



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

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

TO: Interested Parties / Applicant  
DATE: March 9, 2007  
RE: Rochester Metal Products Corp. / 049-23878-00002  
FROM: Nisha Sizemore  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures  
FNPER.dot 03/23/06



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

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Indianapolis, Indiana 46204-2251  
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March 9, 2007

Mr. Andrew Murdock  
Rochester Metal Products Corp.  
P.O. Box 488  
Rochester, IN 46975

Re: 049-23878-00002  
Significant Source Modification to:  
Part 70 Operating Permit No.: T 049-5999-00002

Dear Mr. Murdock:

Rochester Metal Products Corp. was issued Part 70 Operating Permit T 049-5999-00002 on December 22, 2006 for a gray and ductile iron foundry located at 616 Indiana Avenue, Rochester, Indiana 46975. An application to modify the source was received on November 9, 2006. Pursuant to 326 IAC 2-7-10.5, the following emission unit is approved for construction at the source:

Two (2) natural gas-fired preheaters (No. 1 and No. 2) and a charge handling system, identified as EU-118, modified in 1996, No. 2 preheater approved for construction in 2007, controlled by baghouse DC-9, rated at 7.0 and 14.0 million British thermal units per hour for the No. 1 and No. 2 preheaters, respectively, exhausted to Stack DC-9, preheater capacities: 13.0 and 21.0 tons of metal, respectively, charge system capacity: 34.0 tons of metal per hour total.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

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

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

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

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 contact Mark L. Kramer, c/o OAQ, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251, at 631-691-3395, ext. 12 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Original signed by

Nisha Sizemore, Chief  
Permits Branch  
Office of Air Quality

MLK/MES

Attachments: TSD and Significant Source Modification

cc: File - Fulton County  
Fulton County Health Department  
Northern Regional Office  
Air Compliance Section Inspector - Richard Sekula  
Compliance Branch  
Administrative and Development Section  
Technical Support and Modeling - Michele Boner  
Don Christenson (Rochester Metal Products Corp.)



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## PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Rochester Metal Products Corp.  
616 Indiana Avenue  
Rochester, Indiana 46975**

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

**The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.**

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions.

Operation Permit No. T 049-5999-00002	
Issued by:  Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: December 22, 2006  Expiration Date: December 22, 2011
1 <sup>st</sup> Significant Source Modification No. 049-23878-00002	Conditions Affected: A.2, Sections D.3 and E.1
Issued by:Original signed by  Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: March 9, 2007  Expiration Date:March 9, 2012

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## SECTION A

## SOURCE SUMMARY

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

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

**Melt Operations**, consisting of the following:

- (a) Two (2) natural gas-fired preheaters (No. 1 and No. 2) and a charge handling system, identified as EU-118, modified in 1996, No. 2 preheater approved for construction in 2007, controlled by baghouse DC-9, rated at 7.0 and 14.0 million British thermal units per hour for No. 1 and No. 2 preheaters, respectively, exhausted to Stack DC-9, preheater capacities: 13.0 and 21.0 tons of metal, respectively, charge system capacity: 34.0 tons of metal per hour total.
- (b) Two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115, both constructed in 1996 and controlled by baghouse DC-9, exhausted to Stack DC-9, melt capacity: 10.5 tons of metal per hour each.

## SECTION D.2

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]: Facilities Constructed 1996 and Beyond

**Melt Operations**, consisting of the following:

- (a) Two (2) natural gas-fired preheaters (No. 1 and No. 2) and a charge handling system, identified as EU-118, modified in 1996, No. 2 preheater approved for construction in 2007, controlled by baghouse DC-9, rated at 7.0 and 14.0 million British thermal units per hour for No. 1 and No. 2 preheaters, respectively, exhausted to Stack DC-9, preheater capacities: 13.0 and 21.0 tons of metal, respectively, charge system capacity: 34.0 tons of metal per hour total.
- (b) Two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115, both constructed in 1996 and controlled by baghouse DC-9, exhausted to Stack DC-9, melt capacity: 10.5 tons of metal per hour each.

