) vented through Baghouse "C";
- (b) machining operations vented through Baghouse "AB";
- (c) two (2) natural gas fired chip dryers each with a maximum heat input of 0.625 million British thermal Units per hour, each with a maximum throughput of 50 pounds of combustibles per hour and each equipped (as integral part of the equipment) with a 0.425 million British thermal Units per hour thermal oxidizer, identified as After Burner "TT" and After Burner "VV", respectively;
- (d) two (2) diesel fuel fired 423 horsepower (2.9 million British thermal Units per hour) emergency generators;
- (e) natural gas-fired combustion sources with heat input equal to or less than ten (10) million British thermal Units per hour;
- (f) propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six (6) million British thermal Units per hour;
- (g) combustion source flame safety purging on startup;
- (h) a petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;
- (i) storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons;
- (j) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (k) refractory storage not requiring air pollution control equipment;
- (l) application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings;
- (m) machining where an aqueous cutting coolant continuously floods the machining interface;
- (n) degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6;
- (o) cleaners and solvents with low vapor pressure and with a combined usage of less than 145 gallons per 12 months;

- (p) brazing equipment, cutting torch, soldering equipment and welding equipment not resulting in HAP emissions;
- (q) close loop heating and cooling systems;
- (r) cutting 200.00 linear feet or less of one inch (1") plate or equivalent;
- (s) using 80 tons or less of welding consumables;
- (t) operations using aqueous solutions with less than 1 percent of VOCs excluding HAPs;
- (u) water based adhesives that are less than or equal to 5 percent VOCs by volume excluding HAPs;
- (v) quenching operations used with heat treating processes;
- (w) replacement or repair of electrostatic precipitators, bags in baghouse and filters in other air filtration equipment;
- (x) heat exchanger cleaning and repair;
- (y) paved and unpaved roads and parking lots with public excess;
- (z) purging of gas lines and vessels not associated with production process;
- (aa) equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup;
- (bb) blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower;
- (cc) stationary fire pumps;
- (dd) 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 4,000 actual standard cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations, including but not limited to:
 - (1) one (1) shot blast machine, approved for construction in 2009, identified as Unit #29, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control [326 IAC 6-3-2] and
 - (2) one (1) cut-off saw, approved for construction in 2009, identified as Unit #30, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control [326 IAC 6-3-2];
- (ee) mold release agent using low volatile products;
- (ff) a laboratory as defined in 326 IAC 2-7-1(20)(C);
- (gg) other activities with volatile organic compound (VOC) emissions equal to or less than 15 pounds per day, and activities with particulate matter (PM) emissions equal to or less than 25 pounds per day;
- (hh) one (1) 19,810 gallon No.2 fuel oil underground storage tank;
- (ii) one (1) parts washer with no VOC emissions exhausting through stack/vent "BD";
- (jj) one (1) 100 KW internal combustion natural gas-fired emergency generator, approved for construction in 2007, used to generate electric power, with a maximum power output rate of 134.1 horsepower, firing natural gas only, operating no more than 500 hours per year using no control and exhausting to the atmosphere; and
- (kk) one (1) powder coating booth, used for epoxy coating, with a maximum capacity of eighteen (18) units per hour, using an integral cartridge baghouse for particulate capture and reuse.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).

SECTION D.2 FACILITY OPERATION CONDITIONS

- (b) one (1) Binks Teflon spray coating booth (Unit #21), installed in 1980, using an automatic air atomization application method for coating brass balls and air filters for overspray control; and
- (c) one (1) nut coating operating (Unit #27), installed in 1996, utilizing a spin coating application system.

Insignificant Activities:

- (kk) one (1) powder coating booth, used for epoxy coating, with a maximum capacity of eighteen (18) units per hour, using an integral cartridge baghouse for particulate capture and reuse.

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d), particulate from the Binks Teflon spray coating booth (Unit #21) shall be controlled by dry filters, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

D.2.2 Hazardous Air Pollutants

The hazardous air pollutant emissions shall be limited such that source wide single hazardous air pollutant (HAP) emissions shall not exceed 0.75 tons per month. Therefore, the requirements of 326 IAC 2-7 do not apply.

D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for each facility.

Compliance Determination Requirements

D.2.4 Particulate Emissions

The cartridge baghouse is considered an integral part of the powder coating booth; therefore, particulate from the powder coating booth shall be controlled by the cartridge baghouse at all times that the powder coating booth is in operation, and the Permittee shall operate the control device in accordance with the manufacturer's specifications.

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

D.2.5 Monitoring

Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To document compliance with Condition D.2.1, observations shall be made daily of the overspray while the Binks Teflon spray coating booth is in operation. Weekly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an overspray emission, evidence of overspray emission, or other abnormal emission is observed. Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.2.6 Record Keeping Requirements

- (a) To document compliance with Conditions D.2.1 and D.2.5, the Permittee shall maintain a log of daily overspray observations and weekly inspections.
- (b) The Permittee shall maintain records at the facility of the materials used that contain any HAPs. The records shall be complete and sufficient to establish compliance with the HAP usage limits and/or HAP emission limits that may be established in this permit. The records shall contain a minimum of the following:

- (1) The weight of HAP containing material used, including purchase orders and invoices necessary to verify the type and amount used;
- (2) The HAP content (weight percent) of each material used;
- (3) The weight of HAPs emitted for each compliance period, considering capture and control efficiency, if applicable; and
- (4) Identification of the facility or facilities associated with the usage of each HAP.

D.2.7 Quarterly Reporting

A quarterly summary to document compliance with operation Condition D.2.2 shall be submitted, to the address listed in Condition C.15 - General Reporting Requirements, using the enclosed forms or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.3 FACILITY OPERATION CONDITIONS

- (e) shakeout and sand handling from:
- (1) unit #6 sand system and shakeout conveyors sand system, for four (4) mold lines, identified as #1 Handline, #1 Harrison, #2 Harrison, and #4 Sinto, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns captured sand particulate back to the system, exhausting to Stack "H";
 - (2) unit #20 sand system and shakeout, for three (3) mold lines, identified as #1 Sinto, #2 Sinto, and #3 Sinto, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns the captured sand particualte back to the system, exhausting to Stack "KK";
- (q) unit #23, consisting of:
- (1) Six (6) 5-ton each electric channel induction furnaces, each with a 1.25 tons per hour melt capacity;
 - (2) One (1) box induction furnace with a 0.695 ton per hour melt capacity;
 - (3) One (1) crucible induction furnace with a 0.53 ton per hour melt capacity; and
 - (4) Pouring/Casting operations associated with seven (7) molding lines, identified as #1 Handline, #1 Harrison, #2 Harrison, #1 Sinto, #2 Sinto, #3 Sinto, and #4 Sinto.
- Due to power supply limitations the box induction furnace and crucible induction furnace cannot operate simultaneously. The total maximum melt capacity is 8.195 tons per hour. Metallic fume emissions from melting and pouring, including transfer points, controlled by nine (9) baghouse modules, identified as "UU" with a common inlet but nine (9) individual stack discharges.

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.3.1 Particulate Matter [326 IAC 2-2] [326 IAC 6-3-2]
 Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Process Operations), the particulate matter emissions from the facilities covered in Section D.3 are as follows:

Facilities	Process Weight Rate (ton/hr)	326 IAC 6-3-2 PM Allowable Emissions (lb/hr)	PM Compliance Calculations (lb/hr)
Unit #6	50	44.6	0.64
Unit #20	45	43.6	0.27
Unit #23	8.195	16.78	1.77

Compliance with these limits make 326 IAC 2-2 not applicable.

D.3.2 Particulate Matter Less Than Ten (10) Microns (PM-10) [326 IAC 2-8-4]
 Pursuant to 326 IAC 2-8-4 the PM-10 emissions shall be limited as follows:

Facilities	PM -10 Emissions (lb/hr)	PM-10 Emissions (tons/yr)
Unit #6	0.31	1.35
Unit #20	0.55	2.4
Unit #23	3.54	15.52

Compliance with these limits make 326 IAC 2-7 not applicable.

D.3.3 Hazardous Air Pollutants (Lead) [326 IAC 2-8-4]
 Pursuant to 326 IAC 2-8-4 the Lead emissions shall be limited as follows:

Facilities	Lead Emissions (lb/hr)	Lead Emissions (tons/yr)
Unit #6	0.005	0.022
Unit #20	0.002	0.009
Unit #23	1.02	4.47

Compliance with these limits make 326 IAC 2-7 not applicable.

D.3.4 Carbon Monoxide (CO) [326 IAC 2-8-4]

In order to render the requirements of 326 IAC 2-7 not applicable, the Permittee shall comply with the following:

The metal melt rate of Unit #23 shall not exceed 28,908 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit, combined with the potential to emit CO from other emission units at the source, shall limit the CO from the entire source to less than 100 tons per twelve (12) consecutive month period and render 327 IAC 2-7 not applicable.

D.3.5 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for each facility.

Compliance Determination Requirements

D.3.6 Particulate Control

(a) In order to comply with Conditions D.3.1, D.3.2, and D.3.3, the baghouses for particulate, PM10, and lead control shall be in operation and control emissions from Units #6, #20, and #23 at all times these units 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 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.

Testing Requirements [326 IAC 2-8-4(3)]

D.3.7 Particulate Matter

Within 18 months after issuance of this permit, the Permittee shall perform PM and PM10 testing on the exhaust stack for the Baghouse "UU" utilizing methods per 40 CFR Part 60 Appendix A, Method 5, 17, 40 CFR Part 51 Appendix M, Method 201, 201a, 202, as approved by the Commissioner. This test shall be repeated at least once every five years from the date of this valid compliance demonstration. PM10 includes filterable and condensable PM10.

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

D.3.8 Broken Bag Detectors

For the baghouses equipped with a continuous broken bag (leak) detector at the exhaust stack, the detector shall be used for detecting the potential control device malfunction. The instrument used for leak detection shall meet the specification of Condition C.10 and be maintained according to Condition C.8. The detector shall also be subject to approval by IDEM, OAM.

D.3.9 Visible Emission Notations

Visible emission notations of the baghouse exhaust stacks without broken bag detector shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processed operated continuously "normal" means those conditions prevailing, or expected to prevail, 80 percent 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 specified condition prescribing visible emissions. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

D.3.10 Preventive Inspections

The following inspections shall be performed when the process equipment controlled by a baghouse is operating in accordance with the Preventive Maintenance Plan prepared pursuant to Condition B.13:

Daily:

- (a) Baghouse inlet temperature and air flow rate;
- (b) Adequate dust removal from hoppers;
- (c) Compressed air supply;
- (d) Proper isolation damper operation; and
- (e) Monitoring of bag cleaning cycle.

Weekly:

- (a) Bag cleaning mechanisms; and
- (b) Condition of the ductwork.

Monthly:

- (a) Internal inspection for air leaks;
- (b) Bag condition; and
- (c) Fan condition and operation.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.3.11 Record Keeping Requirements

- (a) The Permittee shall maintain daily records at the stationary source of the following values:
 - (1) Unexpected triggering of broken bag (leak) detector;
 - (2) Visible emission observations;
 - (3) Checklist with dates and initials for each preventive action performed; and
 - (4) Records of corrective actions.
- (b) To document compliance with Condition D.3.4, the Permittee shall maintain records of the metal melt rate of Unit #23.

D.3.12 Reporting Requirements

- (a) A quarterly summary of the information to document compliance with Condition D.3.4 shall be submitted to:

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

using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by te Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) Any deviations shall be reported in accordance with Condition B.15 and summarized in the annual certification submitted in accordance with Condition B.12.

