

**CONSTRUCTION PERMIT  
OFFICE OF AIR MANAGEMENT**

**Rochester Metal Products Corporation  
616 Indiana Avenue  
Rochester, Indiana 46975**

is hereby authorized to construct

- (a) Two (2) existing holding furnaces will be converted to two (2) electric induction furnaces, referred to as #1 and #2, with a combined maximum capacity of 10 tons of iron per hour, controlled by a new baghouse, referred to as DC-13;
- (b) one (1) existing natural gas-fired preheater, controlled by existing baghouse DC-9 (additional air flow will be added to the existing control equipment to accommodate additional melt capacity);
- (c) Isocure core making machines;
- (d) one (1) Disa sand system with a maximum capacity of 60 tons of sand per hour, controlled by baghouse DC-11;
- (e) one (1) Disa pouring/casting process with a maximum capacity of 10 tons of iron per hour;
- (f) one (1) casting shakeout process, controlled by baghouse DC-11;
- (g) one Disa shotblast unit, controlled by baghouse DC-12;
- (h) one grinding operation, controlled by baghouse DC-12;
- (i) one cooling process, controlled by baghouse DC-12.
- (j) The existing magnesium treatment process will now have an increase of 10 tons per hour of throughput, making the total capacity of the magnesium process 24 tons per hour. This process is controlled by baghouse DC-10.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP-049-8548-00002	
Issued by:  Paul Dubenetky, Branch Chief Office of Air Management	Issuance Date:

## Construction Conditions

### General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit 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

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit 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. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

### First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
  - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
  - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
  - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
  - (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1-7.1(Fees).

- (e) The Permittee has submitted their Part 70 permit on May 31, 1996 for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Phase Construction Time Frame

- 6. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the IDEM may revoke this permit to construct if the:

Construction of this new gray iron production line has not begun within eighteen (18) months from the date of the effective date of this permit or if during the construction of the new gray iron production line, work is suspended for a continuous period of one (1) year or more.

The OAM may extend such time upon satisfactory showing that an extension, formally requested by the Permittee is justified.

- 7. That when the facility is constructed and placed into operation the following operation conditions shall be met:

### **Operation Conditions**

General Operation Conditions

- 1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
- 2. That the permittee shall 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.

Preventive Maintenance Plan

- 3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
  - (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
  - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
  - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

Transfer of Permit

4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):

- (a) In the event that ownership of this gray and ductile iron foundry is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
- (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
- (c) The OAM shall reserve the right to issue a new permit.

Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM or other public official having jurisdiction.

Performance Testing

7. That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests shall be performed for PM10 emissions from the pouring/casting process within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The stack tests shall be performed to determined compliance with the emission factor (0.0472 pounds PM per ton of metal poured), which was used to determine the production limits required by this permit. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.

- (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.

- (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.
- (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.
- (d) Whenever the results of the stack test performed exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the right to use enforcement activities to resolve noncompliant stack tests.
- (e) Whenever the results of the stack test performed exceed the level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

Malfunction Condition

8. That pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

Annual Emission Reporting

- 9. That pursuant to 326 IAC 2-6 (Emission Reporting), the Permittee must annually submit an emission statement for the source. This statement must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual statement must be submitted to:

Indiana Department of Environmental Management  
Data Support Section, Office of Air Management  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31.

Opacity Limitations

- 10. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
  - (a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
  - (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.
- 11. That pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration), the following conditions shall apply:
  - (a) The amount of metal melted shall not exceed 5153.8 tons per month. The baghouse DC-13 shall operate at all times that the melting process is in operation and the PM emissions from the melting process shall not exceed 1.43 pounds per hour. The PM10 emissions from the melting process shall not exceed 1.43 pounds per hour.
  - (b) The baghouse DC-9 shall operate at all times that the scrap and charge handling process is in operation and the PM emissions from the scrap and charge handling process shall not exceed 0.53 pounds per hour. The PM10 emissions from the scrap and charge handling process shall not exceed 0.53 pounds per hour.
  - (c) The PM emissions from the pouring/casting process shall not exceed 0.47 pounds per hour and 0.0472 pounds per ton of metal. The PM10 emissions from the pouring/casting process shall not exceed 0.47 pounds per hour and 0.0472 pounds per ton of metal.