### SECTION D.3

### FACILITY OPERATION CONDITIONS

#### Facility Description [326 IAC 2-7-5(15)]: Melt Operations & Natural Gas Combustion

##### Melt Operations

- (a) Two (2) natural gas-fired preheaters (No. 1 and No. 2) and a charge handling system, identified as EU-118, modified in 1996, No. 2 preheater approved for construction in 2007, controlled by baghouse DC-9, rated at 7.0 and 14.0 million British thermal units per hour for No. 1 and No. 2 preheaters, respectively, exhausted to Stack DC-9, preheater capacities: 13.0 and 21.0 tons of metal, respectively, charge system capacity: 34.0 tons of metal per hour total.
- (b) Two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115, both constructed in 1996 and controlled by baghouse DC-9, exhausted to Stack DC-9, melt capacity: 10.5 tons of metal per hour each.
- (c) Three (3) Hunter electric induction furnaces, identified as EU-131, EU-132 and EU-133, controlled by baghouse DC-13, exhausted to Stack DC-13. These three (3) furnaces were modified in 1997, and EU-133 was also modified in 1999. Nominal capacities: 3.0, 3.0, and 7.0 tons of metal per hour, respectively, 13 tons of metal per hour total.

##### Insignificant Activities: Natural Gas Combustion

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour rated at a total of 32.13 million British thermal units per hour consisting of: [326 IAC 2-2]
  - (1) One (1) Hunter finishing make-up air unit, installed in 1982, rated at 4.85 million British thermal units per hour.
  - (2) One (1) Hunter molding make-up air unit, installed in 1989, rated at 5.41 million British thermal units per hour.
  - (3) Three (3) Disa make-up air units #1, #2 and #3, all installed in 1996, rated at 4.00 million British thermal units per hour each.
  - (4) One (1) Disa make-up air unit #4, installed in 1999, rated at 6.00 million British thermal units per hour.
  - (5) Six (6) shell core machines, identified as HS-16-RA, installed in 1988, rated at 1.18 million British thermal units per hour total.
  - (6) Two (2) shell core machines, identified as HS-CB-22-RA, installed in 1988, rated at 0.74 million British thermal units per hour total.
  - (7) Three (3) shell core machines, identified as HP-43-A, installed in 1988, rated at 0.45 million British thermal units per hour total.
  - (8) HVAC units, consisting of five (2) units in the pattern shop, main office (2) locker room and Disa lab, installed in 1992, 1995 (2), 1996 and 2000, rated at 0.20, 0.10, 0.06, 0.75 and 0.09 million British thermal units per hour, respectively.
  - (9) Eight (8) melt area ladle repair torches, rated at 0.30 million British thermal units per hour total.

(The information describing the process contained in this facility description box is descriptive information and

does not constitute enforceable conditions.)

### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

#### **D.3.1 Source-Wide Natural Gas Usage Limits [326 IAC 2-2]**

The total natural gas usage for the entire source shall not exceed 150.0 million cubic feet per twelve (12) consecutive month period with compliance determined at the end of each month.

- (a) CO emissions shall not exceed 84 pounds per million cubic feet of natural gas.

Compliance with the natural gas usage and CO emission limit renders the requirements of 326 IAC 2-2 (PSD) not applicable to the facilities listed in Section D.1.

- (b) VOC emissions shall not exceed 5.5 pounds per million cubic feet of natural gas.

Compliance with the natural gas usage and VOC emission limit renders the requirements of 326 IAC 2-2 (PSD) not applicable to the Disa 1 and Disa 2 processes for VOC.

#### **D.3.2 PM and PM<sub>10</sub> Minor PSD Limitations [326 IAC 2-2]**

- (a) The PM emission rate from the baghouse DC-9, controlling No. 1 and No. 2 preheaters and charge handling system, identified as EU-118, and the two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115, shall be less than 5.70 pounds per hour.