SECTION D.4 FACILITY OPERATION CONDITIONS

- (f) the sand treatment and brass reclaim operations (Unit #13), controlled by a baghouse identified as Baghouse "T";
 - (g) one (1) Iron Room (Unit #5) for cast iron grinding, boring and tapping operations. Particulate emissions for all operations conducted in the room are controlled by a baghouse identified as Baghouse "G";
 - (h) one (1) Pangborn 12GN steel shot blast cleaner (Unit #11) ventilated to a baghouse identified as Baghouse "Q" for particulate emissions control;
 - (i) one (1) Pangborn 6GN steel shot blast cleaner (Unit #12) ventilated to a baghouse identified as Baghouse "S" for particulate emissions control;
 - (j) one (1) continuous flow steel shot blast cleaner (Unit #14) for removing sand and internal cores from the casting, ventilated to a baghouse identified as Baghouse "U" for particulate emissions control;
 - (k) foundry grinding and cut-off operations (Unit #15) with emissions ventilated to and controlled by a baghouse identified as Baghouse "V";
 - (l) various machining, grinding, and polishing operations (Unit #16) ventilated to a baghouse identified as Baghouse "W" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;
 - (m) various machining, grinding, and polishing operations (Unit #17) ventilated to a baghouse identified as Baghouse "X" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;
 - (n) various machining, grinding, and polishing operations (Unit #18) ventilated to a baghouse identified as Baghouse "Y" for capturing metal particulate;
 - (o) the coreroom ventilation (Unit #19) including ventilation of thirteen (13) natural gas fired core making units with a total maximum heat capacity of 2.464 million British thermal Units per hour, and a sand throughput of 2.068 tons per hour;
 - (p) various machining, grinding, and polishing operations (Unit #26) ventilated to a baghouse identified as Baghouse "BC" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse.
- Insignificant Activities:
- (dd) grinding and machining operations controlled with fabric filters:
 - (1) one (1) shot blast machine, approved for construction in 2009, identified as Unit #29, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control [326 IAC 6-3-2] and
 - (2) one (1) cut-off saw, approved for construction in 2009, identified as Unit #30, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control [326 IAC 6-3-2].

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.4.1 Particulate Matter

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Process Operations), the particulate matter emissions from the facilities covered in Section D.4 are as follows:

Facilities	Process Weight Rate (ton/hr)	326 IAC 6-3-2 PM Allowable Emissions (lb/hr)	PM Compliance Calculations (lb/hr)
Unit #5	0.78	3.47	2.13
Unit# 11	2.73	8.04	0.88
Unit #12	1.37	5.06	0.44
Unit #13	15.0	25.16	1.33
Unit #14	8.195	16.78	4.82

Facilities	Process Weight Rate (ton/hr)	326 IAC 6-3-2 PM Allowable Emissions (lb/hr)	PM Compliance Calculations (lb/hr)
Unit# 15	8.195	16.78	4.81
Unit #16	0.78	3.47	0.19
Unit #17	2.23	7.02	0.54
Unit #18	0.90	3.82	0.22
Unit #19	8.0	16.51	16.02
Unit #26	4.28	4.28	0.52
Unit #29	2.0	6.52	5.0
Unit #30	2.0	6.52	5.0

Compliance with these limits make 326 IAC 2-2 not applicable.

D.4.2 Particulate Matter Less Than Ten (10) Microns (PM-10) [326 IAC 2-8-4]
Pursuant to 326 IAC 2-8-4 the PM-10 emissions shall be limited as follows:

Facilities	PM -10 Emissions (lb/hr)	PM-10 Emissions (tons/yr)
Unit #5	0.13	0.57
Unit# 11	0.51	2.24
Unit #12	0.26	1.12
Unit #13	1.33	5.83
Unit #14	2.81	12.32
Unit# 15	0.97	4.24
Unit #16	0.21	0.91
Unit #17	0.60	2.62
Unit #18	0.24	1.06
Unit #19	5.34	23.39
Unit #26	0.239	1.05
Unit #29	0.34	1.50
Unit #30	0.34	1.50

Compliance with these limits make 326 IAC 2-7 not applicable.

D.4.3 Hazardous Air Pollutants (Lead) [326 IAC 2-8-4]
Pursuant to 326 IAC 2-8-4 the Lead emissions shall be limited as follows:

Facilities	Lead Emissions (lb/hr)	Lead Emissions (tons/yr)
Unit #5	0.011	0.045
Unit# 11	0.0078	0.034
Unit #12	0.0039	0.017
Unit #13	0.009	0.036
Unit #14	0.043	0.19
Unit# 15	0.20	0.87
Unit #16	0.0071	0.031
Unit #17	0.02	0.087
Unit #18	0.008	0.035
Unit #26	0.038	0.167
Unit #29	0.023	0.10
Unit #30	0.023	0.10

Compliance with these limits make 326 IAC 2-7 not applicable.

D.4.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for each facility.

Compliance Determination Requirements

D.4.5 Particulate Control

- (a) In order to comply with Conditions D.4.1, D.4.2, and D.4.3, the baghouses for particulate, PM10, and lead control shall be in operation and control emissions from Units #5, #11-#18, #26, #29, and #30 at all times these units 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 IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

D.4.6 Broken Bag Detectors

For the baghouses equipped with a continuous broken bag (leak) detector at the exhaust stack, the detector shall be used for detecting the potential control device malfunction. The instrument used for leak detection shall meet the specification of Condition C.10 and be maintained according to Condition C.8. The detector shall also be subject to approval by IDEM, OAQ.

D.4.7 Visible Emission Notations

Visible emission notations of the baghouse exhaust stacks without broken bag detector shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, 80 percent 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 specified condition prescribing visible emissions. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

D.4.8 Preventive Inspections

The following inspections shall be performed when the process equipment controlled by a baghouse is operating in accordance with the Preventive Maintenance Plan prepared pursuant to Condition B.13:

Daily:

- (a) Baghouse inlet temperature and air flow rate;
- (b) Adequate dust removal from hoppers;
- (c) Compressed air supply;
- (d) Proper isolation damper operation; and
- (e) Monitoring of bag cleaning cycle.

Weekly:

- (a) Bag cleaning mechanisms; and
- (b) Condition of the ductwork.

Monthly:

- (a) Internal inspection for air leaks;
- (b) Bag condition; and
- (c) Fan condition and operation.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.4.9 Operational Parameters

The Permittee shall maintain daily records at the stationary source of the following values:

- (a) Unexpected triggering of broken bag (leak) detector;
- (b) Visible emission observations;
- (c) Checklist with dates and initials for each preventive action performed; and
- (d) Records of corrective actions.

D.4.10 General Reporting

Any deviations shall be reported in accordance with Condition B.15 and summarized in the annual certification submitted in accordance with Condition B.12.

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

FESOP Quarterly Report

Source Name: The Ford Meter Box Company, Inc.
Source Address: 773 Manchester Avenue, Wabash, Indiana 46992
FESOP No.: F169-5469-00003
Facility: Unit #23
Parameter: Metal melted
Limit: shall not exceed 28,908 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Quarter: _____ Year: _____

Month	Metal Melted (tons)	Metal Melted (tons)	Metal Melted (tons)
	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: _____

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

Technical Support Document (TSD) for a Significant Permit Revision to a
Federally Enforceable State Operating Permit (FESOP)

Source Description and Location

Source Name:	Ford Meter Box Company, Inc.
Source Location:	775 Manchester Drive, Wabash, IN 46992-0398
County:	Wabash
SIC Code:	3366, 3494, 3053
Operation Permit No.:	F 169-5469-00003
Operation Permit Issuance Date:	December 13, 1996
Significant Permit Revision No.:	169-27137-00003
Permit Reviewer:	Laura Spriggs

On November 13, 2008, the Office of Air Quality (OAQ) has received an application from Ford Meter Box Company, Inc. related to a modification to an existing stationary captive brass foundry.

Existing Approvals

The source was issued FESOP No. 169-5469-00003 on December 13, 1996. The source has since received the following approvals:

- (a) Administrative Amendment No. 169-10615-00003, issued on March 8, 1999;
- (b) Administrative Amendment No. 169-11779-00003, issued on February 10, 2000;
- (c) Administrative Amendment No. 169-13843-00003, issued on April 6, 2001;
- (d) Administrative Amendment No. 169-17243-00003, issued on April 17, 2003;
- (e) Significant Permit Revision No. 169-18446-00003, issued on July 19, 2004;
- (f) Administrative Amendment No. 169-20252-00003, issued on December 10, 2004;
- (g) Administrative Amendment No. 169-22003-00003, issued on January 4, 2006; and
- (h) Administrative Amendment No. 169-25416-00003, issued on December 4, 2007.

The source applied for a transition from a FESOP permit to a Part 70 Operating Permit on July 31, 2007. Part 70 Operating Permit No. T169-25077-00003 is currently pending.

County Attainment Status

The source is located in Wabash County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM _{2.5} .	

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Wabash County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
Wabash County has been classified as attainment for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions, and the effective date of these rules was July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions until 326 IAC 2-2 is revised.

- (c) **Other Criteria Pollutants**
Wabash County has been classified as attainment or unclassifiable in Indiana for PM₁₀, SO₂, NO_x, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Status of the Existing Source

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

Negl. = negligible

These emissions are based upon current permit limits, the values included in the "Potential to Emit of the Source including the Revision" table from the TSD to SPR No. 169-18446-00003, and the PTE of units added through AA No. 169-20252-00003, AA No. 169-22003-00003, and AA No. 169-25416-00003.

- (1) PM limits established in the permit to comply with 326 IAC 2-2.
- (2) PM₁₀ and lead limits established in the permit to comply with 326 IAC 2-8-4.

* VOC and Carbon monoxide emissions had not been previously identified for pouring, cooling, and shakeout operations. These will be taken into account in the TSD section: *PTE of the Entire Source After Issuance of the FESOP Revision.*

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (b) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the Permittee has accepted limits on HAPs emissions 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).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Ford Meter Box Company, Inc. on November 13, 2008, relating to the addition of a new cut-off saw and a new shot blast machine. In addition, based on an application for a transition from a FESOP to a Part 70 Operating Permit, IDEM, OAQ is aware of additional changes as described further below.

The following is a list of the new emission unit and pollution control devices:

- (a) One (1) shot blast machine, approved for construction in 2009, identified as Unit #29, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control.
- (b) One (1) cut-off saw, approved for construction in 2009, identified as Unit #30, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control.

The following is a list of the unpermitted emission units and insignificant activities:

- (a) one (1) paint booth for miscellaneous painting and gluing activities, using brush, roller, or aerosol spray applications, with a maximum capacity of 3.75 pounds of coating per hour, using dry filters for particulate control.
- (b) one (1) powder coating booth, used for epoxy coating, with a maximum capacity of eighteen (18) units per hour, using an integral cartridge baghouse for particulate capture and reuse.

The following is a list of emission units and pollution control devices that have been removed from this source:

- (a) one (1) water based paint dipping operation (Unit #3) for coating iron castings, installed in 1973, with a maximum coating rate of 7 baskets per hour exhausting at Stack "F".

- (b) one (1) black asphalt based paint dipping operation (Unit #4) for coating iron castings, installed in 1973, with a maximum coating rate of 7 baskets per hour exhausting at Stack "F".
- (c) the saw dust and rubber grinding operations associated with insignificant activity, unit #8.

