Mr. Pat Gartland
Atlas Foundry Company, Inc.
P.O. Box 688
Marion, IN 46952

Re: **053-10956**
First Significant Revision to
FESOP 053-5716-00002

Dear Mr. Gartland:

Atlas Foundry Company, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) on December 9, 1996 for the gray iron foundry. The First Administrative Amendment (No. AAF 053-9496-00002) was issued on April 29, 1998 and the First Minor Permit Modification (No. MMF 053-10365-00002) was issued on February 10, 1999 . A letter requesting changes to the FESOP was received on May 11, 1999. Pursuant to the provisions of 326 IAC 2-8-11.1 a significant permit revision to the FESOP is hereby approved as described in the attached Technical Support Document.

On May 11, 1999, Atlas Foundry Company, Inc. submitted an application to the OAM requesting to construct and operate one (1) rotary media drum for the shakeout of gray iron castings at their existing plant. The new rotary media drum will replace the one (1) 16 x 20 manual castings shakeout operation. The new rotary drum will be placed after the Aisco Drum and will shakeout four (4) tons of iron per hour from the Manual line, and ten (10) tons of iron per hour from the Disa molding line, which has already undergone shakeout by the Aisco Drum. Atlas Foundry Company, Inc. is adding the following equipment units and control devices:

One (1) rotary media drum for the shakeout of gray iron castings, exhausting to baghouse D, capacity: 14 tons of metal and 20 tons of sand per hour.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 (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.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

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. Please attach a copy of this modification and the following revised permit pages to the front of the original 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 CarrieAnn Ortolani, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 516-691-3395 or in Indiana at 1-800-451-6027 (ext 516-691-3395).

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

Attachments
CAO/MES
cc: File - Grant County
U.S. EPA, Region V
Grant County Health Department
Air Compliance Section Inspector - Jim Thorpe
Compliance Data Section - Mindy Jones
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

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

Atlas Foundry Company, Inc.
Factory & Henderson Avenues
Marion, Indiana 46952

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 and contains the conditions and provisions specified in 326 IAC 2-8 and 40 CFR Part 70.6 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments) and IC 13-15 and IC 13-17 (prior to July 1, 1996, IC 13-1-1-4 and IC 13-7-10).

Operation Permit No.: F053-5716-00002	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: December 9, 1996

First Administrative Amendment No. AAF 053-9496-00002, issued on April 29, 1998
First Minor Permit Modification No. MMF 053-10365-00002, issued on February 10, 1999

First Significant Revision No.: 053-10956-00002	Pages affected: 4, 5, 27, 29, 30 and 31
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

SECTION A SOURCE SUMMARY

A.1 General Information

The Permittee owns and operates a gray iron foundry.

Responsible Official:	Atlas Foundry Company, Inc.
Source Address:	Factory & Henderson Avenues, Marion, Indiana 46952
Mailing Address:	P.O. Box 668, Marion, Indiana 46952
SIC Code:	3321
County Location:	Grant
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) electric induction furnaces, each with a maximum capacity of 4.4 tons of iron per hour, controlled by a baghouse, referred to as baghouse E;

(b) one (1) charge handling system for the furnaces, with a maximum capacity of 8.8 tons of iron per hour, controlled by a baghouse, referred to as baghouse E.

(c) one (1) isocure core-making line, consisting of two (2) isocure core machines and one (1) isocure sand mixer, with a maximum capacity of 0.75 tons of cores per hour;

(d) one (1) Disa pouring/casting line, with a maximum capacity of 10 tons of iron per hour, controlled by baghouse D;

(e) one (1) Disa castings cooling process, with a maximum capacity of 10 tons of iron per hour, controlled by baghouse D;

(f) one (1) Aisco Drum (shakeout) operation, with a maximum capacity of 10 tons of iron per hour, controlled by wet scrubber C;

(g) two (2) shotblast operations, referred to as the Peru shotblast and the Atlas shotblast, each with a maximum capacity of 5 tons of iron per hour, controlled by baghouse B;

(h) nine (9) shell core machines and shell handling with a maximum capacity of 1.0 tons of cores per hour;

(i) one (1) Disa sand handling process, with a maximum capacity of 60 tons of sand per hour, controlled by baghouse D;

(j) one (1) 16 x 20 manual pouring/casting line, with a maximum capacity of 4.0 tons of iron per hour, uncontrolled;

(k) one (1) 16 x 20 manual castings cooling line, with a maximum capacity of 4.0 tons of iron per hour, uncontrolled.