- (d) The baghouse DC-12 shall operate at all times that the castings cooling process, castings handling, grinding, and shotblasting process is in operation and the PM emissions from the baghouse controlling these processes shall not exceed 0.18 pounds per hour. The PM10 emissions from the baghouse controlling these processes shall not exceed 0.03 pounds per hour.
- (e) The amount of sand processed by the sand system shall not exceed 30,923 tons per month. The baghouse DC-11 shall operate at all times that the sand system and castings shakeout process are in operation, and the PM emissions from the baghouse controlling these processes shall not exceed 2.23 pounds per hour. The PM10 emissions from the baghouse controlling these processes shall not exceed 2.13 pounds per hour.
- (f) The amount of ductile iron treated shall not exceed 17,520 tons per month. The baghouse DC-10 shall operate at all times that the ductile iron treatment process is in operation and the PM emissions from the ductile iron treatment process shall not exceed 0.04 pounds per hour. The PM10 emissions from the ductile iron treatment process shall not exceed 0.04 pounds per hour.

These limits are necessary to limit the total particulate matter less than 10 microns (PM10) emissions to 1.2 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), not applicable. The PM limits in the above conditions will also satisfy the requirements of 326 IAC 6-3 (Process Operations).

Baghouse Operating Condition

- 12. That the appropriate baghouse shall be operated at all times when the scrap and charge handling, melting, cooling, castings shakeout, shotblasting, grinding, magnesium treatment, and sand handling processes are in operation.

- (a) The Permittee shall take readings of the total static pressure drop across the baghouses, at least once per shift. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the following ranges:

baghouse ID	pressure drop range (inches of water)
DC9	3 to 6
DC13	3 to 6
DC10	3 to 6
DC11	3 to 6
DC 12	3 to 6

The Preventive Maintenance Plans for these baghouses shall contain troubleshooting contingency and corrective actions for when the pressure readings are outside of the specified range for any one reading.

- (b) The instrument used for determining the pressure shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.
- (c) The gauge employed to take the pressure drop across the baghouses or any part of the facility shall have a scale such that the expected normal reading shall be no less than 20 percent of full scale and be accurate within  $\pm 2\%$  of full scale reading. The instrument shall be quality assured and maintained as specified by the vendor.
- (d) An inspection shall be performed each calendar quarter of the all the baghouses. Defective bags shall be replaced. A record shall be kept of the results of the inspection and the number of bags replaced.
- (e) In the event that a bag's failure has been observed:
  - (i) The affected compartments will be shut down immediately until the failed units have been replaced.
  - (ii) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

#### Visible Emission Notations

13. That visible emission notations of all exhaust to the atmosphere from baghouse DC9 controlling the scrap and charge handling process, baghouse DC11 controlling the castings shakeout process and the sand system, baghouse DC12 controlling the shotblasting, grinding, and cooling processes, baghouse DC10 controlling the magnesium treatment process, and baghouse DC13 controlling the melting process shall be performed once per working shift. A trained employee will record whether emissions are normal or abnormal.
- (a) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, 80% of the time, the process is in operation, not counting start up or shut down time.
  - (b) In the case of batch or discontinuous operation, readings shall be taken during that part of the operation specified in the facility's specific condition prescribing visible emissions.
  - (c) 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 and abnormal visible emissions for that specific process.
  - (d) The Preventive Maintenance Plan for this facility shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

Fugitive Dust Emissions

14. That pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

Reporting Requirements

15. That a log of information necessary to document compliance with operation permit condition no. 11 shall be maintained. These records shall be kept for at least the past 36 month period and made available upon request to the Office of Air Management (OAM).

- (a) A quarterly summary shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

within thirty (30) calendar days after the end of the quarter being reported in the format attached. These reports shall include the amount of metal and sand throughput each month.

- (b) Unless otherwise specified in this permit, any notice, report, or other submissions required by this permit shall be timely if:

(i) Postmarked on or before the date it is due; or

(ii) Delivered by any other method if it is received and stamped by IDEM, OAM on or before the date it is due.

- (c) All instances of deviations from any requirements of this permit must be clearly identified in such reports.

- (d) Any corrective actions taken as a result of an exceedance of a limit, an excursion from the parametric values, or a malfunction that may have caused excess emissions must be clearly identified in such reports.

- (e) The first report shall cover the period commencing the postmarked submission date of the Affidavit of Construction.

Open Burning

16. That the permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

Emergency Reduction Plans

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

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

within 180 calendar days from the issuance date of this permit.