The following is a list of additional modifications:

- (a) The emission unit descriptions of the furnaces, molding lines, and shakeout/sand handling lines have been revised to reflect the current plant configuration.
- (b) The description of the core machines in the insignificant activities list have been incorporated into the emission unit description for Unit #19 to reflect the current core making machine configuration.
- (c) A metal throughput limit has been added to ensure that source-wide carbon monoxide emissions do not exceed Title V major source thresholds. Carbon monoxide emissions from pouring, cooling, and shakeout operations were previously unidentified. Ford Meter Box Company, Inc. has applied to transition to a Part 70 Operating Permit so that the melt rate does not have to be limited. In the meantime, however, a limit shall be established in this Significant Permit Revision to ensure compliance with the FESOP rules until the Part 70 Operating Permit has been issued.

Note: The revisions being made in this Significant Permit Revision are being limited to the items discussed above. Additional changes to conditions in Sections B and C as well as emission limitations, compliance monitoring requirements, compliance determination requirements, and record keeping and reporting requirements will be made in the Part 70 Operating Permit, which is planned to be issued shortly after the issuance of this Significant Permit Revision.

"Integral Part of the Process" Determination

The Permittee has submitted the following information to justify why the cartridge baghouse should be considered an integral part of the powder coating operation:

The powder coating recovery system (consisting of the cartridge baghouse) should be considered integral to the normal operation of the coating booth since there is a significant economic benefit gained by collecting and re-using the powder coating. Based on a total annual operational and maintenance cost for the recovery system of \$2,803, a powder coating unit cost of \$3.08 per pound, and a powder re-use rate of 1.56 pounds per hour, the number of hours needed each year to recover the annual operational cost would be approximately 583 hours.

IDEM, OAQ has evaluated the information submitted and agrees that the cartridge baghouse should be considered an integral part of the powder coating operation. Therefore, the permitting level will be determined using the potential to emit after the cartridge baghouse. Operating conditions in the proposed permit will specify that this cartridge baghouse shall operate at all times when the powder coating unit is in operation.

Enforcement Issues

IDEM is aware that the potential to emit carbon monoxide (CO) from the pouring, cooling, and shakeout (PCS) processes exceed the levels allowed under a FESOP permit. These emissions were previously unknown or unidentified. On August 11, 2006, IDEM sent a Notice of Limited Self-Disclosure Opportunity for CO Emissions from PCS Operations within the Foundry Sector to foundries in Indiana to give them the opportunity to identify these potential emissions and apply for

the appropriate permit or permit modification. The notice stated that if the foundry chose to take advantage of the opportunity, consistent with the CO Emissions Guidelines, IDEM shall not seek either gravity-based or economic benefit of non-compliance-based civil penalties against such sources. The Permittee has chosen to transition from a FESOP permit to a Title V permit as a result of this evaluation. A melt rate limit shall be established in this Significant Permit Revision to ensure that the source-wide CO emissions do not exceed the Title V major source threshold, until such time that the Part 70 Operating Permit is issued. No enforcement actions are pending as a result of this application.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-8.11.1. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)							
	PM	PM10*	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Shot Blast Machine (Unit #29)	148.9	14.9	--	--	--	--	0.37	0.37 (lead)
Cut-Off Saw (Unit #30)	148.9	14.9	--	--	--	--	0.37	0.37 (lead)
Total PTE of Proposed Revision	297.8	29.78	--	--	--	--	0.74	0.74 (lead)

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

This FESOP is being revised through a FESOP Significant Permit Revision pursuant to 326 IAC 2-8-11.1(f)(1)(E)(i), 326 IAC 2-8-11.1(f)(1)(F), and 326 IAC 2-8-1.1(g) because:

- (a) The potential to emit of the modification is greater than twenty-five (25) tons per year for PM and PM₁₀;
- (b) The potential to emit of the modification is greater than six-tenths (0.6) tons per year for lead at a source with an existing potential to emit of lead that is greater than five (5) tons per year; and
- (c) This revision includes the addition of a melt rate limit to limit carbon monoxide emissions from the source to less than Title V major source thresholds.

PTE of the Entire Source After Issuance of the FESOP Revision

The table below summarizes the potential to emit of the entire source, with updated emissions shown as **bold** values and previous emissions shown as ~~struck through~~ values.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)							
	PM	PM10	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP (lead unless indicated)
Boilers (Units #1 & #2) ^(a)	6.09 1.56	5.63 1.56	85.36 80.84	18.69 17.70	0.14 0.60	1.82 9.20	0.014 0.21	Negl.
Paint Dipping Operations (Units #3 & #4)	--	--	--	--	82.16	--	40.69	<10.0
Teflon Spray Coating Booth (Unit #21)	3.26 0.40^(b)	3.26 0.40^(b)	--	--	11.95	--	--	--
Nut Coating Operation (Unit #27)	--	--	--	--	2.58	--	--	--
Induction Furnaces Charging, Melting, and Pouring (Unit #23)	7.75 ⁽¹⁾	15.52 ⁽²⁾	0.29^(c)	0.14^(c)	2.02^(c)	86.72^(d)	4.47	4.47 ⁽²⁾
Molding Line (Units #6, #7, & #9) Shakeout and Sand Handling for #1 Handline, #1 Harrison, #2 Harrison, #4 Sinto (Unit #6) ^(e)	2.80 ⁽¹⁾	1.35 ⁽²⁾	--	--	8.67^(f)		0.022	0.022 ⁽²⁾
Sinto Molding Line Shakeout and Sand Handling for #1, #2, #3 Sintos (Unit #20) ^(e)	1.18 ⁽¹⁾	2.4 ⁽²⁾	--	--	8.67^(f)		0.009	0.009 ⁽²⁾
Sand Treatment and Brass Reclaim (Unit #13)	5.83 ⁽¹⁾	5.83 ⁽²⁾	--	--	--	--	0.036	0.036 ⁽²⁾
Iron Room (Unit #5)	9.33 ⁽¹⁾	0.57 ⁽²⁾	--	--	--	--	0.05	0.05 ⁽²⁾
12 GN Finish Cleaner (Unit #11)	3.85 ⁽¹⁾	2.24 ⁽²⁾	--	--	--	--	0.034	0.034 ⁽²⁾
6 GN Finish Cleaner (Unit #12)	1.93 ⁽¹⁾	1.12 ⁽²⁾	--	--	--	--	0.017	0.017 ⁽²⁾
Continuous Cleaner (Unit #14)	21.1 ⁽¹⁾	12.32 ⁽²⁾	--	--	--	--	0.19	0.19 ⁽²⁾
Grinding and Cut-off (Unit #15)	21.1 ⁽¹⁾	4.24 ⁽²⁾	--	--	--	--	0.87	0.87 ⁽²⁾
Machining/Sanding (Unit #16)	0.83 ⁽¹⁾	0.91 ⁽²⁾	--	--	--	--	0.031	0.031 ⁽²⁾
Machining (Unit #17)	2.37 ⁽¹⁾	2.62 ⁽²⁾	--	--	--	--	0.087	0.087 ⁽²⁾
Tool Grinding (Unit #18)	0.96 ⁽¹⁾	1.06 ⁽²⁾	--	--	--	--	0.035	0.035 ⁽²⁾
Coreroom Vent (Unit #19)	70.2 ⁽¹⁾	23.39 ⁽²⁾	Negl. 0.35^(g)	0.796 19.03^(g)	1.50 3.17^(g)	0.67 0.91^(g)	1.455 4.01^(g)	1.455 3.8^(g) (ethylene glycol)
Machining (Unit #26)	2.28 ⁽¹⁾	1.05 ⁽²⁾	--	--	--	--	0.167	0.167 ⁽²⁾
Miscellaneous Painting and Gluing Activities ^(h)	2.64	2.64	--	--	10.3	--	2.40	2.40 (toluene)
New Shot Blast Unit (Unit #29)	5.00⁽¹⁾	1.50⁽²⁾	--	--	--	--	0.10	0.10⁽²⁾
New Cut-Off Saw (Unit #30)	5.00⁽¹⁾	1.50⁽²⁾	--	--	--	--	0.10	0.10⁽²⁾

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)							
	PM	PM10	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP (lead unless indicated)
Insignificant Activities	49.05	16.38	13.64	11.68	0.64	2.16	Negl.	Negl.
Total PTE of Entire Source	209.9 215.2	99.9 98.6	99.0 95.1	31.2 48.5	99.0 48.6	4.7 99.0	<25 19.0	<10 6.2 (lead)
Title V Major Source Thresholds	NA	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	NA	NA
Negl. = negligible								
<p>(a) New PTE values for the boilers are based on the most recent AP-42 emission factors and the worst case operating scenario for each pollutant (combusting either natural gas, No. 2 fuel oil, or limited No. 6 fuel oil). See Appendix A for calculations.</p> <p>(b) The uncontrolled PTE of PM and PM10 were previously listed. Per 326 IAC 6-3-2(d), a particulate control device must be used at all times that Unit #21 is in operation. Therefore, the PTE of PM and PM10 after limits is the controlled PTE.</p> <p>(c) SO₂, NO_x, and VOC emissions from pouring operations were not accounted for previously. See Appendix A for calculations.</p> <p>(d) CO emissions from pouring, cooling, and shakeout operations were previously unidentified. See Appendix A for calculations.</p> <p>(e) The descriptions for Units #6 and #20 have been modified as to the current operating configuration.</p> <p>(f) VOC emissions from shakeout operations were not accounted for previously. See Appendix A for calculations.</p> <p>(g) The SO₂, NO_x, VOC, CO, and HAPs PTE values have been updated based on the current coremaking process and coremaking oven capacities. See Appendix A for calculations.</p> <p>(h) See Appendix A for calculations.</p> <p>(1) PM limits established in the permit to comply with 326 IAC 2-2.</p> <p>(2) PM₁₀ and lead limits established in the permit to comply with 326 IAC 2-8-4.</p>								

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)							
	PM	PM10	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP (lead unless indicated)
Boilers (Units #1 & #2) ^(a)	1.56	1.56	80.84	17.70	0.60	9.20	0.21	Negl.
Teflon Spray Coating Booth (Unit #21)	0.40 ^(b)	0.40 ^(b)	--	--	11.95	--	--	--
Nut Coating Operation (Unit #27)	--	--	--	--	2.58	--	--	--
Induction Furnaces Charging, Melting, and Pouring (Unit #23)	7.75 ⁽¹⁾	15.52 ⁽²⁾	0.29 ^(c)	0.14 ^(c)	2.02 ^(c)	86.72 ^(d)	4.47	4.47 ⁽²⁾
Shakeout and Sand Handling for #1 Handline, #1 Harrison, #2 Harrison, #4 Sinto (Unit #6) ^(e)	2.80 ⁽¹⁾	1.35 ⁽²⁾	--	--	8.67 ^(f)		0.022	0.022 ⁽²⁾
Shakeout and Sand Handling fro #1, #2, #3 Sintos (Unit #20) ^(e)	1.18 ⁽¹⁾	2.4 ⁽²⁾	--	--	8.67 ^(f)		0.009	0.009 ⁽²⁾

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)							
	PM	PM10	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP (lead unless indicated)
Negl. = negligible								
<p>(a) New PTE values for the boilers are based on the most recent AP-42 emission factors and the worst case operating scenario for each pollutant (combusting either natural gas, No. 2 fuel oil, or limited No. 6 fuel oil). See Appendix A for calculations.</p> <p>(b) The uncontrolled PTE of PM and PM10 were previously listed. Per 326 IAC 6-3-2(d), a particulate control device must be used at all times that Unit #21 is in operation. Therefore, the PTE of PM and PM10 after limits is the controlled PTE.</p> <p>(c) SO₂, NO_x, and VOC emissions from pouring operations were not accounted for previously. See Appendix A for calculations.</p> <p>(d) CO emissions from pouring, cooling, and shakeout operations were previously unidentified. See Appendix A for calculations.</p> <p>(e) The descriptions for Units #6 and #20 have been modified as to the current operating configuration.</p> <p>(f) VOC emissions from shakeout operations were not accounted for previously. See Appendix A for calculations.</p> <p>(g) The SO₂, NO_x, VOC, CO, and HAPs PTE values have been updated based on the current coremaking process and coremaking oven capacities. See Appendix A for calculations.</p> <p>(h) See Appendix A for calculations.</p> <p>(1) PM limits established in the permit to comply with 326 IAC 2-2.</p> <p>(2) PM₁₀ and lead limits established in the permit to comply with 326 IAC 2-8-4.</p>								

(a) FESOP Status

This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

- (1) PM10 emissions from Unit #29 shall not exceed 0.34 pound per hour.
- (2) PM10 emissions from Unit #30 shall not exceed 0.34 pound per hour.
- (3) Lead emissions from Unit #29 shall not exceed 0.023 pound per hour.
- (4) Lead emissions from Unit #30 shall not exceed 0.023 pound per hour.
- (5) The metal melt rate of Unit #23 shall not exceed 28,908 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits, combined with the potential to emit PM10, CO, and lead from all other emission units at this source, shall limit the source-wide total potential to emit of PM10 and CO to less than 100 tons per twelve (12) consecutive month period, lead to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

(b) PSD Minor Source

This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

- (1) PM emissions from Unit #29 shall not exceed 1.14 pound per hour.
- (2) PM emissions from Unit #30 shall not exceed 1.14 pound per hour.