(l) one (1) 16 x 20 manual sand handling line, with a maximum capacity of 20 tons of sand per hour, controlled by baghouse D;

(m) three (3) stand grinders, each with a maximum capacity of 3.33 tons per hour, controlled by a baghouse, referred to as baghouse A.

(n) one (1) oil core making process consisting of one (1) core oil oven and one (1) core oil sand muller with a maximum capacity of 0.2 tons of cores per hour;

(o) One (1) rotary media drum for the shakeout of gray iron castings, exhausting to baghouse D, capacity: 14 tons of metal and 20 tons of sand per hour.

A.3 Insignificant Activities

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

(1) natural gas-fired combustion sources;

(2) storage tanks with capacities less than 1000 gallons;

(3) vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;

(4) brazing equipment, cutting torches, soldering equipment, welding equipment;

(5) replacement or repair of electrostatic precipitators, bags in baghouses and filter in other air filtration equipment;

(6) paved and unpaved roads and parking lots with public access;

(7) gasoline generators not exceeding 110 horsepower;

(8) grinding and machining operations;

(9) mold release agents using low volatile products;

(10) one (1) isocure sand mixer, one (1) core oil sand muller, one (1) core oil oven, and shell sand handling.

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.3 FACILITY OPERATION CONDITIONS

Disa Aisco Drum (shakeout) operations, with maximum capacities of 10 tons of iron per hour and 60 tons of sand per hour, controlled by a wet scrubber, identified as wet scrubber C.

Emissions Limitations and Standards [326 IAC 2-8-4(1)] [326 IAC 6-3]

D.3.1 Particulate Matter
That pursuant to 326 IAC 6-3 (Process Operations), the wet scrubber shall be in operation at all times that the Aisco Drum is in operation and particulate matter emissions from the Disa Aisco Drum (shakeout) process shall not exceed 5.35 pounds per hour.

D.3.2 Particulate Matter less than 10 Microns
Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the wet scrubber controlling the Disa castings shakeout process, shall operate at all times that the Disa shakeout process is in operation and the PM10 emissions shall not exceed 3.75 pounds per hour. This condition is necessary to limit the total source wide PM10 emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) 326 IAC 2-7 (Part 70 Permits), not applicable.

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

D.3.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]
The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.3.1 and D.3.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

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

D.3.4 Pressure Readings
The Permittee shall take pressure and scrubbing liquid (water) flow rate readings from the scrubber controlling the Disa castings shakeout operations, at least once per shift when these processes are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the scrubber shall be maintained with the range of 1 to 7 inches of water and the flow rate for scrubbing liquid shall be maintained at a minimum of 180 gallons of water per minute or a range and flow rate determined during the most recent stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading or flow rate is outside of this range for any one reading.

SECTION D.4 FACILITY OPERATION CONDITIONS

Disa pouring/casting, castings cooling, and sand handling operations, with maximum capacities of 10 tons of iron per hour and 60 tons of sand per hour, controlled by baghouse D. The manual pouring/casting, castings cooling, uncontrolled. The manual sand handling, with a maximum capacity of 4.0 tons of iron per hour and 20 tons of sand per hour, controlled by baghouse D. One (1) rotary media drum for the shakeout of gray iron castings, exhausting to baghouse D, capacity: 14 tons of metal and 20 tons of sand per hour.