(c) If the ERP is disapproved by IDEM, OAM the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAM shall supply such a plan.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

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

PM Limitations

18. That the PM emissions from the proposed modification shall be considered in compliance with 326 IAC 6-3 in the absence of stack test data, provided that the following conditions are met:

(a) the baghouses operate properly at all times with "normal" visible emissions as required in operation condition number 13 and at pressure drops stated in operation condition number 12; and

(b) there are no visible emissions from the building openings.

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

Technical Support Document (TSD) for New Construction and Operation

**Source Background and Description**

Source Name:	Rochester Metal Products Corporation
Source Location:	616 Indiana Avenue, Rochester, Indiana 46975
County:	Fulton
Construction Permit No.:	CP-049-8548-00002
SIC Code:	3321
Permit Reviewer:	Nisha Sizemore

The Office of Air Management (OAM) has reviewed an application from Rochester Metal Products Corporation relating to the construction and operation of a new gray iron production line, consisting of the following equipment:

- (a) Two (2) existing holding furnaces will be converted to two (2) electric induction furnaces, referred to as #1 and #2, with a combined maximum capacity of 10 tons of iron per hour, controlled by a new baghouse, referred to as DC-13;
- (b) one (1) existing natural gas-fired preheater, controlled by existing baghouse DC-9 (additional air flow will be added to the existing control equipment to accommodate additional melt capacity);
- (c) Isocure core making machines;
- (d) one (1) Disa sand system with a maximum capacity of 60 tons of sand per hour, controlled by baghouse DC-11;
- (e) one (1) Disa pouring/cooling process with a maximum capacity of 10 tons of iron per hour;
- (f) one (1) casting shakeout process, controlled by baghouse DC-11;
- (g) one Disa shotblast unit, controlled by baghouse DC-12;
- (h) one grinding operation, controlled by baghouse DC-12;
- (i) one cooling process, controlled by baghouse DC-12.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
SC-DC9	preheater 2	55	4	10,000 additional	175
SC-DC13	electric induction furnaces	50	3.33	30,000	175
SU-D231	isocure machines	50	3	to be determined	100
SC-DC-11	sand system and castings shakeout	50	4	39,900	110
SU-D333	pouring/cooling	50	3	26,000	110
SC-DC-12/INT	shotblast, casting handling, grinding			43,500	100

### Recommendation

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

Information, unless otherwise stated, 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 May 6, 1997, with additional information received on July 1, 1997.

### Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (7 pages).

### Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	1010.9	2280
Particulate Matter (PM10)	417.28	479
Sulfur Dioxide (SO <sub>2</sub> )	0.88	0.88
Volatile Organic Compounds (VOC)	22.86	22.9
Carbon Monoxide (CO)	0.00	0.00
Nitrogen Oxides (NO <sub>x</sub> )	0.44	0.44
Single Hazardous Air Pollutant (HAP)	1.99	1.99
Combination of HAPs	4.04	4.04

- (a) Allowable emissions are determined from the applicability of rule 326 IAC 6-3. See attached spreadsheets for detailed calculations.
- (b) The allowable emissions based on the rules cited are less than the potential emissions, therefore, the allowable emissions are used for the permitting determination.
- (c) Allowable emissions (as defined in the Indiana Rule) of PM and PM10 are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

### County Attainment Status

- (a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Fulton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Fulton County has been classified as attainment or unclassifiable for TSP and PM10. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

**Source Status**

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	2681.9
PM10	336
SO <sub>2</sub>	1.55
VOC	72
CO	4.2
NO <sub>x</sub>	18.2

- (a) This existing source is a major stationary source because it is in one of the 28 listed source categories and at least one regulated pollutant is emitted at a rate of 100 tons per year or more.
- (b) These emissions were based on the information contained in the Technical Support Document for the permit issued to the source on July 3, 1995.

**Proposed Modification**

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO <sub>2</sub> (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO <sub>x</sub> (ton/yr)
Proposed Modification	15.2	14.4	0.60	22.9	0.00	0.30
Contemporaneous Increases	0.00	0.00	0.00	0.00	0.00	0.00
Contemporaneous Decreases	0.00	0.00	0.00	0.00	0.00	0.00
Net Emissions	15.2	14.4	0.60	22.9	0.00	0.30
PSD or Offset Significant Level	25	15	40	40	100	40

- (a) This modification to an existing major stationary source is not major because the

emissions 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 PM10 emissions are limited to 14.4 tons per year, therefore, the PSD requirements do not apply. This limit is equivalent to a metal throughput of 5219.5 tons per month and a sand throughput of 31,317 tons per month.