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS) (40 CFR Part 60) included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

- (c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the new units is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year for a combination of HAPs.
- (d) 326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Note: while the limited potential to emit lead is greater than 5 tons per year, the PTE of lead based on actual melt rates has not exceeded 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

- (e) 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 Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) 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.
 - (2) 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.
- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

Shot Blast Machine (Unit #29) and Cut-Off Saw (Unit #30)

- (g) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the shot blast machine (Unit #29) and the cut-off saw (Unit #30) shall not exceed 6.52 pounds per hour each when operating at a process weight rate of 2.0 tons per hour each. The pound per hour limitation was calculated with the following equation:

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:

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

See Appendix A for detailed calculations.

The baghouses shall be in operation at all times the shot blast machine (Unit #29) and the cut-off saw (Unit #30) are in operation, in order to comply with this limit.

Miscellaneous Painting and Gluing Activities

- (h) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(6), (8), and (12), the provisions of 326 IAC 6-3 do not apply to surface coating using roll coating, brush coating, or applications of aerosol coating products to repair minor surface damage and imperfections. Therefore, the paint booth which houses miscellaneous painting and gluing activities is not subject to the requirements of 326 IAC 6-3.
- (i) 326 IAC 8-2-9 (Miscellaneous Metal Coating)
Pursuant to 326 IAC 8-2-1(a)(2), in Wabash County, the provisions of 326 IAC 8-2-9 (Miscellaneous Metal Coating) apply to units of the type described in section 9 that commenced construction after November 1, 1980 which have potential emissions of twenty-five (25) tons or

greater per year of VOC.

The paint booth housing miscellaneous painting and gluing activities has potential VOC emissions of 10.3 tons per year; therefore, the provisions of 326 IAC 8-2-9 are not applicable to this unit.

- (j) 326 IAC 8-1-6 (New Facilities; General Reduction Requirements)
The provisions of 326 IAC 8-1-6 apply to new facilities as of January 1, 1980 that have potential emissions of twenty-five (25) tons or more per year of VOC; are located anywhere in the state; and that are not otherwise regulated by other provisions of article 8, 326 IAC 20-48, or 326 IAC 20-56.

The paint booth housing miscellaneous painting and gluing activities has potential VOC emissions of 10.3 tons per year; therefore, the provisions of 326 IAC 8-1-6 are not applicable to this unit.

Powder Coating Booth

- (k) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the provisions of 326 IAC 6-3 do not apply to manufacturing processes with potential emissions less than 0.551 pound per hour. The cartridge baghouse controlling particulate from the powder coating booth has been determined to be integral to the process. Thus, potential emissions from the powder coating booth are considered after control and are less than 0.551 pound per hour. Therefore, the powder coating booth is not subject to the requirements of 326 IAC 6-3.

Binks Teflon Spray Coating Booth (Unit #21)

- (l) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(d), the particulate matter (PM) from the Binks Teflon Spray Coating Booth, Unit #21, shall be controlled by a dry particulate filter, waterwash, or an equivalent control device and the source shall operate the control device in accordance with manufacturer's specifications. This emission unit uses paper air filters for PM control.

Note: This is an existing unit. The requirements of 326 IAC 6-3-2 as applicable to Unit #21 are being updated in this Significant Permit Revision.

Compliance Determination, Monitoring and Testing Requirements
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The compliance determination and monitoring requirements applicable to this proposed revision are as follows:

- (a) The powder coating booth has the following compliance determination requirement:
- The cartridge baghouse is considered an integral part of the powder coating booth; therefore, particulate from the powder coating booth shall be controlled by the cartridge baghouse at all times that the powder coating booth is in operation, and the Permittee shall operate the control device in accordance with the manufacturer's specifications.
- (b) Units #5, #6, #11-#18, #20, #23, #26, #29, and #30 have the following compliance determination requirements:
- (1) The baghouses for particulate, PM10, and lead control shall be in operation and control emissions from Units #5, #6, #11-#18, #20, #23, #26, #29, and #30 at all times these units are in operation.

- (2) 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 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.

These requirements are necessary to ensure compliance with 326 IAC 6-3-2 and to render 326 IAC 2-7, 326 IAC 2-2, and 326 IAC 2-4.1 not applicable.

Note: Additional changes to compliance determination, compliance monitoring, and testing requirements shall be made in the pending Part 70 Operating Permit that is planned to be issued shortly after the issuance of this Significant Permit Revision.

Proposed Changes

The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

Change No. 1:

The Emission Unit descriptions in Section A.2 have been revised as follows:

- (a) Emission unit descriptions for Units #3 and #4 have been removed as these operations have been removed from the source.
- (b) The emission unit description for the paint booth for miscellaneous painting and gluing activities was added.
- (c) Emission unit descriptions for the sand handling and shakeout operations have been revised to reflect the current operating configuration.
- (d) The emission unit description for Unit #19, Coreroom Ventilation, has been revised to reflect the current operating configuration.
- (e) The emission unit description for Unit #23, furnaces, has been revised for clarity.
- (f) The emission unit descriptions have been renumbered accordingly.

The permit has been revised as follows:

A.2 Emission Units and Pollution Control Summary

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

- (a) two (2) natural gas fired boilers (Units #1 and #2) with a maximum heat input of 12.5 million British thermal Units per hour, using No. 2 and No. 6 fuel oils as back-up fuels, with Unit #1 and Unit #2 exhausting at Stack "A";
- (b) ~~one (1) water based paint dipping operation (Unit #3) for coating iron castings, installed in 1973, with a maximum coating rate of 7 baskets per hour exhausting at Stack "F";~~
- (c) ~~one (1) black asphalt based paint dipping operation (Unit #4) for coating iron castings, installed in 1973, with a maximum coating rate of 7 baskets per hour exhausting at Stack "F";~~

- ~~(d)~~(b) one (1) Binks Teflon spray coating booth (Unit #21), installed in 1980, using an automatic air atomization application method for coating brass balls and air filters for overspray control exhausting at Stack "OO";
- ~~(e)~~(c) one (1) nut coating operating (Unit #27), installed in 1996, utilizing a spin coating application system;
- (d) **one (1) paint booth for miscellaneous painting and gluing activities, using brush, roller, or aerosol spray applications, with a maximum capacity of 3.75 pounds of coating per hour, using dry filters for particulate control.**
- ~~(f)~~ the No. 1 Handline Molding Line sand system (Unit #6) equipped with a baghouse which returns the captured sand particulate back to the system, exhausting at one (1) stack identified as Stack "H";
- ~~(g)~~ the Harrison's Molding Line and Sinto #4 Molding Line sand system (Unit #7) equipped with a baghouse which returns the captured sand particulate back to the system, exhausting at one (1) stack identified as Stack "H";
- ~~(h)~~ the No. 1 Handline Shakeout Conveyor sand system (Unit #9) equipped with a baghouse which returns the captured sand particulate back to the system, exhausting at one (1) stack identified as Stack "H";
- ~~(i)~~ the Sinto Nos. 1, 2 and 3 Molding Line sand system (Unit #20) ventilated to a baghouse which returns the captured sand particulate back to the system, exhausting at one (1) stack identified as Stack "KK";
- (e) **shakeout and sand handling from:**
 - (1) **unit #6 sand system and shakeout conveyors sand system, for four (4) mold lines, identified as #1 Handline, #1 Harrison, #2 Harrison, and #4 Sinto, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns captured sand particulate back to the system, exhausting to Stack "H";**
 - (2) **unit #20 sand system and shakeout, for three (3) mold lines, identified as #1 Sinto, #2 Sinto, and #3 Sinto, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns the captured sand particulate back to the system, exhausting to Stack "KK";**
- ~~(j)~~(f) the sand treatment and brass reclaim operations (Unit #13), controlled by a baghouse identified as Baghouse "T";
- ~~(k)~~(g) one (1) Iron Room (Unit #5) for cast iron grinding, boring and tapping operations. Particulate emissions for all operations conducted in the room are controlled by a baghouse identified as Baghouse "G";
- ~~(l)~~(h) one (1) Pangborn 12GN steel shot blast cleaner (Unit #11) ventilated to a baghouse identified as Baghouse "Q" for particulate emissions control;
- ~~(m)~~(i) one (1) Pangborn 6GN steel shot blast cleaner (Unit #12) ventilated to a baghouse identified as Baghouse "S" for particulate emissions control;

- (j) one (1) continuous flow steel shot blast cleaner (Unit #14) for removing sand and internal cores from the casting, ventilated to a baghouse identified as Baghouse "U" for particulate emissions control;
- (k) foundry grinding and cut-off operations (Unit #15) with emissions controlled by a baghouse identified as Baghouse "V";
- (l) various machining, grinding, and polishing operations (Unit #16) ventilated to a baghouse identified as Baghouse "W" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;
- (m) various machining, grinding, and polishing operations (Unit #17) ventilated to a baghouse identified as Baghouse "X" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;
- (n) various machining, grinding, and polishing operations (Unit #18) ventilated to a baghouse identified as Baghouse "Y" for capturing metal particulate;
- (o) the coreroom ventilation (Unit #19) including ventilation of ~~twelve (12)~~ **thirteen (13)** natural gas fired core making units with a total maximum heat capacity of ~~1.7168~~ **2.464** million British thermal Units per hour, **and a sand throughput of 2.068 tons per hour;**
- (p) various machining, grinding, and polishing operations (Unit #26) ventilated to a baghouse identified as Baghouse "BC" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse; and
- (u) ~~unit #23, consisting of six (6) 5-ton each electric channel induction furnaces each with a 1.25 tons per hour melt capacity, one (1) box induction furnace with a 0.695 ton per hour melt capacity, one (1) crucible induction furnace with a 0.53 ton per hour melt capacity, (due to power supply limitations the box induction furnace and crucible induction furnace cannot operate simultaneously) metallic fume emissions from melting and pouring include transfer points, controlled by nine (9) baghouse modules known as "UU" with a common inlet but nine (9) individual stack discharges.~~
- (q) **unit #23, consisting of:**
 - (1) **Six (6) 5-ton each electric channel induction furnaces, each with a 1.25 tons per hour melt capacity;**
 - (2) **One (1) box induction furnace with a 0.695 ton per hour melt capacity;**
 - (3) **One (1) crucible induction furnace with a 0.53 ton per hour melt capacity; and**
 - (4) **Pouring/Casting operations associated with seven (7) molding lines, identified as #1 Handline, #1 Harrison, #2 Harrison, #1 Sinto, #2 Sinto, #3 Sinto, and #4 Sinto.**

Due to power supply limitations the box induction furnace and crucible induction furnace cannot operate simultaneously. The total maximum melt capacity is 8.195 tons per hour. Metallic fume emissions from melting and pouring, including transfer points, controlled by nine (9) baghouse modules, identified as "UU" with a

common inlet but nine (9) individual stack discharges.