Emissions Limitations and Standards [326 IAC 2-8-4(1)] [326 IAC 6-3]

D.4.1 Particulate Matter [326 IAC 6-3-2] [326 IAC 2-2]
That pursuant to 326 IAC 6-3 (Process Operations), the baghouse shall be in operation at all times that the manual or Disa sand handling, Disa pouring/casting, Disa castings cooling, or rotary media drum is in operation. The particulate matter emissions shall meet the following:

(a) The particulate matter emissions from the one (1) rotary media drum for the shakeout of gray iron castings shall not exceed 0.832 pounds per hour.

(b) The particulate matter emissions from the sand handling process (including all sand handling) shall not exceed 6.95 pounds per hour.

(c) The particulate matter emissions from the manual pouring/casting process shall not exceed 11.25 pounds per hour.

(d) The particulate matter emissions from the castings cooling process (total for both Disa and manual) shall not exceed 6.94 pounds per hour.

Compliance with these limits will result in compliance with 326 IAC 6-3-2, Process Operations, and make the requirements of 326 IAC 2-2, Prevention of Significant Deterioration, not applicable.

D.4.2 Particulate Matter less than 10 Microns
Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the following conditions shall apply:

(a) The metal throughput to the manual 16 x 20 line shall not exceed 1,163 tons per month.

(b) The baghouse controlling the Disa pouring/casting, Disa castings cooling, Disa sand handling operations, rotary media drum shakeout process, and the manual sand handling process shall operate at all times that the any of these processes is in operation.

(c) The PM_{10} emissions from the baghouse D shall not exceed 14.2 pounds per hour.

These limits are necessary to limit the total source wide PM_{10} emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) 326 IAC 2-7 (Part 70 Permits), not applicable.

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

D.4.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

During or before December 2001, the Permittee shall perform PM and PM_{10} testing for baghouse D, which controls the Disa pouring/casting, Disa cooling, Disa sand handling, rotary media drum shakeout process and the manual sand handling process, 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 no less than once every 5 years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensible PM_{10}. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

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

D.4.4 Pressure Readings

The Permittee shall take readings of the total static pressure drop across baghouse D controlling the Disa pouring/casting, Disa cooling, Disa sand handling, manual sand handling, pouring/casting, castings cooling, and rotary media drum shakeout operations, at least once per shift when these processes are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained with the range of 3 to 9.5 inches of water determined during the most recent stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of this range for any one reading.

The instrument used for determining the pressure shall comply with condition C.10 Pressure Gauge Specifications, be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.4.5 Visible Emission Observations

Visible emissions notations of the baghouse D stack exhaust shall be performed at least once per shift when the Disa pouring, Disa cooling, Disa sand handling, manual sand handling, pouring/casting, castings cooling, and rotary media drum shakeout operations are in operation. 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% of the time the process is in operation, not counting startup or shutdown time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.4.6 Broken or Failed Bag Detection

In the event that bag failure has been observed.

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may

continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.4.7 Preventive Maintenance

A Preventive Maintenance Plan, in accordance with condition B.13 of this permit, is required for these facilities and any control device.

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

D.4.8 Operational Parameters

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

(a) inlet and outlet differential static pressure;

(b) visible observations.

D.4.9 Record Keeping

That the Permittee shall maintain records of baghouse preventative maintenance, parametric monitoring data, visible emissions observations, and all corrective actions taken and the outcome from each. These records shall be made available upon request of the Office of Air Management (OAM) staff.

D.4.10 Quarterly Reporting

That a quarterly summary to document compliance with operation condition number D.4.2 shall be submitted to the address listed in Section C - General Reporting Requirements, using the enclosed forms or their equivalent, within thirty (30) days after the end of the quarter being reported.