- (b) The PM<sub>10</sub> emission rate from the baghouse DC-9, controlling No. 1 and No. 2 preheaters and charge handling system, identified as EU-118, and the two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115, shall be less than 3.42 pounds per hour.

Compliance with these limits which includes the potential to emit of the natural gas combustion from the No. 2 preheater shall ensure that the potential to emit from the No. 2 preheater permitted under Significant Source Modification 049-23878-00002 is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM<sub>10</sub> per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

#### **D.3.3 Particulate [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the following emission units and the control devices shall not exceed the pounds per hour limitation calculated using the following equations:

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

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

or

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

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

Control Device - Stack # Emission Units	Process Weight (tons per hour)	Particulate Emission Rate (pounds per hour)
Baghouse DC-9 - DC-9		
EU-114	10.5	19.8
EU-115	10.5	19.8
EU-118 (2 Preheaters)	13.0	22.9
	21.0	31.5
		Total 94.0
Baghouse DC-13 - DC-13		
EU-131	3.0	8.56
EU-132	3.0	8.56
EU-133	7.0	15.1
		Total 32.2

**D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the control devices, baghouses DC-9 and DC-13.

**Compliance Determination Requirements**

**D.3.5 Particulate Control [326 IAC 2-7-6(6)]**

Pursuant to CP-049-4112-00002, issued on July 3, 1995, and CP 049-8548-00002, issued on October 17, 1997, and in order to comply with Conditions D.3.2 and D.3.3:

- (a) Baghouse DC-9 for particulate control shall be in operation and control emissions from the two (2) natural gas-fired preheaters and a charge handling system (EU-118) and the two (2) electric induction furnaces (EU-114 and EU-115) at all times that these processes are in operation.
- (b) Baghouse DC-13 for particulate control shall be in operation and control emissions from the three (3) Hunter electric induction furnaces (EU-131, EU-132 and EU-133) at all times that these processes are in operation.

**D.3.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

Within one hundred and eighty (180) days after start-up of No. 2 preheater approved for operation by SPM 049-24044-00002 in order to demonstrate compliance with Condition D.3.2, the Permittee shall perform PM and PM<sub>10</sub> testing for the two (2) natural-gas fired preheaters and a charge handling system, (EU-118) and the two (2) electric induction furnaces (EU-114 and EU-115) all controlled by baghouse DC-9, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>. Testing shall be conducted in accordance with Section C - Performance Testing.

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

**D.3.7 Visible Emissions Notations**

- (a) Visible emission notations of the two (2) preheaters and a charge handling system (EU-118) and the two (2) electric induction furnaces (EU-114 and 115) Stack exhaust DC-9 as well as the three (3) Hunter electric induction furnaces (EU-131, EU-132 and EU-133) Stack exhaust DC-13 shall be performed at least once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

#### D.3.8 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- (a) The Permittee shall record the pressure drop across baghouse DC-9 used in conjunction with the two (2) preheaters and a charge handling system (EU-118) and the two (2) electric induction furnaces (EU-114 and EU-115) at least once per day when these preheaters, charging handling and melting processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The Permittee shall record the pressure drop across baghouse DC-13 used in conjunction with the three (3) Hunter electric induction furnaces (EU-131, EU-132 and EU-133) Stack exhaust DC-13 at least once per day when these melting processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 0.5 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (c) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

#### D.3.9 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

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

### **D.3.10 Record Keeping Requirements**

- (a) To document compliance with Condition D.3.1, the Permittee shall maintain records of the natural gas usage for the entire source on a monthly basis.
- (b) To document compliance with Condition D.3.7, the Permittee shall maintain records of visible emission notations of Stack exhausts DC-9 and DC-13 once per day.
- (c) To document compliance with Condition D.3.8, the Permittee shall maintain records once per day of the pressure drop during normal operation.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### **D.3.11 Reporting Requirements**

A quarterly summary of the information to document compliance with Condition D.3.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## **SECTION E.1 FACILITY OPERATION CONDITIONS**

### **Facility Description [326 IAC 2-7-5(15)]: Iron and Steel Foundries - NESHAP Subpart EEEEE**

Existing: (Source constructed or reconstructed before December 23, 2002)