Change No. 2:

The Insignificant Activity descriptions in Section A.3 have been revised as follows:

- (a) The saw dust and rubber grinding operations have been removed from activities associated with Unit 8.
- (b) Descriptions for the new shot blast machine (Unit #29), the new cut-off saw (Unit #30), and the powder coating booth have been added.
- (c) The description of the core molding machines was removed as it has been incorporated into Unit #19 in Section A.2.

The permit has been revised as follows:

A.3 Insignificant Activities

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(20):

- (a) ~~the tool grinding, saw dust, and rubber grinding operations (Unit 8) vented through Baghouse "C";~~

* * *

- (dd) 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 4,000 actual standard cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations, **including but not limited to;**

- (1) **one (1) shot blast machine, approved for construction in 2009, identified as Unit #29, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control [326 IAC 6-3-2] and**
- (2) **one (1) cut-off saw, approved for construction in 2009, identified as Unit #30, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control [326 IAC 6-3-2];**

* * *

- ~~(jj) three (3) natural gas fired core molding machines, each with a maximum heating capacity of 0.317 MMBtu/hr and each with a maximum shell sand throughput of 395 pounds per hour; and~~

- ~~(kk)~~(jj) one (1) 100 KW internal combustion natural gas-fired emergency generator, approved for construction in 2007, used to generate electric power, with a maximum power output rate of 134.1 horsepower, firing natural gas only, operating no more than 500 hours per year using no control and exhausting to the atmosphere; **and**

- (kk) one (1) powder coating booth, used for epoxy coating, with a maximum capacity of eighteen (18) units per hour, using an integral cartridge baghouse for particulate capture and reuse.**

Change No. 3:

The following changes have been made to Section D.2:

- (a) The emission unit descriptions for Units #3 and #4 have been removed as these units have been removed from the source.
- (b) The description for the powder coating booth insignificant activity has been added.
- (c) Conditions D.2.1 and D.2.6 have been removed since Unit #4 has been removed from the source.
- (d) A new condition was added (new D.2.1) to reflect the appropriate requirements of 326 IAC 6-3-2 for Unit #21. Condition D.2.4 was removed.
- (e) A new condition was added (new D.2.4) to indicate that the cartridge baghouse controlling the powder coating booth must be in operation at all times that the booth is in operation since it is considered integral to the process.
- (f) A new condition was added (new D.2.6) to reflect the record keeping requirements associated with overspray observations and inspections for Unit #21. The record keeping requirements for HAPs (old D.2.7) were incorporated into the new record keeping condition.
- (g) The emission unit descriptions, permit conditions, and references have been renumbered as appropriate.

The permit has been revised as follows:

SECTION D.2 FACILITY OPERATION CONDITIONS

- ~~(b) one (1) water based paint dipping operation (Unit #3) for coating iron castings, installed in 1973, with a maximum coating rate of 7 baskets per hour exhausting at Stack "F";~~
- ~~(c) one (1) black asphalt based paint dipping operation (Unit #4) for coating iron castings, installed in 1973, with a maximum coating rate of 7 baskets per hour exhausting at Stack "F";~~
- ~~(d)~~**(b)** one (1) Binks Teflon spray coating booth (Unit #21), installed in 1980, using an automatic air atomization application method for coating brass balls and air filters for overspray control; and
- ~~(e)~~**(c)** one (1) nut coating operating (Unit #27), installed in 1996, utilizing a spin coating application system.

Insignificant Activities:

- (kk) one (1) powder coating booth, used for epoxy coating, with a maximum capacity of eighteen (18) units per hour, using an integral cartridge baghouse for particulate capture and reuse.**

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

~~D.2.1 Volatile Organic Compound~~

~~The total volatile organic compounds (VOC) delivered to the applicators of asphalt based paint dipping operation (Unit #4) shall be limited to 4.45 tons per year. Therefore, the requirements of 326 IAC 2-7 do not apply.~~

D.2.1 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d), particulate from the Binks Teflon spray coating booth (Unit #21) shall be controlled by dry filters, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

D.2.2 Hazardous Air Pollutants

The hazardous air pollutant emissions shall be limited such that source wide single hazardous air pollutant (HAP) emissions shall not exceed 0.75 tons per month. Therefore, the requirements of 326 IAC 2-7 do not apply.

D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for each facility.

Compliance Determination Requirements

D.2.4 Particulate Emissions

The cartridge baghouse is considered an integral part of the powder coating booth; therefore, particulate from the powder coating booth shall be controlled by the cartridge baghouse at all times that the powder coating booth is in operation, and the Permittee shall operate the control device in accordance with the manufacturer's specifications.

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

~~D.2.4 Particulate Matter (PM) Overspray~~

~~The dry filters for particulate matter overspray control shall be in operation at all times when the Binks Teflon spray coating booth (Unit #21) is in operation. The facility shall comply with 326 IAC 6-3-2(c):~~

~~$$E = 4.10 P^{0.67} \text{ (for process weight rates up to 30 tons per hour)}$$~~

~~or
$$E = 55.0 P^{0.41} - 40 \text{ (for process weight rates in excess of 30 tons per hour)}$$~~

~~_____ where: E = maximum allowable particulate matter emission rate (pounds per hour)~~

~~_____ P = process weight rate (tons per hour)~~

D.2.5 Monitoring

Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To document compliance with Condition ~~D.2.4~~ **D.2.1**, observations shall be made daily of the overspray while the Binks Teflon spray coating booth is in operation. Weekly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an overspray emission, evidence of overspray emission, or other abnormal emission is observed. Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

~~D.2.6 Volatile Organic Compound (VOC) Usage~~

~~The Permittee shall maintain records at the source of the materials used that contain any VOCs. The records shall be complete and sufficient to establish compliance with the VOC usage limits and/or VOC emission limits established in this permit. The records shall contain a minimum of the following:~~

- ~~(a) The weight of VOC containing material used, including purchase orders and invoices necessary to verify the type and amount used;~~
- ~~(b) The VOC content (weight percent) of each material used; and~~
- ~~(c) The weight of VOCs emitted for each compliance period, considering capture and control efficiency, if applicable.~~

D.2.6 Record Keeping Requirements

- (a) To document compliance with Conditions D.2.1 and D.2.5, the Permittee shall maintain a log of daily overspray observations and weekly inspections.**

~~D.2.7 Hazardous Air Pollutant (HAP)~~

~~(b) The Permittee shall maintain records at the facility of the materials used that contain any HAPs. The records shall be complete and sufficient to establish compliance with the HAP usage limits and/or HAP emission limits that may be established in this permit. The records shall contain a minimum of the following:~~

- ~~(a)(1) The weight of HAP containing material used, including purchase orders and invoices necessary to verify the type and amount used;~~
- ~~(b)(2) The HAP content (weight percent) of each material used;~~
- ~~(c)(3) The weight of HAPs emitted for each compliance period, considering capture and control efficiency, if applicable; and~~
- ~~(d)(4) Identification of the facility or facilities associated with the usage of each HAP.~~

~~D.2.82.7 Quarterly Reporting~~

~~A quarterly summary to document compliance with operation Conditions D.2.1 and D.2.2 shall be submitted, to the address listed in Condition C.15 - General Reporting Requirements, using the enclosed forms or their equivalent, within thirty (30) days after the end of the quarter being reported.~~

Change No. 4:

The following changes have been made to Section D.3:

- (a) The emission unit descriptions for the sand handling and shakeout lines and for the furnaces have been revised in Section D.3 to reflect the current operating configuration. References to the sand handling and shakeout emission units have been updated in permit conditions.
- (b) A new condition (new D.3.4) has been added to limit CO emissions from the entire source to less than 100 tons per twelve (12) consecutive month period. Record keeping and reporting requirements have been added to show compliance with D.3.4.

- (c) A new condition (new D.3.6) has been added to indicate that the control devices must be in operation at all times that the processes are in operation to comply with Conditions D.3.1, D.3.2, and D.3.3.
- (d) Subsequent conditions have been renumbered as appropriate.

Note: The compliance monitoring, record keeping, and reporting requirements have not changed in this Significant Permit Revision. Revised requirements will likely be made in the Title V permit that is to be issued relatively soon after the issuance of this Significant Permit Revision.

The permit has been revised as follows:

SECTION D.3 FACILITY OPERATION CONDITIONS

- ~~(f) the No. 1 Handline Molding Line sand system (Unit #6) equipped with a baghouse which returns the captured sand particulate back to the system, exhausting at one (1) stack identified as Stack "H";~~
- ~~(g) the Harrison's Molding Line and Sinto #4 Molding Line sand system (Unit #7) equipped with a baghouse which returns the captured sand particulate back to the system, exhausting at one (1) stack identified as Stack "H";~~
- ~~(h) the No. 1 Handline Shakeout Conveyor sand system (Unit #9) equipped with a baghouse which returns the captured sand particulate back to the system, exhausting at one (1) stack identified as Stack "H";~~
- ~~(i) the Sinto Nos. 1, 2 and 3 Molding Line sand system (Unit #20) ventilated to a baghouse which returns the captured sand particulate back to the system, exhausting at one (1) stack identified as Stack "KK";~~
- (e) shakeout and sand handling from:**
 - (1) unit #6 sand system and shakeout conveyors sand system, for four (4) mold lines, identified as #1 Handline, #1 Harrison, #2 Harrison, and #4 Sinto, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns captured sand particulate back to the system, exhausting to Stack "H";**
 - (2) unit #20 sand system and shakeout, for three (3) mold lines, identified as #1 Sinto, #2 Sinto, and #3 Sinto, with a maximum combined throughput of 45 tons per hour, equipped with a baghouse which returns the captured sand particulate back to the system, exhausting to Stack "KK";**
- ~~(u) unit #23, consisting of six (6) 5-ton each electric channel induction furnaces each with a 1.25 tons per hour melt capacity, one (1) box induction furnace with a 0.695 ton per hour melt capacity, one (1) crucible induction furnace with a 0.53 ton per hour melt capacity, (due to power supply limitations the box induction furnace and the crucible induction furnace cannot operate simultaneously) metallic fume emissions from melting and pouring include transfer points, controlled by nine (9) baghouse modules known as "UU" with a common inlet but nine (9) individual stack discharges.~~
- (q) unit #23, consisting of:**

- (1) **Six (6) 5-ton each electric channel induction furnaces, each with a 1.25 tons per hour melt capacity;**
 - (2) **One (1) box induction furnace with a 0.695 ton per hour melt capacity;**
 - (3) **One (1) crucible induction furnace with a 0.53 ton per hour melt capacity; and**
 - (4) **Pouring/Casting operations associated with seven (7) molding lines, identified as #1 Handline, #1 Harrison, #2 Harrison, #1 Sinto, #2 Sinto, #3 Sinto, and #4 Sinto.**
- Due to power supply limitations the box induction furnace and crucible induction furnace cannot operate simultaneously. The total maximum melt capacity is 8.195 tons per hour. Metallic fume emissions from melting and pouring, including transfer points, controlled by nine (9) baghouse modules, identified as "UU" with a common inlet but nine (9) individual stack discharges.**

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Process Operations), the particulate matter emissions from the facilities covered in Section D.3 are as follows:

Facilities	Process Weight Rate (ton/hr)	326 IAC 6-3-2 PM Allowable Emissions (lb/hr)	PM Compliance Calculations (lb/hr)
Unit #6, Unit #7 and Unit #9 (total)	50	44.6	0.64
Unit #20	45	43.6	0.27
Unit #23	8.195	16.78	1.77

Compliance with these limits make 326 IAC 2-2 not applicable.