Indiana Department of Environmental Management
Office of Air Management

Addendum to the Technical Support Document for
Federally Enforceable State Operating Permit (FESOP) Significant Revision

Source Name:	**Atlas Foundry Company, Inc.**
Source Location:	**Factory and Henderson Avenues, Marion, Indiana 46952**
County:	**Grant**
FESOP:	**F 053-5716-00002**
First Significant Revision:	**053-10956-00002**
SIC Code:	**3321**
Permit Reviewer:	**CarrieAnn Ortolani**

On July 22, 1999, the Office of Air Management (OAM) had a notice published in the Marion Chronicle Tribune, Marion, Indiana, stating that Atlas Foundry Company, Inc. had applied for a Significant Revision to a Federally Enforceable State Operating Permit (FESOP) to operate the one (1) rotary media drum for the shakeout of gray iron castings with a baghouse as control. The notice also stated that OAM proposed to issue a FESOP Significant Revision for this operation and provided information on how the public could review the proposed FESOP Significant Revision and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this FESOP Significant Revision should be issued as proposed.

Upon further review, the OAM has decided to make the following changes to the FESOP Significant Revision: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded)**:

Change 1:

The First Significant Revision number has been revised in the header on each page as follows:

First Significant Revision No. ~~053-5716-00002~~ **053-10956-00002**

Change 2:

Since the operations exhausting to baghouse D are changed in this permit, the baghouse cannot be tested between January 1999 and June 1999 to show compliance with this permit revision. Condition D.4.3 has been revised as follows:

D.4.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]
~~Between January 1999 and June 1999~~ **During or before December 2001**, the Permittee shall perform PM and PM_{10} testing for baghouse D, which controls the Disa pouring/casting, Disa cooling, Disa sand handling, rotary media drum shakeout process and the manual sand handling process, 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 no less than once every 5 years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensible PM_{10}. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

On July 13, 1999, Patrick J. Gartland of Atlas Foundry Company, Inc. submitted a comment on the proposed FESOP Significant Revision. The comment is as follows:

Comment 1:

We have changed some of the collection points from wet scrubber C to the new baghouse D. Wet scrubber C is collecting from the Aisco drum only. After monitoring the system and getting it up to speed, we have determined that the pressure drop for wet scrubber C ranges from one to seven inches of water. Please change the following:

In section D.3.4, Pressure Readings, on page 27 of 40, change the pressure drop range from 3.5 - 9.5 inches of water to 1 - 7 inches of water.

The flow rate of the scrubbing liquid will still be maintained at a minimum of 180 gallons of water per minute.

Response 1:

Page 27 of 40 of the FESOP has been included in the Significant Revision. The box on the cover page is revised as follows:

First Significant Revision No.: 053-10956-00002	Pages affected: 4, 5, **27,** 29, 30 and 31
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

Condition D.3.4 is revised as follows:

D.3.4 Pressure Readings

The Permittee shall take pressure and scrubbing liquid (water) flow rate readings from the scrubber controlling the Disa castings shakeout operations, at least once per shift when these processes are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the scrubber shall be maintained with the range of ~~3.5 to 9.5~~ **1 to 7** inches of water and the flow rate for scrubbing liquid shall be maintained at a minimum of 180 gallons of water per minute or a range and flow rate determined during the most recent stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading or flow rate is outside of this range for any one reading.

The instrument used for determining the pressure shall comply with condition C.10 Pressure Gauge Specifications, be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

Indiana Department of Environmental Management
Office of Air Management

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

Source Background and Description

Source Name:	**Atlas Foundry Company, Inc.**
Source Location:	**Factory and Henderson Avenues, Marion, Indiana 46952**
County:	**Grant**
SIC Code:	**3321**
Operation Permit No.:	**F 053-5716-00002**
Operation Permit Issuance Date:	**December 9, 1996**
Permit Revision No.:	**053-10956-00002**
Permit Reviewer:	**CarrieAnn Ortolani**

The Office of Air Management (OAM) has reviewed a revision application from Atlas Foundry Company, Inc. relating to the operation of one (1) rotary media drum for the shakeout of gray iron castings.