Under the Iron and Steel Foundries NESHAP (40 CFR 63, Subpart EEEEE), the one (1) natural gas-fired No. 1 preheater and a charge handling system, identified as EU-118, the two (2) electric induction furnaces, identified as EU-114 and EU-115, the three (3) Hunter electric induction furnaces, identified as EU-131, EU-132 and EU-133, the Hunter pouring and cooling process, identified as EU-313, the Disa 1 pouring and cooling process, identified as EU-323, and the Disa 2 pouring and cooling process, identified as EU-333, are considered an existing affected source.

Existing: (Source constructed before December 23, 2002)

Under the Iron and Steel Foundries NESHAP (40 CFR 63, Subpart EEEEE), the one (1) natural gas-fired No. 2 preheater and a charge handling system, identified as EU-118, is considered an existing affected source.

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

## Indiana Department of Environmental Management Office of Air Quality

### Addendum to the Technical Support Document for a Significant Source Modification to a Part 70 Operating Permit

<b>Source Name:</b>	<b>Rochester Metal Products Corp.</b>
<b>Source Location:</b>	<b>616 Indiana Avenue, Rochester, Indiana 46975</b>
<b>County:</b>	<b>Fulton</b>
<b>Operation Permit No.:</b>	<b>T 049-5999-00002</b>
<b>Significant Source Modification No.:</b>	<b>049-23878-00002</b>
<b>Significant Permit Modification No.:</b>	<b>049-24044-00002</b>
<b>SIC Code:</b>	<b>3321</b>
<b>Permit Reviewer:</b>	<b>Mark L. Kramer</b>

On February 2, 2007, the Office of Air Quality (OAQ) had a notice published in the Rochester Sentinel, Rochester, Indiana, stating that Rochester Metal Products Corp. had applied for a Significant Source Modification and a Significant Permit Modification to a Part 70 Operating Permit to construct and operate a new natural gas-fired preheater with a baghouse for particulate control. The notice also stated that OAQ proposed to issue a Significant Source Modification and a Significant Permit Modification and provided information on how the public could review the proposed Significant Source and Permit Modifications 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 these Significant Source and Permit Modifications to a Part 70 Operating Permit should be issued as proposed.

On February 5, 2007, Andrew Murdock, Environmental/Project Engineer of Rochester Metal Products submitted a comment on the proposed Significant Source and Permit Modifications to a Part 70 Operating Permit. The comment is as follows (the permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**):

#### **Comment 1:**

Rochester Metal Products Corp. (RMP) would like to provide a comment on our draft SSM Permit No. 049-23878-00002, and SPM Permit No. 049-24044-00002. RMP respectfully requests that the emission rate limits be changed from pounds per hour to pounds per ton of metal processed. This emission rate unit has been used in the past (049-13878-00002) to characterize emissions associated with the AJAX Furnaces (EU-131, EU-132, EU-133).

In order to standardize the emission rate units, RMP requests that the following section be incorporated:

#### **D.3.2 PM and PM<sub>10</sub> Minor PSD Limitations [326 IAC 2-2]**

The PM emission rate from the baghouse DC-9, controlling No.1 and No.2 preheaters and charge handling system, identified as EU-118, and the two (2) electric induction furnaces (4 and 5), identified as EU-1145 and EU-115, shall be less than 0.271 pounds per ton of metal.

The PM<sub>10</sub> emission rate from the baghouse DC-9, controlling No.1 and No.2 preheaters and charge handling system, identified as EU-118, and the two (2) electric induction furnaces (4 and 5), identified as EU-1145 and EU-115, shall be less than 0.163 pounds per ton of metal.

These emission rates were determined by dividing the maximum melt capacity into the original emission limit for PM and PM<sub>10</sub>.