D.3.2 Particulate Matter Less Than Ten (10) Microns (PM-10) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4 the PM-10 emissions shall be limited as follows:

Facilities	PM -10 Emissions (lb/hr)	PM-10 Emissions (tons/yr)
Unit #6, Unit #7 and Unit #9 (total)	0.31	1.35
Unit #20	0.55	2.4
Unit #23	3.54	15.52

Compliance with these limits make 326 IAC 2-7 not applicable.

D.3.3 Hazardous Air Pollutants (Lead) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4 the Lead emissions shall be limited as follows:

Facilities	Lead Emissions (lb/hr)	Lead Emissions (tons/yr)
Unit #6, Unit #7 and Unit #9 (total)	0.005	0.022
Unit #20	0.002	0.009
Unit #23	1.02	4.47

Compliance with these limits make 326 IAC 2-7 not applicable.

D.3.4 Carbon Monoxide (CO) [326 IAC 2-8-4]

In order to render the requirements of 326 IAC 2-7 not applicable, the Permittee shall comply with the following:

The metal melt rate of Unit #23 shall not exceed 28,908 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit, combined with the potential to emit CO from other emission units at the source, shall limit the CO from the entire source to less than 100 tons per twelve (12) consecutive month period and render 327 IAC 2-7 not applicable.

D.3.43.5 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for each facility.

Compliance Determination Requirements

D.3.6 Particulate Control

- (a) In order to comply with Conditions D.3.1, D.3.2, and D.3.3, the baghouses for particulate, PM10, and lead control shall be in operation and control emissions from Units #6, #20, and #23 at all times these units 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 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.

Testing Requirements [326 IAC 2-8-4(3)]

D.3.53.7 Particulate Matter

Within 18 months after issuance of this permit, the Permittee shall perform PM and PM10 testing on the exhaust stack for the Baghouse "UU" utilizing methods per 40 CFR Part 60 Appendix A, Method 5, 17, 40 CFR Part 51 Appendix M, Method 201, 201a, 202, as approved by the Commissioner. This test shall be repeated at least once every five years from the date of this valid compliance demonstration. PM10 includes filterable and condensable PM10.

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

D.3.63.8 Broken Bag Detectors

For the baghouses equipped with a continuous broken bag (leak) detector at the exhaust stack, the detector shall be used for detecting the potential control device malfunction. The instrument

used for leak detection shall meet the specification of Condition C.10 and be maintained according to Condition C.8. The detector shall also be subject to approval by IDEM, OAM.

D.3-73.9 Visible Emission Notations

Visible emission notations of the baghouse exhaust stacks without broken bag detector shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processed operated continuously "normal" means those conditions prevailing, or expected to prevail, 80 percent 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 specified condition prescribing visible emissions. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

D.3-83.10 Preventive Inspections

The following inspections shall be performed when the process equipment controlled by a baghouse is operating in accordance with the Preventive Maintenance Plan prepared pursuant to Condition B.13:

Daily:

- (a) Baghouse inlet temperature and air flow rate;
- (b) Adequate dust removal from hoppers;
- (c) Compressed air supply;
- (d) Proper isolation damper operation; and
- (e) Monitoring of bag cleaning cycle.

Weekly:

- (a) Bag cleaning mechanisms; and
- (b) Condition of the ductwork.

Monthly:

- (a) Internal inspection for air leaks;
- (b) Bag condition; and
- (c) Fan condition and operation.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.3-93.11 Record Keeping Requirements Operational Parameters

(a) The Permittee shall maintain daily records at the stationary source of the following values:

- ~~(a)~~(1) Unexpected triggering of broken bag (leak) detector;
- ~~(b)~~(2) Visible emission observations;
- ~~(c)~~(3) Checklist with dates and initials for each preventive action performed; and
- ~~(d)~~(4) Records of corrective actions.

(b) **To document compliance with Condition D.3.4, the Permittee shall maintain records of the metal melt rate of Unit #23.**

D.3-103.12 Reporting Requirements General Reporting

(a) **A quarterly summary of the information to document compliance with Condition D.3.4 shall be submitted to:**

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

using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by te Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) Any deviations shall be reported in accordance with Condition B.15 and summarized in the annual certification submitted in accordance with Condition B.12.

Change No. 5:

The following changes have been made to Section D.4:

- (a) The emission unit descriptions have been renumbered as in Section A.2.
- (b) The descriptions of the new shot blast machine (Unit #29) and the new cut-off saw (Unit #30) have been added.
- (c) Conditions D.4.1, D.4.2, and D.4.3 have been revised to include PM, PM10, and lead emission limitations for Units #29 and #30.
- (d) A new condition (new D.4.5) has been added to indicate that the control devices must be in operation at all times that the processes are in operation to comply with Conditions D.4.1, D.4.2, and D.4.3.
- (e) Subsequent conditions have been renumbered as appropriate.

Note: The compliance monitoring, record keeping, and reporting requirements have not changed in this Significant Permit Revision. Revised requirements will likely be made in the Title V permit that is to be issued relatively soon after the issuance of this Significant Permit Revision.

The permit has been revised as follows:

SECTION D.4 FACILITY OPERATION CONDITIONS

(f)	the sand treatment and brass reclaim operations (Unit #13), controlled by a baghouse identified as Baghouse "T";
(g)	one (1) Iron Room (Unit #5) for cast iron grinding, boring and tapping operations. Particulate emissions for all operations conducted in the room are controlled by a baghouse identified as Baghouse "G";
(h)	one (1) Pangborn 12GN steel shot blast cleaner (Unit #11) ventilated to a baghouse identified as Baghouse "Q" for particulate emissions control;
(i)	one (1) Pangborn 6GN steel shot blast cleaner (Unit #12) ventilated to a baghouse identified as

	Baghouse "S" for particulate emissions control;
(+)(j)	one (1) continuous flow steel shot blast cleaner (Unit #14) for removing sand and internal cores from the casting, ventilated to a baghouse identified as Baghouse "U" for particulate emissions control;
(+)(k)	foundry grinding and cut-off operations (Unit #15) with emissions ventilated to and controlled by a baghouse identified as Baghouse "V";
(+)(l)	various machining, grinding, and polishing operations (Unit #16) ventilated to a baghouse identified as Baghouse "W" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;
(+)(m)	various machining, grinding, and polishing operations (Unit #17) ventilated to a baghouse identified as Baghouse "X" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse;
(+)(n)	various machining, grinding, and polishing operations (Unit #18) ventilated to a baghouse identified as Baghouse "Y" for capturing metal particulate;
(+)(o)	the coreroom ventilation (Unit #19) including ventilation of twelve (12) thirteen (13) natural gas fired core making units with a total maximum heat capacity of 1.7168 2.464 million British thermal Units per hour, and a sand throughput of 2.068 tons per hour;
(+)(p)	various machining, grinding, and polishing operations (Unit #26) ventilated to a baghouse identified as Baghouse "BC" for capturing brass chips to be recycled as well as controlling the dust emissions. The exhaust gas is vented through a drop box to reduce particulate loading and then to the baghouse.
Insignificant Activities:	
(dd)	grinding and machining operations controlled with fabric filters:
(1)	one (1) shot blast machine, approved for construction in 2009, identified as Unit #29, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control [326 IAC 6-3-2] and
(2)	one (1) cut-off saw, approved for construction in 2009, identified as Unit #30, with a maximum capacity of 2.0 tons per hour of no-lead brass castings, and using a baghouse for particulate control [326 IAC 6-3-2].

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

D.4.1 Particulate Matter

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Process Operations), the particulate matter emissions from the facilities covered in Section D.4 are as follows:

Facilities	Process Weight Rate (ton/hr)	326 IAC 6-3-2 PM Allowable Emissions (lb/hr)	PM Compliance Calculations (lb/hr)
Unit #5	0.78	3.47	2.13

Facilities	Process Weight Rate (ton/hr)	326 IAC 6-3-2 PM Allowable Emissions (lb/hr)	PM Compliance Calculations (lb/hr)
Unit# 11	2.73	8.04	0.88
Unit #12	1.37	5.06	0.44
Unit #13	15.0	25.16	1.33
Unit #14	8.195	16.78	4.82
Unit# 15	8.195	16.78	4.81
Unit #16	0.78	3.47	0.19
Unit #17	2.23	7.02	0.54
Unit #18	0.90	3.82	0.22
Unit #19	8.0	16.51	16.02
Unit #26	4.28	4.28	0.52
Unit #29	2.0	6.52	5.0
Unit #30	2.0	6.52	5.0

Compliance with these limits make 326 IAC 2-2 not applicable.

- D.4.2 Particulate Matter Less Than Ten (10) Microns (PM-10) [326 IAC 2-8-4]
Pursuant to 326 IAC 2-8-4 the PM-10 emissions shall be limited as follows:

Facilities	PM -10 Emissions (lb/hr)	PM-10 Emissions (tons/yr)
Unit #5	0.13	0.57
Unit# 11	0.51	2.24
Unit #12	0.26	1.12
Unit #13	1.33	5.83
Unit #14	2.81	12.32
Unit# 15	0.97	4.24
Unit #16	0.21	0.91
Unit #17	0.60	2.62
Unit #18	0.24	1.06
Unit #19	5.34	23.39

Facilities	PM -10 Emissions (lb/hr)	PM-10 Emissions (tons/yr)
Unit #26	0.239	1.05
Unit #29	0.34	1.50
Unit #30	0.34	1.50

Compliance with these limits make 326 IAC 2-7 not applicable.

D.4.3 Hazardous Air Pollutants (Lead) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4 the Lead emissions shall be limited as follows:

Facilities	Lead Emissions (lb/hr)	Lead Emissions (tons/yr)
Unit #5	0.011	0.045
Unit# 11	0.0078	0.034
Unit #12	0.0039	0.017
Unit #13	0.009	0.036
Unit #14	0.043	0.19
Unit# 15	0.20	0.87
Unit #16	0.0071	0.031
Unit #17	0.02	0.087
Unit #18	0.008	0.035
Unit #26	0.038	0.167
Unit #29	0.023	0.10
Unit #30	0.023	0.10

Compliance with these limits make 326 IAC 2-7 not applicable.

D.4.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Condition B.13 of this permit, is required for each facility.

Compliance Determination Requirements

D.4.5 Particulate Control

- (a) In order to comply with Conditions D.4.1, D.4.2, and D.4.3, the baghouses for particulate, PM10, and lead control shall be in operation and control emissions from Units #5, #11-#18, #26, #29, and #30 at all times these units 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 IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.**

Compliance Monitoring Requirements [326 IAC 2-8-5(a)(1)]

D.4.54.6 Broken Bag Detectors

For the baghouses equipped with a continuous broken bag (leak) detector at the exhaust stack, the detector shall be used for detecting the potential control device malfunction. The instrument used for leak detection shall meet the specification of Condition C.10 and be maintained according to Condition C.8. The detector shall also be subject to approval by IDEM, OAQ.