History

On May 11, 1999, Atlas Foundry Company, Inc. submitted an application to the OAM requesting to construct and operate one (1) rotary media drum for the shakeout of gray iron castings at their existing plant. The new rotary media drum will replace the one (1) 16 x 20 manual castings shakeout operation. The new rotary drum will be placed after the Aisco Drum and will shakeout 4 tons of iron per hour from the Manual line and 10 tons of iron per hour from the Disa molding line, which has already undergone shakeout by the Aisco Drum. Atlas Foundry Company was issued a Federally Enforceable State Operating Permit (FESOP) on December 9, 1996. The first Administrative Amendment (No. AAF 053-9496-00002) was issued on April 29, 1998. The first Minor Modification to the FESOP was issued on February 10, 1999. Atlas Foundry Company is adding the following equipment units and control devices:

One (1) rotary media drum for the shakeout of gray iron castings, exhausting to baghouse D, capacity: 14 tons of metal and 20 tons of sand per hour.

Existing Approvals

The source was issued a FESOP F 053-5716-00002 on December 9, 1996. The source has since received the following:

(a) First Administrative Amendment No. AAF 053-9496-00002, issued on April 29, 1998; and

(b) First Minor Permit Modification No. MMF 053-10365-00002, issued on February 10, 1999.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
D	Disa pouring/casting, castings cooling, and sand handling operations, Manual sand handling, and rotary media drum	20	5.0	70,000	68.0

Recommendation

The staff recommends to the Commissioner that the Significant Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application received on May 11, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (page 1 of 1).

Potential To Emit before Controls (Modification - new rotary media drum, only)

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

Pollutant	Potential To Emit (tons/year)
PM	196
PM_{10}	137
SO_2	0.0
VOC	0.0
CO	0.0
NO_X	0.0

Note: For the purpose of determining Title V applicability for particulates, PM_{10}, not PM, is the regulated pollutant in consideration.

HAPs	Potential To Emit (tons/year)
Chromium	less than 10
Cobalt	less than 10
Nickel	less than 10
Arsenic	less than 10
Cadmium	less than 10
Selenium	less than 10
Lead	less than 10
Manganese	less than 10
TOTAL	less than 25

The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM and PM_{10} are equal to or greater than 25 tons per year. Therefore, FESOP is being modified through a Significant Permit Revision. This revision is being performed pursuant to 326 IAC 2-8-11.1(f)(1)(E), any modification with a potential to emit greater than or equal to twenty-five (25) tons per year of particulate matter (PM) or particulate matter with an aerodynamic diameter less than or equal to ten (10) micrometers (PM_{10}) and is not an administrative amendment under 326 IAC 2-8-10 or subject to 326 IAC 2-8-11.1(d) will be processed in accordance with 326 IAC 2-8-11.1(f).

Source Status

Existing Source FESOP Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Limited Emissions (tons/year)
PM	172.8
PM_{10}	98.62
SO_2	0.78
VOC	36.3
CO	0.00
NOx	0.38

(a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

(b) These emissions are based upon the Technical Support Document (TSD) to the FESOP No. F053-5716-00002, issued on December 9, 1996.

Potential to Emit After Controls

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units for the modification.

	Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPs
One (1) rotary media drum for the shakeout of gray iron castings	3.64	1.37	0.00	0.00	0.00	0.00	0.235
Existing FESOP limits (excluding the shakeout 16x20 line which is being removed)	168.5	95.6	0.78	36.3	0.00	0.38	19.1
Total Emissions	172	97.0	0.78	36.3	0.00	0.38	19.3

(a) This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

(b) The limited PM_{10} emissions and the limited HAP emissions will remain less than one hundred (100) tons per year and twenty-five (25) tons per year, respectively. Therefore, the source will continue to comply with the requirements of 326 IAC 2-8, FESOP.

(c) The existing FESOP limits are taken from the Technical Support Document (TSD) to F053-5716-00002, issued on December 9, 1996.

County Attainment Status

The source is located in Grant County.