### Response 1:

The baghouse, identified as DC-9, will control particulate matter emissions from the No. 1 and No. 2 preheaters and charge handling system, identified as EU-118, and from the two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115. Since IDEM, OAQ cannot be assured that the simultaneous charge rate to the preheaters and furnaces are always identical, IDEM OAQ has changed the emission limit used in the past from a pound per ton to a pound per hour emission limit. Regardless of the charge rate on either the preheaters or the furnaces, Rochester Metal Products and therefore, IDEM, OAQ, will be able to verify compliance with the PSD minor emission rate limits in pounds per hour. Therefore, Condition D.3.2 has not been changed as a result of this comment.

Upon further review, the OAQ has decided to make the following changes to the Significant Source and Permit Modifications to a Part 70 Operating Permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

### Change 1:

The responsible official has been deleted from Condition A.1 of the Significant Permit Modification to eliminate the need to change the permit every time the responsible official changes as follows:

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

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The Permittee owns and operates a stationary gray and ductile iron foundry.

~~Responsible Official: \_\_\_\_\_ Senior Vice President or General Manager~~

### Change 2:

Condition D.3.10(b) of the Significant Source Modification No. 049-23878-00002 has been deleted since Condition D.3.2 does not contain a scrap throughput limit.

#### D.3.10 Record Keeping Requirements

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- (a) To document compliance with Condition D.3.1, the Permittee shall maintain records of the natural gas usage for the entire source on a monthly basis.
- ~~(b) To document compliance with Condition D.3.2, the Permittee shall maintain records of the scrap metal throughput to the No. 2 preheater on a monthly basis.~~
- (be)** To document compliance with Condition D.3.7, the Permittee shall maintain records of visible emission notations of Stack exhausts DC-9 and DC-13 once per day.
- ~~(ce)~~ To document compliance with Condition D.3.8, the Permittee shall maintain records once per day of the pressure drop during normal operation.
- (de)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### Change 3:

Conditions D.3.9 and D.3.10 of the Significant Permit Modification have been correctly numbered in Section D.3 as Conditions D.3.10 and D.3.11, respectively as follows:

**D.3.10** ~~D.3.9~~ Record Keeping Requirements

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**D.3.11** ~~D.3.10~~ Reporting Requirements

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Indiana Department of Environmental Management  
Office of Air Quality

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

Source Description and Location

Source Name:	Rochester Metal Products Corp.
Source Location:	616 Indiana Avenue, Rochester, Indiana 46975
County:	Fulton
SIC Code:	3321
Operation Permit No.:	T 049-5999-00002
Operation Permit Issuance Date:	December 22, 2006
Significant Source Modification No.:	049-23878-00002
Significant Permit Modification No.:	049-24044-00002
Permit Reviewer:	Mark L. Kramer

Existing Approvals

The source was issued a Part 70 Operating Permit T 049-5999-00002 on December 22, 2006. The source has not received any approvals since the Part 70 Operating Permit was issued.

County Attainment Status

The source is located in Fulton County.

Pollutant	Status
PM <sub>10</sub>	Attainment
PM <sub>2.5</sub>	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. 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.
- (b) Fulton County has been classified as attainment for PM<sub>2.5</sub>. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM<sub>2.5</sub> emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM<sub>2.5</sub> emissions, it has directed states to regulate PM<sub>10</sub> emissions as a surrogate for PM<sub>2.5</sub> emissions.

- (c) Fulton County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 redesignating Delaware, Greene, Jackson, Vanderburgh, Vigo and Warrick Counties to attainment for the eight-hour ozone standard, redesignating Lake County to attainment for the sulfur dioxide standard, and revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions  
 Since this type of operation is in one of the twenty (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

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

Pollutant	Emissions (tons/year)
PM	176
PM <sub>10</sub>	185
SO <sub>2</sub>	1.70
VOC	172
CO	199
NO <sub>x</sub>	25.9

- (a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a nonattainment pollutant is emitted at a rate of one hundred (100) tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (b) These emissions are based upon the Technical Support Document for the Part 70 Operating Permit, T 049-5999-00002, issued on December 22, 2006.

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

HAPs	Potential To Emit (tons/year)
Single	Greater than 10
Combination	Greater than 25
TOTAL	Greater than 25

This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data and 2001 HAPs data.