D.4.64.7 Visible Emission Notations

Visible emission notations of the baghouse exhaust stacks without broken bag detector shall be performed once per shift during normal daylight operations. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, 80 percent 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 specified condition prescribing visible emissions. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Preventive Maintenance Plan for this unit shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

D.4.74.8 Preventive Inspections

The following inspections shall be performed when the process equipment controlled by a baghouse is operating in accordance with the Preventive Maintenance Plan prepared pursuant to Condition B.13:

Daily:

- (a) Baghouse inlet temperature and air flow rate;
- (b) Adequate dust removal from hoppers;
- (c) Compressed air supply;
- (d) Proper isolation damper operation; and
- (e) Monitoring of bag cleaning cycle.

Weekly:

- (a) Bag cleaning mechanisms; and
- (b) Condition of the ductwork.

Monthly:

- (a) Internal inspection for air leaks;
- (b) Bag condition; and
- (c) Fan condition and operation.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.4.84.9 Operational Parameters

The Permittee shall maintain daily records at the stationary source of the following values:

- (a) Unexpected triggering of broken bag (leak) detector;
- (b) Visible emission observations;
- (c) Checklist with dates and initials for each preventive action performed; and
- (d) Records of corrective actions.

D.4.94.10 General Reporting

Any deviations shall be reported in accordance with Condition B.15 and summarized in the annual certification submitted in accordance with Condition B.12.

Change No. 7:

- (a) The quarterly report for VOC usage for the asphalt based paint dipping operation has been removed since this operation is no longer at this source.
- (b) The quarterly report for metal melt rate to Unit #23 has been added.

The permit has been revised as follows:

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

FESOP Quarterly Report

Source Name: _____ The Ford Meter Box Company, Inc.
Source Address: _____ 773 Manchester Avenue, Wabash, Indiana 46992
FESOP No.: _____ F169-5469-00003
Facility: _____ Asphalt Based Paint Dipping Operation
Parameter: _____ VOC
Limit: _____ total VOC usage limited to 4.45 tons per month

Month: _____ Year: _____

Month	VOC Usage (tons/month)

- ~~No deviation occurred in this month.~~
- ~~Deviation/s occurred in this month.~~
- ~~Deviation has been reported on: _____~~

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

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

FESOP Quarterly Report

Source Name: The Ford Meter Box Company, Inc.
Source Address: 773 Manchester Avenue, Wabash, Indiana 46992
FESOP No.: F169-5469-00003
Facility: Unit #23
Parameter: Metal melted
Limit: shall not exceed 28,908 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Quarter: _____ Year: _____

Month	Metal Melted (tons)	Metal Melted (tons)	Metal Melted (tons)
	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: _____

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on November 13, 2008.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Revision No. 169-27137-00003. The staff recommends to the Commissioner that this FESOP Significant Revision be approved.

**Appendix A: Emission Calculations
Summary**

Company Name: Ford Meter Box Company, Inc.
Address City IN Zip: 775 Manchester Drive, Wabash, IN 46992
SPR No.: 169-27137-00003
Reviewer: Laura Spriggs

Process/Facility	PTE After Limits (tons/year)								Limit
	PM	PM10	SO2	NOx	VOC	CO	Lead	Total HAPs	
Furnace Charging, Melting, and Pouring (Unit #23)	7.75	15.52	0.29	0.14	2.02	86.72	4.47	4.47	PM: 326 IAC 2-2; PM10 and Lead: FESOP; CO: melt rate limit
Shakeout and Sand Handling for #1 Handline, #1 Harrison, #2 Harrison, #4 Sinto (Unit #6)	2.80	1.35	--	--	8.67		0.022	0.022	PM: 326 IAC 2-2; PM10 and Lead: FESOP; CO: melt rate limit
Shakeout and Sand Handling for #1, #2, #3 Sintos (Unit #20)	1.18	2.40	--	--	8.67		0.009	0.009	PM: 326 IAC 2-2; PM10 and Lead: FESOP; CO: melt rate limit
Sand Treatment and Brass Reclaim Operations (Unit #13)	5.83	5.83	--	--	--	--	0.036	0.036	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Coreroom Ventilation (Unit #19)	70.20	23.39	0.35	19.03	3.17	0.91	0.00001	4.01	PM: 326 IAC 2-2; PM10: FESOP
Iron Room (Unit #5)	9.33	0.57	--	--	--	--	0.05	0.050	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Shotblasting (Unit #11)	3.85	2.24	--	--	--	--	0.034	0.034	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Shotblasting (Unit #12)	1.93	1.12	--	--	--	--	0.017	0.017	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Shotblasting (Unit #14)	21.10	12.32	--	--	--	--	0.19	0.190	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Grinding & Cut-Off (Unit #15)	21.10	4.24	--	--	--	--	0.87	0.87	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Machining, Grinding, & Polishing (Unit #16)	0.83	0.91	--	--	--	--	0.031	0.031	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Machining, Grinding, & Polishing (Unit #17)	2.37	2.62	--	--	--	--	0.087	0.087	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Machining, Grinding, & Polishing (Unit #18)	0.96	1.06	--	--	--	--	0.035	0.035	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Machining, Grinding, & Polishing (Unit #26)	2.28	1.05	--	--	--	--	0.167	0.167	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Boilers (Units #1 & 2) - NG	0.21	0.83	0.07	10.95	0.60	9.20	0.0001	0.21	
Boilers (Units #1 & 2) - No. 2 Fuel Oil	1.56	1.56	55.53	15.64	0.27	3.91	0.001	0.01	
Boilers (Units #1 & 2) - No. 6 Fuel Oil	1.08	1.08	80.84	17.70	0.36	1.61	0.0005	0.04	
Boilers (Units #1 & 2) - worst case	1.56	1.56	80.84	17.70	0.60	9.20	0.001	0.21	SO2: No. 6 Fuel Oil Limit
Binks Teflon Spray Coating Booth (Unit #21)	0.40	0.40	--	--	11.95	--	--	6.21	PM/PM10: 326 IAC 6-3-2
Nut Coating Operation (Unit #27)	--	--	--	--	2.58	--	--	--	
Miscellaneous Painting and Gluing Activities	2.64	2.64	--	--	10.30	--	--	2.40	
Insignificant Activities	49.05	16.38	13.64	11.68	0.64	2.16	Negl.	Negl.	
New Shot Blast Unit (Unit #29)	5.00	1.50	--	--	--	--	0.10	0.10	PM: 326 IAC 2-2; PM10 and Lead: FESOP
New Cut-Off Saw (Unit #30)	5.00	1.50	--	--	--	--	0.10	0.10	PM: 326 IAC 2-2; PM10 and Lead: FESOP
Total	215.2	98.6	95.1	48.5	48.6	99.0	6.2	19.0	

Appendix A: Emission Calculations
New Units: Shot Blaster and Cut-Off Saw

Company Name: Ford Meter Box Company, Inc.
Address City IN Zip: 775 Manchester Drive, Wabash, IN 46992
SPR No.: 169-27137-00003
Reviewer: Laura Spriggs

Process: Shot Blasting	Rate (tons iron/hr)	Pollutant	Ef (lb/ton charged)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Shot Blast Machine (Unit #29) Source Emission Factors: Fire 6.01, SCC# 3-04-003-40 AP-42 Ch. 12.10, Fifth Edition, 1995 Unless otherwise noted	2.000	PM	17.00	148.92	BH	99.00%	1.49
	Source Data	PM ₁₀	1.70	14.89	BH	99.00%	0.149
		Lead	0.04	0.37	BH	98.00%	0.007

Source Data: No-lead brass contains < 0.25% lead.

Process: Grinding & Cut-off	Rate (tons iron/hr)	Pollutant	Ef (lb/ton charged)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Cut-Off Saw (Unit #30) Source Emission Factors: Fire 6.01, SCC# 3-04-003-40 AP-42 Ch. 12.10, Fifth Edition, 1995 Unless otherwise noted	2.000	PM	17.00	148.92	BH	99.00%	1.49
	Source Data	PM ₁₀	1.70	14.89	BH	99.00%	0.149
		Lead	0.04	0.37	BH	98.00%	0.007

Source Data: No-lead brass contains < 0.25% lead.

Methodology:

Ef = Emission factor

Ebc = Potential Emissions before controls = Rate (units/hr) * Ef (lbs/unit) * (8760 hrs/yr) * (1 ton/2000 lb)

Eac = Potential Emissions after controls = (1-efficiency/100) * Ebc

1 ton = 2000 lbs

1 yr = 8760 hrs

Unit	New Construction Summary					
	Uncontrolled PTE (ton/yr)			Controlled PTE (ton/yr)		
	PM	PM10	Lead	PM	PM10	Lead
Shot Blast Unit (Unit #29)	148.92	14.89	0.37	1.49	0.149	0.007
Cut-off Saw (Unit #30)	148.92	14.89	0.37	1.49	0.149	0.007
Total	297.84	29.78	0.74	2.98	0.30	0.01

326 IAC 6-3-2 Emission Limits

Process Description	Process Weight Rate (ton/hr)	Process Weight Rate (lb/hr)	326 IAC 6-3-2 Allowable (lb/hr)	Uncontrolled PM Emissions (lb/hr)	Controlled PM Emissions (lb/hr)	Capable of Compliance? (Y/N)
Shot Blast Unit (Unit #29)	2.0	4000	6.52	148.92	1.49	Y - with control device
Cut-off Saw (Unit #30)	2.0	4000	6.52	148.92	1.49	Y - with control device

Interpolation of the data for process weight rates up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation: $E = 4.10 P^{0.67}$
 Where E = rate of emission (lb/hr), P = process weight rate (ton/hr)

Appendix A: Emission Calculations
SO₂, NO_x, CO, and VOC emissions from Pouring/Casting and Shakeout Operations

Company Name: Ford Meter Box Company, Inc.
Address City IN Zip: 775 Manchester Drive, Wabash, IN 46992
SPR No.: 169-27137-00003
Reviewer: Laura Spriggs

Emission Unit	Process	Permitted Capacity (ton metal/hr)	Pollutant	EF	EF Units	Source of EF	Controlled PTE (ton/yr)			
							SO ₂	NO _x	VOC	CO
Unit #23	Pouring/ Casting	3.3	SO ₂	0.02	lb/ton metal	(1)	0.289	0.145	2.024	86.724
			NO _x	0.01	lb/ton metal	(1)				
			CO*	6.00	lb/ton metal	(2)				
			VOC	0.140	lb/ton metal	(1)				
Unit #6	Shakeout	1.65	VOC	1.20	lb/ton metal	(4)			8.672	
			CO*	--		(2)				
Unit #20	Shakeout	1.65	VOC	1.20	lb/ton metal	(4)			8.672	
			CO*	--		(2)				

EF = Emission Factor

*CO Emission Factor includes pouring, cooling, and shakeout processes.