### **Part 70 Permit Determination**

#### 326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-049-5999-00002) application on May 31, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

### **Federal Rule Applicability**

There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 63 applicable to this facility.

### **State Rule Applicability**

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

This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 100 tons per year of PM10. Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

#### 326 IAC 1-6-3 (Preventive Maintenance Plans)

Pursuant to this rule, the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:

- (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
- (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
- (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

#### 326 IAC 2-1-6 (Transfer of Permits)

Pursuant to this rule, the following conditions shall apply:

- (a) In the event that ownership of this gray and ductile iron foundry is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
- (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
- (c) The OAM shall reserve the right to issue a new permit.

326 IAC 2-1-9(a)(Revocation of Permits)

Pursuant to this rule, this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

326 IAC 2-1-3(l)

Pursuant to this rule, the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM or other public official having jurisdiction.

326 IAC 2-1-3 (Construction and Operating Permit Requirements)

Pursuant to this rule, compliance stack tests shall be performed for PM10 emissions from the pouring/casting process within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The stack tests shall be performed to determined compliance with the emission factor (0.0472 pounds PM per ton of metal poured), which was used to determine the production limits required by this permit. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.

- (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.

- (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.
- (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.
- (d) Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.
- (e) Whenever the results of the stack test performed exceed the level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

326 IAC 1-6-2 (Records; Notice of Malfunction)

Pursuant to this rule, the following conditions shall apply:

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

326 IAC 5-1-2 (Visible Emission Limitations)

Pursuant to this rule, except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:

- (a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
- (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

326 IAC 2-2 (Prevention of Significant Deterioration)

Pursuant to this rule, the following conditions shall apply:

- (a) The amount of metal melted shall not exceed 5219.5 tons per month. The baghouse DC-13 shall operate at all times that the melting process is in operation and the PM emissions from the melting process shall not exceed 1.43 pounds per hour. The PM10 emissions from the melting process shall not exceed 1.43 pounds per hour.
- (b) The baghouse DC-9 shall operate at all times that the scrap and charge handling process is in operation and the PM emissions from the scrap and charge handling process shall not exceed 0.53 pounds per hour. The PM10 emissions from the scrap and charge handling process shall not exceed 0.53 pounds per hour.
- (c) The PM emissions from the pouring/casting process shall not exceed 0.47 pounds per hour. The PM10 emissions from the pouring/casting process shall not exceed 0.47 pounds per hour.
- (d) The baghouse DC-12 shall operate at all times that the castings cooling process and shotblasting process is in operation and the PM emissions from the baghouse controlling these processes shall not exceed 0.18 pounds per hour. The PM10 emissions from the baghouse controlling these processes shall not exceed 0.03 pounds per hour.
- (e) The amount of sand processed by the sand system shall not exceed 31,317 tons per month. The baghouse DC-11 shall operate at all times that the sand system and castings shakeout process are in operation, and the PM emissions from the baghouse controlling these processes shall not exceed 2.23 pounds per hour. The PM10 emissions from the baghouse controlling these processes shall not exceed 2.13 pounds per hour.

These limits are necessary to limit the total particulate matter less than 10 microns (PM10) emissions to 1.2 tons per month. Compliance with this condition will render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration), not applicable. The PM limits in the above conditions will also satisfy the requirements of 326 IAC 6-3 (Process Operations).

326 IAC 6-4 (Fugitive Dust Emissions)

Pursuant to this rule, the permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

326 IAC 4-1 (Open Burning)

Pursuant to this rule, the permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

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

Pursuant to this rule, the following conditions shall apply:

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

within 180 calendar days from the issuance date of this permit.

- (c) If the ERP is disapproved by IDEM, OAM the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAM shall supply such a plan.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) Upon direct notification by IDEM, OAM that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate level. [326 IAC 1-5-3]

### **Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 189 hazardous air pollutants 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) Construction Permit Application Form Y.

- (a) This modification will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act.
- (b) See attached spreadsheets for detailed air toxic calculations.

### **Conclusion**

The construction of this new gray iron foundry production line will be subject to the conditions of the attached proposed **Construction Permit No. CP-049-8548-00002**.

# Indiana Department of Environmental Management Office of Air Management

## Addendum to the Technical Support Document for New Construction and Operation

Source Name: Rochester Metal Products Corporation  
Source Location: 616 Indiana Avenue, Rochester, Indiana 46975  
County: Fulton  
Construction Permit No.: CP-049-8548-00002  
SIC Code: 3321  
Permit Reviewer: Nisha Sizemore

On August 25, 1997, the Office of Air Management (OAM) had a notice published in The Rochester Sentinel, Rochester, Indiana, stating that Rochester Metal Products Corporation had applied for a construction permit to construct and operate a new gray iron production line with baghouses for emissions control. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAM has decided to make the following changes to the permit.