Pollutant	Actual Emissions (tons/year)
PM	N/A
PM <sub>10</sub>	31
SO <sub>2</sub>	1
VOC	30
CO	-
NO <sub>x</sub>	0
Lead	2.22
Acrolein	0.003
Xylenes	0.068
Toluene	0.1
Phenol	0.3
Formaldehyde	0.005
Benzene	0.87
Naphthalene	0.023
Cyanide Compounds	0.17

Description of Modification

The Part 70 Operating Permit was issued on December 22, 2006. There is no pending enforcement action directly related to this proposed modification.

The Office of Air Quality (OAQ) has reviewed a significant source modification and a significant permit modification application, submitted by Rochester Metal Products Corp. on November 9, 2006, relating to the proposed construction and operation of a new natural gas-fired scrap preheater. The existing No. 2 natural gas-fired preheater will be removed from service. The following is a list of the newly proposed emission units and existing pollution control device:

Two (2) natural gas-fired preheaters (No. 1 and No. 2) and a charge handling system, identified as EU-118, modified in 1996, No. 2 preheater approved for construction in 2007, controlled by baghouse DC-9, rated at 7.0 and 14.0 million British thermal units per hour for the No. 1 and No. 2 preheaters, respectively, exhausted to Stack DC-9, preheater capacities: 13.0 and 21.0 tons of metal, respectively, charge system capacity: 34.0 tons of metal per hour total.

Enforcement Issues

There are no pending enforcement actions.

Emission Calculations

See page 1 of 1 of Appendix A of this document for detailed emission calculations.

Permit Level Determination – Part 70

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

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

Pollutant	Potential To Emit (tons/year)
PM	55.3
PM <sub>10</sub>	33.6
SO <sub>2</sub>	0.037
VOC	0.337
CO	5.15
NO <sub>x</sub>	6.13

HAPs	Potential To Emit (tons/year)
Benzene	0.00013
Dichlorobenzene	0.00007
Formaldehyde	0.00460
Hexane	0.11038
Toluene	0.00021
Lead Compounds	0.00003
Cadmium Compounds	0.00007
Chromium Compounds	0.00009
Manganese Compounds	0.00002
Nickel Compounds	0.00013

TOTAL	0.116
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This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit PM and PM<sub>10</sub> from the proposed No. 2 preheater is equal to or greater than twenty-five (25) tons per year.

Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d). The permit modification requires the determination of an emission limit. Therefore pursuant to 326 IAC 2-7-12(b)(1)(C)(i), the permit modification can not be issued as a minor permit modification.

Permit Level Determination – PSD or Emission Offset
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The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/Emission Unit	Potential to Emit (tons/year)						
	PM	PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Pb
No. 2 Preheater	Less than 25	Less than 15	0.037	0.337	5.15	6.13	0.00003
Significant Level	25	15	25	40	100	40	0.6

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, the PSD requirements do not apply.

Since this source is considered a major PSD source and the unrestricted potential to emit of this modification is greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM<sub>10</sub> per year, this source has elected to limit the potential to emit of this modification as follows:

- (a) The PM emission rate from the baghouse DC-9, controlling No. 1 and No. 2 preheaters and charge handling system identified as EU-118 and the two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115, shall be less than 5.70 pounds per hour.
- (b) The PM<sub>10</sub> emission rate from the baghouse DC-9, controlling No. 1 and No. 2 preheaters and charge handling system identified as EU-118 and the two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115, shall be less than 3.42 pounds per hour.

Compliance with these limits which includes the potential to emit of the natural gas combustion from the No. 2 preheater will ensure that the PM and PM<sub>10</sub> potential to emit from this modification does not exceed twenty-five (25) tons of PM per year and fifteen (15) tons of PM<sub>10</sub> per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Note the Part 70 Operating Permit issued December 22, 2006 already incorporated a source-wide natural gas usage limit of 150.0 million cubic feet per twelve (12) consecutive month period with compliance determined at the end of each month. In addition, CO emissions shall not exceed 84 pounds per million cubic feet of natural gas and VOC emissions shall not exceed 5.5 pounds per

million cubic feet of natural gas.