Pollutant	**Status**
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NO_X) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Grant County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 326 IAC 20; 40 CFR Part 60 and 40 CFR Part 61) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

There are no changes in State rule applicability for the entire source from the original FESOP.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2, Process Operations, the particulate matter (PM) from the one (1) rotary media drum for the shakeout of gray iron castings shall be limited to 41.1 pounds per hour when operating at a process weight rate of 34 tons per hour (20 pounds of sand and 14 pounds of iron). This limitation is calculated by the following:

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

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

Since the PM emissions after controls are 0.448 pounds per hour, the one (1) rotary media drum for the shakeout of gray iron castings will comply with this rule. The baghouse (D) shall be in operation at all times the one (1) rotary media drum for the shakeout of gray iron castings is in operation, in order to comply with this limit.

326 IAC 2-2 (Prevention of Significant Deterioration)

(a) This source is a minor source pursuant to 326 IAC 2-2, PSD. Since the potential to emit PM and PM_{10} from this modification is less than 250 tons per year, the modification is a minor modification to an existing minor source.

(b) Pursuant to F053-5716-00002, issued on February 10, 1999, the PM emissions from the shakeout operations were limited to the potential emissions after controls. An hourly emission limitation was developed so that, at the limited throughput, the source would remain a minor source pursuant to 326 IAC 2-2, PSD. The potential to emit PM after controls from the modification is 1.96 tons per year. Since the one (1) rotary media drum for the shakeout of gray iron castings has the potential to shakeout both the manual and Disco lines, the limited throughput is the limited melt rate of 5,497 tons per month. At a capacity of 14 tons of metal per hour, the one (1) rotary media drum may operate 4,712 hours per year at maximum capacity under the existing throughput limits. Therefore, PM emissions will be limited to 0.832 pounds per hour. Since potential emissions after controls by the baghouse D are 0.448 pounds per hour, the one (1) rotary media drum will comply with this limitation by maintaining a control efficiency at baghouse D of equal to or greater than ninety-eight and one tenth percent (98.1%). Therefore, this source will remain a minor source pursuant to 326 IAC 2-2, PSD. This limitation will also result in compliance with 326

IAC 6-3-2, Process Operations.

326 IAC 2-8 (FESOP)

Pursuant to F053-5716-00002, issued on February 10, 1999, the metal throughput to the manual 16x20 line shall not exceed 1,163 tons per month and the PM_{10} emissions from the baghouse D were limited to 14.2 pounds per hour. The purpose of these limits is to limit the PM_{10} emissions from the entire source to less than 100 tons per year. Although the capacity of the shakeout process has increased due to this modification, the limits will be preserved in order to ensure that the source is in compliance with 326 IAC 2-8 (FESOP).

Compliance Requirements

Permits issued under 326 IAC 2-7are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

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

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

The one (1) rotary media drum for the shakeout of gray iron castings has applicable compliance monitoring conditions as specified below:

(a) Daily visible emissions notations of the one (1) rotary media drum for the shakeout of gray iron castings shall be performed 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, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

(b) The Permittee shall record the total static pressure drop across the baghouse (D) controlling the one (1) rotary media drum for the shakeout of gray iron castings, at least once per shift when the one (1) rotary media drum for the shakeout of gray iron castings is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 3 to 9.5 inches of water or a range established during the latest stack test. The Compliance

Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

These monitoring conditions are necessary because the baghouse must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-8 (FESOP) and make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

(a) This source is limited in the existing FESOP to emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations (page 1 of 1).

Proposed Changes

A.2 Emission Units and Pollution Control Summary
The stationary source consists of the following emission units and pollution control devices:

(a) two (2) electric induction furnaces, each with a maximum capacity of 4.4 tons of iron per hour, controlled by a baghouse, referred to as baghouse E;

(b) one (1) charge handling system for the furnaces, with a maximum capacity of 8.8 tons of iron per hour, controlled by a baghouse, referred to as baghouse E.