1. Operation condition number 7 part (d) has been reworded for clarity. It has been changed to the following:

Whenever the results of the stack test performed exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the right to use enforcement activities to resolve noncompliant stack tests.

2. In order to determine compliance with 326 IAC 6-3 (Process Operations) in the absence of specific stack test data, the following condition has been added as operation condition number 18:

### PM Limitations

18. That the PM emissions from the proposed modification shall be considered in compliance with 326 IAC 6-3 in the absence of stack test data, provided that the following conditions are met:
  - (a) the baghouses operate properly at all times with "normal" visible emissions as required in operation condition number 13 and at pressure drops stated in operation condition number 12; and
  - (b) there are no visible emissions from the building openings.

On September 19, 1997, Rochester Metal Products Corporation submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows:

#### Comment 1

For accuracy purposes, we would like the permit to state that we will be using both gray iron and magnesium treated ductile iron in the new line.

#### Response 1

The OAM was not aware that this new facility would be engaging in the process of magnesium treatment; therefore, the OAM did not estimate any emissions from magnesium treatment, and none were allotted in the proposed permit. Since this facility will be involved in the process of magnesium treatment, calculations have been completed for emission estimates from increasing the capacity of this process. The allotted amounts of PM and PM10 emissions from other facilities have been adjusted such that the total PM and PM10 emissions from the new process line will still be less than the PSD significance levels. (See attached spreadsheets for detailed calculations). Specifically, the following changes have been made to the permit in order to allow for the additional capacity to the magnesium treatment process:

- (1) The description on page one of the permit now describes the increase in throughput to the existing magnesium treatment facility.
- (2) Condition 11(f) has been added to limit the PM and PM10 emissions from the magnesium treatment process.
- (3) Condition number 12, which requires taking reading of the total static pressure drop across the baghouses, has been changed to include the baghouse controlling the magnesium treatment process.
- (4) Condition number 13, which requires visible emission observations from all the baghouses, has been changed to include the baghouse controlling the magnesium treatment process.
- (5) Condition number 15, which requires recordkeeping and reporting, has been changed to also include the requirement to record and report the amount of ductile iron treated each month.
- (6) A reporting form has been added for the ductile iron treatment process.

#### Comment 2

Regarding condition 11(a) of the proposed permit, the emission limit of 0.0472 pounds per ton of metal does not apply to the melting process. This emission factor applies only to the pouring and casting process.

#### Response 2

The OAM agrees. The requirement to limit PM emissions to 0.0472 pounds per ton of metal throughput has been moved from condition 11(a) to condition 11(c) since it applies only to the pouring and casting process.

#### Comment 3

Regarding condition 11(d) of the proposed permit, baghouse DC-12 also controls casting handling and grinding processes. For accuracy purposes, we request that the statement "castings cooling process and shotblasting process" be replaced with "cooling, castings handling, shotblasting, and grinding processes."

### Response 3

The requested change has been made to condition 11(d) in the final permit.

### Comment 4

Conditions 12 and 13 require pressure drop checks and visible emission observations on the baghouses. These conditions appear to be designed to meet the same objective of providing a system to ensure continuing compliance with the particulate emissions standards by ensuring proper operation of the baghouse. We believe that meeting both conditions is duplicative and therefore represents an unreasonable compliance cost. We also do not believe it is necessary to record total static pressure drop once per shift, especially given the attainment status of the area. We request that condition 13, requiring visible emission observations be removed from the permit and that pressure drop notation only be required once per day instead of once per shift.

### Response 4

The OAM does not consider pressure drop alone as an acceptable surrogate parameter. The most common bypass for path for a gas stream is a torn bag. When a bag tears the air flows through it (the path of least resistance) not only carrying the entrained particulate but "peeling" the cake off adjacent areas. Due to fan energy consumption considerations, bags often have very low pressure drops. Only a small portion of the overall system pressure drop is across the media. Thus a torn bag will result in only a momentary measurable drop in pressure, and it will stabilize at a value that is very little lower than that indicating normal installation. The change in pressure drop due to a broken bag will be lost in the error of differential pressure gauge. Also, because the event of baghouse failure can occur suddenly, the baghouse operational parameters should be monitored frequently. The OAM believes that once per operating shift is a reasonable frequency to record pressure drop and visible emissions from the baghouses.