#### Federal Rule Applicability Determination

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

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) The No. 2 preheater is subject to the National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries [40 CFR Part 63, Subpart EEEEE], which is incorporated by reference as 326 IAC 20-92 and will be considered part of the existing affected source since the proposed No. 2 preheater does not constitute a reconstructed source and it is not a new affected source under the provisions of Subpart EEEEE.

The preheater is subject to the National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries [40 CFR Part 63.7680, Subpart EEEEE] because the source is a major source of HAPs at an iron and steel foundry.

The applicable requirements under this NESHAP have already been incorporated into the Part 70 Operating Permit, T 049-5999-00002 issued on December 22, 2006, as Section E.1.

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

Pursuant to 40 CFR 64.2(b)(1)(i), the No. 2 preheater is exempt from the requirements of 40 CFR Part 64, Compliance Assurance Monitoring (CAM), because it is subject to NESHAP, Subpart EEEEE, which is a NESHAP that was proposed after November 15, 1990, under Section 112 of the Clean Air Act.

#### State Rule Applicability Determination

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

326 IAC 2-2 (PSD)

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

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

The source has submitted an Emergency Reduction Plan (ERP) on August 8, 1996. The ERP has been verified to fulfill the requirements of 326 IAC 1-5-2 (Emergency Reduction Plans).

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

The operation of No. 2 preheater will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Furthermore, pursuant to 326 IAC 2-4.1-1(b)(2), because this No. 2 preheater is specifically regulated by NESHAP 40 CFR 63, Subpart EEEEE, which was issued pursuant to Section 112(d) of the CAA, the No. 2 preheater is exempt from the requirements of 326 IAC 2-4.1.

326 IAC 2-6 (Emission Reporting)

Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3, an emission statement must be submitted triennially. The first report is due no later than July 1, 2007, and subsequent reports are due every three (3) years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

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

Since the processes that exhaust to the common stack (DC-9) are independent, the allowable PM emission rates can be summed for the individual emission units (EU-118, EU-114 and EU-115). IDEM, OAQ has determined that these processes that exhausted to a common baghouse DC-9 are independent.

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the following emission units and the control devices shall not exceed the pounds per hour limitation calculated using the following equations:

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

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

Control Device - Stack # Emission Units	Process Weight (tons per hour)	Particulate Emission Rate (pounds per hour)
Baghouse DC-9 - DC-9		
EU-114	10.5	19.8
EU-115	10.5	19.8
EU-118 (2 Preheaters)	13.0	22.9
	21.0	31.5
		Total 94.0

Compliance Determination and Monitoring Requirements

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

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

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

1. The No. 2 preheater has applicable compliance determination conditions as specified below:

Baghouse DC-9 for particulate control shall be in operation and control emissions from the two (2) natural gas-fired preheaters and a charge handling system (EU-118) and the two (2) electric induction furnaces (EU-114 and EU-115) at all times that these processes are in operation.

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
EU-118	Baghouse DC-9	180 days after start-up of Proposed No. 2 Preheater	PM and PM <sub>10</sub>	1 every 5 years	PM less than 5.70 lbs/hr PM <sub>10</sub> less than 3.42 lbs/hr

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

2. The No. 2 preheater has applicable compliance monitoring conditions as specified below:

- (a) Visible emission notations of the two (2) preheaters and a charge handling system (EU-118) and the two (2) electric induction furnaces (EU-114 and 115) Stack exhaust DC-9 shall be performed at least once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

- (b) The Permittee shall record the pressure drop across baghouse DC-9 used in conjunction with the two (2) preheaters and a charge handling system (EU-118) and the two (2) electric induction furnaces (EU-114 and EU-115) at least once per day when these preheaters, charging handling and melting processes are in operation.

When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

- (c) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

These monitoring conditions are necessary because the baghouse for the No. 2 preheater must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), 326 IAC 2-2 and 326 IAC 2-7 (Part 70)).