(c) one (1) isocure core-making line, consisting of two (2) isocure core machines and one (1) isocure sand mixer, with a maximum capacity of 0.75 tons of cores per hour;

(d) one (1) Disa pouring/casting line, with a maximum capacity of 10 tons of iron per hour, controlled by baghouse D;

(e) one (1) Disa castings cooling process, with a maximum capacity of 10 tons of iron per hour, controlled by baghouse D;

(f) one (1) Aisco Drum (shakeout) operation, with a maximum capacity of 10 tons of iron per hour, controlled by wet scrubber C;

(g) two (2) shotblast operations, referred to as the Peru shotblast and the Atlas shotblast, each with a maximum capacity of 5 tons of iron per hour, controlled by baghouse B;

(h) nine (9) shell core machines and shell handling with a maximum capacity of 1.0 tons of cores per hour;

(i) one (1) Disa sand handling process, with a maximum capacity of 60 tons of sand per hour, controlled by baghouse D;

(j) one (1) 16 x 20 manual pouring/casting line, with a maximum capacity of 4.0 tons of iron per hour, uncontrolled;

(k) one (1) 16 x 20 manual castings cooling line, with a maximum capacity of 4.0 tons of iron per hour, uncontrolled.

(l) one (1) 16 x 20 manual sand handling line, with a maximum capacity of 20 tons of sand per hour, controlled by baghouse D;

(m) three (3) stand grinders, each with a maximum capacity of 3.33 tons per hour, controlled by a baghouse, referred to as baghouse A.

(n) one (1) oil core making process consisting of one (1) core oil oven and one (1) core oil sand muller with a maximum capacity of 0.2 tons of cores per hour;

~~(o) one (1) 16 x 20 manual castings shakeout operation, with a maximum capacity of 4 tons of iron per hour, controlled by baghouse D.~~

(o) One (1) rotary media drum for the shakeout of gray iron castings, exhausting to baghouse D, capacity: 14 tons of metal and 20 tons of sand per hour.

The facility description in the box in Section D.4 has been revised as follows:

Disa pouring/casting, castings cooling, and sand handling operations, with maximum capacities of 10 tons of iron per hour and 60 tons of sand per hour, controlled by baghouse D. The manual pouring/casting, castings cooling, uncontrolled. The ~~manual castings shakeout operations and~~ manual sand handling, with **a** maximum ~~capacities~~ **capacity** of 4.0 tons of iron per hour and 20 tons of sand per hour, controlled by baghouse D. **One (1) rotary media drum for the shakeout of gray iron castings, exhausting to baghouse D, capacity: 14 tons of metal and 20 tons of sand per hour.**

D.4.1 Particulate Matter **[326 IAC 6-3-2] [326 IAC 2-2]**
That pursuant to 326 IAC 6-3 (Process Operations), the ~~wet scrubber~~ **baghouse** shall be in operation at all times that the manual or Disa sand handling, Disa pouring/casting, Disa castings cooling, or ~~manual castings shakeout process~~ **rotary media drum** is in operation. The particulate matter emissions shall meet the following:

(a) The particulate matter emissions from the **one (1) rotary media drum for the shakeout of gray iron castings** ~~castings shakeout process (including both manual and Disa)~~ shall not exceed ~~7.78~~ **0.832** pounds per hour.

(b) The particulate matter emissions from the sand handling process (including all sand handling) shall not exceed 6.95 pounds per hour.

(c) The particulate matter emissions from the manual pouring/casting process shall not exceed 11.25 pounds per hour.

(d) The particulate matter emissions from the castings cooling process (total for both Disa and manual) shall not exceed 6.94 pounds per hour.

Compliance with these limits will result in compliance with 326 IAC 6-3-2, Process Operations, and make the requirements of 326 IAC 2-2, Prevention of Significant Deterioration, not applicable.

D.4.2 Particulate Matter less than 10 Microns
Pursuant to 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (Prevention of Significant Deterioration), the

following conditions shall apply:

(a) The metal throughput to the manual 16 x 20 line shall not exceed 1,163 tons per month.