### Comment 5

Considering the past performance of our existing pressure drop gauges, we believe that calibration every 6 months is excessive. We request that calibration frequency be changed to once every 12 months.

### Response 5

The OAM agrees that calibration of pressure gauges once per year would be sufficient.

### Comment 6

After further consideration we believe that a pressure drop range of 3 to 6 inches of water for baghouse DC9 would be more representative of our operation.

### Response 6

The OAM has made this change to condition number 12(a) of the final permit.

### Comment 7

The calculation for potential emissions from the sand system should be based on a maximum capacity of 60 tons per hour.

### Response 7

The OAM agrees. The potential and allowable emissions from the sand system have been recalculated. (See attached spreadsheets for detailed calculations).

Company Name: Rochester Metal Products Corporation  
 Address: 616 Indiana Avenue, Rochester, IN 46975  
 Permit Number: CP 049-8548-00002

	6-3 limit (lbs/hr)	6-3 limit (tons/yr)	Limited Emissions PM (tons/yr)	Truncated PM limits (lbs/hr)	Limited Emissions PM10 (tons/yr)	Truncated PM10 limits (lbs/hr)
<b>Process</b>						
Scrap and Charge Handling	19.20	84.10	1.65	0.53	1.65	0.53
melting	19.20	84.10	4.43	1.43	4.44	1.44
pouring/casting	19.20	84.10	1.46	0.47	1.46	0.47
castings cooling	19.20	84.10	0.04	0.01	0.04	0.01
castings shakeout	19.20	84.10	0.89	0.29	2.70	0.87
shotblasting	19.20	84.10	0.53	0.17	0.05	0.02
magnesium treatment	34.48	151.01	0.19	0.04	0.19	0.04
sand handling	46.29	202.75	6.01	1.94	3.91	1.26
<b>Total</b>		858.33	15.20		14.44	

sand handling  
 371,074 tons sand/yr / 60 tons/hr = 6185 hrs/yr

charging, melting, pouring, casting, cooling, shakeout, and shotblasting  
 61846 tons iron/yr / 10 tons/hr = 6185 hrs/yr

magnesium treatment  
 210240 tons iron/yr / 24 tons/hr = 8760 hrs/yr

Company: Rochester Metal Products Corporation  
 Location: 616 Indiana Avenue, Rochester, IN 46975  
 CP: 049-8548  
 Plt ID: 049-00002

Potential Emissions

	PM	PM10	SO2	NOx	VOC	lead
charge handling	26.28	15.77	0.00	0.00	0.00	0.00
melting	39.42	37.67	0.00	0.00	0.00	1.99
pouring/casting	2.07	2.07	0.88	0.44	0.00	0.00
cooling	61.32	61.32	0.00	0.00	0.00	0.00
shakeout	140.16	98.11	0.00	0.00	0.00	0.00
cleaning/finishing	744.60	74.46	0.00	0.00	0.00	0.00
coremaking	0.00	0.00	0.00	0.00	1.18	0.00
sand handling	1261.40	189.20	0.00	0.00	0.00	0.00
mold making	0.00	0.00	0.00	0.00	21.68	0.00
magnesium treatment	189	189	0.00	0.00	0.00	0.00
Totals	2464.25	667.60	0.88	0.44	22.86	1.99

Emissions After Controls

	PM	PM10	SO2	NOx	VOC	lead
charge handling	2.34	2.33	0.00	0.00	0.00	0.00
melting	6.27	6.29	0.00	0.00	0.00	0.33
pouring/casting	2.07	2.07	0.88	0.44	0.00	0.00
cooling	0.06	0.06	0.00	0.00	0.00	0.00
shakeout	1.26	3.83	0.00	0.00	0.00	0.00
cleaning/finishing	0.74	0.07	0.00	0.00	0.00	0.00
coremaking	0.00	0.00	0.00	0.00	1.18	0.00
sand handling	11.40	7.40	0.00	0.00	0.00	0.00
mold making	0.00	0.00	0.00	0.00	21.68	0.00
magnesium treatment	0.18	0.18	0.00	0.00	0.00	0.00
Totals	24.32	22.23	0.88	0.44	22.86	0.33

Sand throughput limit: 42.36 tons/hr = 371074 tons/yr = 30923 tons/month  
 Metal throughput limit: 7.06 tons/hr = 61846 tons/yr = 5153.8 tons/month  
 Ductile iron treatment limit: 24 tons/hr = 210240 tons/yr = 17520 tons/month