Source of Emission Factors:

(1) FIRE: SCC# 3-04-003-20

(2) Industry Estimate

(3) Schifo, James, "Organic Hazardous Air Pollutant Emission Factors for Iron Foundries", American Foundry Society, Rev. June 17, 2007. (Emission Factor for phenolic hot box cores)

(4) FIRE: SCC# 3-04-003-31

Methodology:

PTE (ton/yr) = Permitted Capacity (ton/hr) * EF (lb/ton) * (8760 hr/yr) * (1 ton/2000 lb)

Appendix A: Emission Calculations
Core Making Units

Company Name: Ford Meter Box Company, Inc.
Address City IN Zip: 775 Manchester Drive, Wabash, IN 46992
SPR No.: 169-27137-00003
Reviewer: Laura Spriggs

The 13 core making units can use "Warm Box System" to make cured silica sand cores with resin addition at a rate of 1.4 wt.%, catalyst addition at a rate of 20% of the resin addition, and a releasing agent added at a rate of 0.00000875 lb/lb of silica

NOx, SO2, VOC, and HAPs from Core Making

Unit	Pollutant	EF	EF Units	Source of EF	Ebc (ton/yr)
13 Units: Warm Box Sand (1.4% resin and 0.28% catalyst)	NOx	0.5	lb/ton metal charged	Fire 6.01, SCC# 3-04-003-71	17.947
Capacity (ton sand/hr)	SO ₂	0.038	lb/ton sand handled	Fire 6.01, SCC# 3-04-003-51	0.344
Capacity (ton metal charged/hr)	VOC	0.343525	lb/ton sand handled	See below ¹	3.11
	Formaldehyde	0.0112	lb/ton sand handled	See below ²	0.101
	Ethylene Glycol	0.42	lb/ton sand handled	See below ²	3.804
	Phenol	0.00056	lb/ton sand handled	See below ²	0.005
	Methanol	0.00875	lb/ton sand handled	See below ²	0.079

Methodology

EF = Emission Factor

Ebc (ton/yr) = Potential Emissions before controls = Capacity (tons/hr) * EF (lbs/ton) * (8760 hrs/yr) * (1 ton/2000 lb)

¹VOC Emission Factor Derivation:

- Manufacturer test results indicate the VOC release rate of the resin (Enviroset 08-76B), catalyst (6502E), and releasing agent are 0.8%, 1.9%, and 75% by weight, VOC Emission Factor (lb VOC/ton sand) = {[Wt.% Resin (lb resin/lb sand) * release rate VOC in Resin (lb VOC/lb resin)] + [Wt.% Catalyst (lb catalyst/lb sand) * release rate VOC in Catalyst (lb VOC/lb catalyst)] + [Wt.% Releasing Agent (lb releasing agent/lb sand) * release rate VOC in Releasing Agent (lb VOC/lb releasing agent)]} * (2000 lb/ton)

²Formaldehyde and Phenol Emission Factor Derivation:

- Manufacturer test results indicate the following HAPs are released from the coremaking chemicals:
 - Formaldehyde released from the resin (Enviroset 08-76B) at a rate of 0.04%
 - Ethylene Glycol released from the catalyst (6502E) at a rate of 7.5%
 - Phenol released from the catalyst (6502E) at a rate of 0.01%
 - Methanol released from the releasing agent at a rate of 50%

HAP Emission Factor (lb HAP/ton sand) = [Wt.% coremaking chemical additive (lb additive/lb sand) * release rate HAP in additive (lb HAP/lb additive)] * (2000 lb/ton)

Emissions from Natural Gas Combustion Associated with Core Making Units:

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.464	21.6

Criteria Pollutant Emissions

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO ₂	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.02	0.1	0.01	1.1	0.1	0.9

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

HAPs Emissions

	HAPs - Organics				
	Benzene	Dichloro-benzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.266E-05	1.295E-05	8.094E-04	1.943E-02	3.669E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	5.396E-06	1.187E-05	1.511E-05	4.101E-06	2.266E-05

Total HAPs (tons/yr) = 2.04E-02

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) * (8,760 hrs/yr) * (1 MMCF/1,000 MMBtu)

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (Supplement 3/98)

Emissions (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Emission Units #1 and #2 - Natural Gas-Fired Boilers (MM BTU/HR <100)
(Each boiler is rated at 12.5 MMBtu/hr)

Company Name: Ford Meter Box Company, Inc.
Address City IN Zip: 775 Manchester Drive, Wabash, IN 46992
SPR No.: 169-27137-00003
Reviewer: Laura Spriggs

Heat Input Capacity
MMBtu/hr
25.0

Potential Throughput
MMCF/yr
219.0

Criteria Pollutant Emissions

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.2	0.8	0.07	11.0	0.6	9.2

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

HAPs Emissions

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.300E-04	1.314E-04	8.213E-03	1.971E-01	3.723E-04

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	5.475E-05	1.205E-04	1.533E-04	4.161E-05	2.300E-04

Total HAPs (tons/yr) = 2.07E-01

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) * (8,760 hrs/yr) * (1 MMCF/1,000 MMBtu)
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (Supplement 3/98)
 Emissions (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)

Appendix A: Emissions Calculations
No. 2 Fuel Oil (Alternative Fuel Scenario)
Emission Units #1 and #2 - Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
(Each boiler is rated at 12.5 MMBtu/hr)

Company Name: Ford Meter Box Company, Inc.
Address City IN Zip: 775 Manchester Drive, Wabash, IN 46992
SPR No.: 169-27137-00003
Reviewer: Laura Spriggs

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
25	1564.285714	0.5

Criteria Pollutant Emissions

Emission Factor in lb/kgal	Pollutant				
	PM*	SO2	NOx	VOC	CO
	2.0	71 (142.0S)**	20.0	0.34	5.0
Potential Emission in tons/yr	1.6	55.5	15.6	0.3	3.9

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03), Supplement E 9/98 (see erata file)

*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

**SO2 Emission Factor is calculated as 142 * Wt.% Sulfur

HAPs Emissions

Emission Factor in lb/mmBtu	HAPs - Metals				
	Arsenic	Beryllium	Cadmium	Chromium	Lead
	4.0E-06	3.0E-06	3.0E-06	3.0E-06	9.0E-06
Potential Emission in tons/yr	4.38E-04	3.29E-04	3.29E-04	3.29E-04	9.86E-04

Emission Factor in lb/mmBtu	HAPs - Metals (continued)			
	Mercury	Manganese	Nickel	Selenium
	3.0E-06	6.0E-06	3.0E-06	1.5E-05
Potential Emission in tons/yr	3.29E-04	6.57E-04	3.29E-04	1.64E-03

Total HAPs (tons/yr) = 5.37E-03

Emission Factors are from AP-42, Table 1.3-10 (SCC#s 1-01-005-01, 1-02-005-01, 1-03-005-01), Supplement E 9/98.

No data was available in AP-42 for organic HAPs.

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) * (8,760 hrs/yr) * (1kgal/1000 gallon) * (1 gal/0.140 MM Btu)

For Criteria Pollutant Emissions:

Emission (tons/yr) = Throughput (kgals/ yr) * Emission Factor (lb/kgal) * (1 ton/2,000 lb)

For HAP Emissions:

Potential Emissions (tons/year) = Throughput (mmBtu/hr)* Emission Factor (lb/mmBtu) * (8,760 hrs/yr) * (1 ton/2000 lb)

Appendix A: Emissions Calculations
No. 6 Fuel Oil (Alternative Fuel Scenario) - Limited PTE
Emission Units #1 and #2 - Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
(Each boiler is rated at 12.5 MMBtu/hr)

Company Name: Ford Meter Box Company, Inc.
Address City IN Zip: 775 Manchester Drive, Wabash, IN 46992
SPR No.: 169-27137-00003
Reviewer: Laura Spriggs

Heat Input Capacity MMBtu/hr	Limited Throughput kgals/year	S = Weight % Sulfur
25	643.596	1.6

Criteria Pollutant Emissions

	Pollutant				
	PM**	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	3	251.2	55.0	1.13	5.0
	<i>*see below</i>	<i>(157S)***</i>			
Potential Emission in tons/yr	1.1	80.8	17.7	0.4	1.6

Emission Factors are from AP 42 Tables 1.3-1, 1.3-2 and 1.3-3 (SCC 1-03-004-02/03, 1-02-004-02/03, and 1-03-004-04) (AP-42 Supplement E 9/98,

*Particulate Matter emission factor for #6 fuel oil is 9.19(s) + 3.22 lb/kgal

**PM emission factor is filterable PM only. Condensable PM emission factor is 1.5 lb/kgal.

***SO2 Emission Factor is calculated as 157 * Wt.% Sulfur

HAPs Emissions

	HAPs - Metals					
	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Cobalt
Emission Factor in lb/kgal	5.3E-03	1.3E-03	2.8E-05	4.0E-04	1.1E-03	6.0E-03
Potential Emission in tons/yr	1.69E-03	4.25E-04	8.95E-06	1.28E-04	3.52E-04	1.94E-03

	HAPs - Metals (continued)					
	Lead	Manganese	Mercury	Nickel	Phosphorous	Selenium
Emission Factor in lb/kgal	1.5E-03	3.0E-03	1.1E-04	8.5E-02	8.5E-03	6.8E-04
Potential Emission in tons/yr	4.86E-04	9.65E-04	3.64E-05	2.72E-02	2.72E-03	2.20E-04

Total HAPs (tons/yr) = 3.62E-02

Emission Factors are from AP-42, Table 1.3-11 (SCC#s 1-01-004-01/04), Supplement E 9/98.
 No data was available in AP-42 for organic HAPs.

Methodology

1 gallon of No. 6 Fuel Oil has a heating value of 150,000 Btu

Emission (tons/yr) = Limited Throughput (kgals/ yr) * Emission Factor (lb/kgal) * (1 ton/2,000 lb)

Appendix A: Emissions Calculations
PTE of Insignificant Activity: Powder Coating Booth

Company Name: Ford Meter Box Company, Inc.
Address City IN Zip: 775 Manchester Drive, Wabash, IN 46992
SPR No.: 169-27137-00003
Reviewer: Laura Spriggs

Unit	Captured Emissions (lb/hr)	Cartridge Filter Efficiency (%)	Uncontrolled PTE PM/PM10 (lb/hr)	Controlled PTE PM/PM10 (lb/hr)	Controlled PTE PM/PM10 (ton/yr)
Powder Coating Booth	1.56	99.5%	1.57	0.008	0.034

Methodology

Captured Emissions (lb/hr) and Cartridge Filter Efficiency - provided by the Permittee
 PM and PM10 Emissions are assumed to be equal.

Uncontrolled PTE PM/PM10 (lb/hr) = Captured Emissions (lb/hr) / Cartridge Filter Efficiency

Controlled PTE PM/PM10 (lb/hr) = Uncontrolled PTE PM/PM10 (lb/hr) * (1 - Cartridge Filter Efficiency)

Controlled PTE PM/PM10 (ton/yr) = Controlled PTE PM/PM10 (lb/hr) * (8760 hr/yr) * (1 ton / 2000 lb)

Note: Based on Cost Analysis below, the cartridge filter has been determined to be integral to the process; therefore, the controlled PTE of PM and PM10 has been used in all Potential to Emit Calculations.

Cost Analysis for Integral to Process Determination - Cartridge Baghouse for Powder Coating Booth

Captured Emissions (lb/hr)	Cost of Powder Coating (\$/lb)	Annual Savings of Captured Powder (\$/yr)	Filter Operation Cost (\$/hr)	Annualized Capital Cost (\$/yr)	Total Annual Filter Cost (\$/yr)	Number of Hours to Recover Total Annual Filter Costs (hr/yr)
1.56	3.08	42090.048	0.28	350	2802.8	583

Methodology

Captured Emissions (lb/hr), Cost of Powder Coating (\$/lb), Filter Operation Cost, Annualized Capital Cost - provided by the Permittee

Annual Savings of Captured Powder (\$/yr) = Captured Emissions (lb/hr) * Cost of Powder Coating (\$/lb) * (8760 hr/yr)

Total Annual Filter Cost (\$/yr) = Filter Operation Cost (\$/hr) * (8760 hr/yr) + Annualized Capital Cost (\$/yr)

Number of Hours to Recover Total Annual Filter Costs (hr/yr) = Total Annual Filter Cost (\$/yr) * (8760 hr/yr) / Annual Savings of Captured Powder (\$/yr)