(b) The baghouse controlling the Disa pouring/casting, Disa castings cooling, Disa sand handling operations, ~~manual casting~~ **rotary media drum** shakeout process, and the manual sand handling process shall operate at all times that the any of these processes is in operation.

(c) The PM_{10} emissions from the baghouse D shall not exceed 14.2 pounds per hour.

These limits are necessary to limit the total source wide PM_{10} emissions to 8.25 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) 326 IAC 2-7 (Part 70 Permits), not applicable.

D.4.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

Between January 1999 and June 1999, the Permittee shall perform PM and PM_{10} testing for baghouse D, which controls the Disa pouring/casting, Disa cooling, Disa sand handling, ~~manual castings~~ **rotary media drum** shakeout process and the manual sand handling process, 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 no less than once every 5 years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensible PM10. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance.

D.4.4 Pressure Readings

The Permittee shall take readings of the total static pressure drop across baghouse D controlling the Disa pouring/casting, Disa cooling, Disa sand handling, manual sand handling, pouring/casting, castings cooling, and ~~manual castings~~ **rotary media drum** shakeout operations, at least once per shift when these processes are in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained with the range of 3 to 9.5 inches of water determined during the most recent stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of this range for any one reading.

The instrument used for determining the pressure shall comply with condition C.10 Pressure Gauge Specifications, be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.4.5 Visible Emission Observations

Visible emissions notations of the baghouse D stack exhaust shall be performed at least once per shift when the Disa pouring, Disa cooling, Disa sand handling, manual sand handling, pouring/casting, castings cooling, and ~~manual castings~~ **rotary media drum** shakeout operations are in operation. 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% of the time the process is in operation, not counting startup or shutdown time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.4.7 Preventive Maintenance

A Preventive Maintenance Plan, in accordance with condition B.13 of this permit, is required for **these facilities and any control device** ~~this facility~~.

D.4.9 Record Keeping

That the Permittee shall maintain records of ~~wet scrubber~~ **baghouse** preventative maintenance, parametric monitoring data, visible emissions observations, and all corrective actions taken and the outcome from each. These records shall be made available upon request of the Office of Air Management (OAM) staff.

Conclusion

The operation of this one (1) rotary media drum for the shakeout of gray iron castings shall be subject to the conditions of the attached proposed Significant Revision to a FESOP No. 053-10956-00002 and FESOP No. F 053-10956-00002.

Appendix A: Emission Calculations
Metal Foundry

Company Name: **Atlas Foundry Company, Inc.**
Address City IN Zip: **Factory and Henderson Avenues, Marion, Indiana 46952**
Significant Revision: **053-10956**
Plt ID: **053-00002**
FESOP: **F 053-5716-00002**
Reviewer: **CarrieAnn Ortolani**
Date: **May 11, 1999**

Iron Process	Iron Throughput tons/hr	PM Control
Shakeout	14.00	99.0%
SCC-3-04-003-31		

	PM	PM10	Allowable PM 326 IAC 6-3-2 (lbs/hr)
Emission Factors lbs/ton produced	3.2	2.24	
Percentage of Emissions	100.00%	100.00%	
Potential Emissions lbs/hr	44.8	31.4	41.1
Potential Emissions tons/yr	196	137	
Potential Emissions after Controls lbs/hr	0.448	0.314	
Potential Emissions after Controls tons/yr	1.96	1.37	

* 326 IAC 6-3-2 based process weight of 34 tons/hr (sand mold + metal)

Hazardous Air Pollutant Emissions

From F053-5716-00002		**Modification**	
Emissions tons/yr	Capacity tons of iron/hr	Emissions tons/yr	Capacity tons of iron/hr
0.06718	4	0.23513	14

Modification Emissions = (Emissions from shakeout in F053-5716-00002/Capacity of shakeout in F053-5716-00002) * Capacity of Modification

HAPs emitted include chromium, cobalt, nickel, arsenic, cadmium, selenium, lead and manganese.