Limited Emissions

	PM	PM10	SO2	NOx	VOC	lead
charge handling	1.65	1.65	0.00	0.00	0.00	0.00
melting	4.43	4.44	0.00	0.00	0.00	0.25
pouring/casting	1.46	1.46	0.62	0.31	0.00	0.00
cooling	0.04	0.04	0.00	0.00	0.00	0.00
shakeout	0.89	2.70	0.00	0.00	0.00	0.00
cleaning/finishing	0.53	0.05	0.00	0.00	0.00	0.00
coremaking	0.00	0.00	0.00	0.00	1.18	0.00
sand handling	6.01	3.91	0.00	0.00	0.00	0.00
mold making	0.00	0.00	0.00	0.00	21.68	0.00
magnesium treatment	0.19	0.19	0.00	0.00	0.00	0.00
Totals	15.2	14.4	0.6	0.3	22.9	0.3
PSD significance levels	25	15	40	40	40	0.6

Appendix A: Emission Calculations

Company Name: Rochester Metal Products Corporation  
 Plant Location: 616 Indiana Avenue, Rochester, IN 46975  
 County: Fulton  
 Date Received: May 6, 1997  
 Permit Reviewer: Nisha Sizemore  
 CP #: 049-8548  
 Plt. ID #: 049-00002

**\*\* Process Emissions \*\***

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	
Scrap and Charge Handling,	10	PM	0.60	26.28	2.34	baghouse	91.10%
Preheating		PM-10	0.36	15.77	2.33	DC-9	85.20%
SCC# 3-04-003-15		SO2	0.00	0.00	0.00	none	
AP-42 Ch. 12.10		NOx	0.00	0.00	0.00	none	
		VOC	0.00	0.00	0.00	none	
		CO	0.00	0.00	0.00	none	
		Lead	0.00	0.00	0.00	none	

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 10 tons/hr

limit =  $4.1 \times (10^{0.67}) = 19.2 \text{ lb/hr (allowable)}$

with potential:

$2.3 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.5 \text{ lb/hr (will comply)}$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	
Melting - (2) Electric Induction furnaces	10	PM	0.90	39.42	6.27	baghouse	84.10%
		PM-10	0.86	37.67	6.29	DC-13	83.30%
		SO2	0.00	0.00	0.00	none	
EPA SCC# 3-04-003-03		NOx	0.00	0.00	0.00	none	
AP-42 Ch. 12.10		VOC	0.00	0.00	0.00	none	
		CO	0.00	0.00	0.00	none	
		Lead	0.05	1.99	0.33	none	

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

limit =  $4.1 \times (10^{0.67}) = 19.2 \text{ lb/hr (allowable)}$

with potential:

$3.1 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.7 \text{ lb/hr (will comply)}$

Rochester Metal Products Corporation  
 616 Indiana Avenue, Rochester, IN 46975

CP 049-8548  
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Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	(% eff.)
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Pouring/Casting	10.0	PM	0.0472	2.07	2.07
SCC# 3-04-003-18		PM-10	0.0472	2.07	2.07
and stack testing per Auburn Foundry		SO2	0.02	0.88	0.88
		NOx	0.01	0.44	0.44
VOC emissions are included in core and mold making process.		VOC	0.00	0.00	0.00
		CO	---	0.00	0.00
		Lead	---	0.00	0.00

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 10 tons/hr

limit =  $4.1 \times (10^{0.67}) = 19.2 \text{ lb/hr}$  (allowable)

with potential:

$2.1 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.5 \text{ lb/hr}$  (will comply)

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control (% eff.)
Mold Making	10	PM	0.00	0.00	0.00	none
		PM-10	0.00	0.00	0.00	none
VOC emission factor from AFS journal		SO2		0.00	0.00	none
		NOx		0.00	0.00	none
		VOC	0.4950	21.68	21.68	none
		CO	---	0.00	0.00	none
		Lead	---	0.00	0.00	none

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 10 tons/hr

limit =  $4.1 \times (10^{0.67}) = 19.2 \text{ lb/hr}$  (allowable)

with potential:

$0.0 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.0 \text{ lb/hr}$  (will comply)

Rochester Metal Products Corporation  
616 Indiana Avenue, Rochester, IN 46975

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Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control (% eff.)
Castings Shakeout	10.0	PM	3.20	140.16	1.26	baghouse 99.1%
		PM-10	2.24	98.11	3.83	DC-11 96.1%
SCC# 3-04-003-31		SO2	0.00	0.00	0.00	
AP-42 Ch. 12.10		NOx	0.00	0.00	0.00	
		VOC		0.00	0.00	

CO --- 0.00 0.00  
 Lead --- 0.00 0.00

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 10 tons/hr

limit =  $4.1 \times (10^{0.67}) = 19.2 \text{ lb/hr}$  (allowable)

with potential:

$1.3 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.3 \text{ lb/hr}$  (will comply)

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	(% eff.)
Castings Cleaning/Finishing	10.0	PM	17.00	744.60	0.74	baghouse	99.9%
SCC# 3-04-003-40		PM-10	1.70	74.46	0.07	DC-12	99.9%
AP-42 Ch. 12.10		SO2	0.00	0.00	0.00		
		NOx	0.00	0.00	0.00		
		VOC	0.00	0.00	0.00		
		CO	0.00	0.00	0.00		
		Lead	---	0.00	0.00		

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 10 tons/hr

limit =  $4.1 \times (10^{0.67}) = 19.2 \text{ lb/hr}$  (allowable)

with potential:

$0.7 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.2 \text{ lb/hr}$  (will comply)

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Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	(% eff.)
Core Making - (11) machines	10	PM	0.00	0.00	0.00	none	
		PM-10	0.00	0.00	0.00	none	
VOC emission factor from		SO2	0.00	0.00	0.00	none	
AFS journal		NOx	0.00	0.00	0.00	none	
		VOC	0.0270	1.18	1.18	none	
		CO	---	0.00	0.00	none	
		Lead	---	0.00	0.00	none	

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 10 tons/hr

$$\text{limit} = 4.1 \times (10^{0.67}) = 19.2 \text{ lb/hr (allowable)}$$

with potential:  
 $0.0 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.0 \text{ lb/hr (will comply)}$

Process	Rate (ton sand/hr)	Pollutant	Ef (lb/ton sand)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	
Sand Handling	60	PM	3.6	946.1	8.5	baghouse	99.10%
EPA SCC# 3-04-003-50		PM-10	0.54	141.9	5.5	DC-11	96.10%

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates greater than 30 tons per hour:

$$P = 60 \text{ tons/hr}$$

$$\text{limit} = 55 \times (60^{0.11}) - 40 = 46.3 \text{ lb/hr (allowable)}$$

with potential:  
 $8.5 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 1.9 \text{ lb/hr (will comply)}$

Rochester Metal Products Corporation  
 616 Indiana Avenue, Rochester, IN 46975

CP 049-8548  
 Plt ID 049-00002

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	(% eff.)
Cooling	10.0	PM	1.40	61.32	0.06	baghouse	99.9%
SCC# 3-04-003-25		PM-10	1.40	61.32	0.06	DC-12	99.9%
AP-42 Ch. 12.10		SO2	0.00	0.00	0.00		
		NOx	0.00	0.00	0.00		
		VOC	0.00	0.00	0.00		
		CO	0.00	0.00	0.00		
		Lead	---	0.00	0.00		

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

$$P = 10 \text{ tons/hr}$$

$$\text{limit} = 4.1 \times (10^{0.67}) = 19.2 \text{ lb/hr (allowable)}$$

with potential:

0.1 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.0 lb/hr (will comply)

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Type of control	
Magnesium Treatment	24	PM	1.80	189.22	0.19	baghouse	99.9%
SCC# 3-04-003-21		PM-10	1.80	189.22	0.19	DC-10	99.9%
AP-42 Ch 12.10		SO2	0.00	0.00	0.00	none	
		NOx	0.00	0.00	0.00	none	
Future potential		VOC	0.01	0.22	0.22	none	
		CO	0.00	0.00	0.00	none	
		Lead	0.04	1.86	0.00	baghouse	99.9%
	(tons iron/yr)						
Past Actual	9715	PM	1.80	8.74	0.01	baghouse	99.9%
		PM-10	1.80	8.74	0.01	DC-10	99.9%
		Lead	0.04	0.21	0.00	baghouse	99.9%
Future Potential minus Past Actual		PM		180.47	0.18	baghouse	99.9%
		PM-10		180.47	0.18	DC-10	99.9%
		Lead		1.66	0.00	baghouse	99.9%

*Allowable Emissions:*

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 24 tons/hr

limit =  $4.1 \times (24^{0.67}) = 34.5 \text{ lb/hr (allowable)}$

with potential:

0.2 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.0 lb/hr (will comply)