3. The No. 2 preheater has applicable record keeping and reporting conditions as specified below:
- (a) The Permittee shall maintain records of the amount of scrap metal throughput to the No. 2 preheater on a monthly basis.
  - (b) The Permittee shall maintain records of the natural gas usage for the entire source on a monthly basis.
  - (c) The Permittee shall maintain records of visible emission notations of Stack exhaust DC-9 once per day.
  - (d) The Permittee shall maintain records once per day of the pressure drop during normal operation.
  - (e) The Permittee shall calculate and maintain a record of the annual emissions from the No. 2 preheater operations in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the installation of the No. 2 preheater.
  - (f) A quarterly summary of the information to document compliance with paragraphs (a) and (b) shall be submitted within thirty (30) days after the end of the quarter being

reported.

Proposed Changes
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The changes listed below have been made to Part 70 Operating Permit No. T 049-5999-00002, issued on December 22, 2006. Deleted language appears as ~~strike~~throughs and new language appears in bold:

1. The proposed No. 2 preheater has been incorporated into the equipment list in Condition A.2 and in Sections D.2, D.3 and E.1 as follows:

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

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

Melt Operations, consisting of the following:

- (a) Two (2) natural gas-fired preheaters (**No. 1 and No. 2**) and a charge handling system, identified as EU-118, modified in 1996, **No. 2 preheater approved for construction in 2007**, controlled by baghouse DC-9, rated at 7.0 and **14.0** ~~44.5~~ million British thermal units per hour for **No. 1 and No. 2** preheaters ~~1 and 2~~, respectively, exhausted to Stack DC-9, preheater capacities: 13.0 and 21.0 tons of metal, respectively, charge system capacity: 34.0 tons of metal per hour total.

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Facilities Constructed 1996 and Beyond
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Melt Operations, consisting of the following:

- |   |
|---|
| <ol style="list-style-type: none"><li>(a) Two (2) natural gas-fired preheaters (<b>No. 1 and No. 2</b>) and a charge handling system, identified as EU-118, modified in 1996, <b>No. 2 preheater approved for construction in 2007</b>, controlled by baghouse DC-9, rated at 7.0 and <b>14.0</b> <del>44.5</del> million British thermal units per hour for <b>No. 1 and No. 2</b> preheaters <del>1 and 2</del>, respectively, exhausted to Stack DC-9, preheater capacities: 13.0 and 21.0 tons of metal, respectively, charge system capacity: 34.0 tons of metal per hour total.</li></ol> |
|---|

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Melt Operations & Natural Gas Combustion
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Melt Operations

- |   |
|---|
| <ol style="list-style-type: none"><li>(a) Two (2) natural gas-fired preheaters (<b>No. 1 and No. 2</b>) and a charge handling system, identified as EU-118, modified in 1996, <b>No. 2 preheater approved for construction in 2007</b>, controlled by baghouse DC-9, rated at 7.0 and <b>14.0</b> <del>44.5</del> million British thermal units per hour for <b>No. 1 and No. 2</b> preheaters <del>1 and 2</del>, respectively, exhausted to Stack DC-9, preheater capacities: 13.0 and 21.0 tons of metal, respectively, charge system capacity: 34.0 tons of metal per hour total.</li></ol> |
|---|

## SECTION E.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Iron and Steel Foundries - NESHAP Subpart EEEEE

Existing: (**Source constructed** ~~Constructed~~ or reconstructed before December 23, 2002)

Under the Iron and Steel Foundries NESHAP (40 CFR 63, Subpart EEEEE), the **one (1)** ~~two (2)~~ natural gas-fired **No. 1 preheater** ~~preheaters~~ and a charge handling system, identified as EU-118, the two (2) electric induction furnaces, identified as EU-114 and EU-115, the three (3) Hunter electric induction furnaces, identified as EU-131, EU-132 and EU-133, the Hunter pouring and cooling process, identified as EU-313, the Disa 1 pouring and cooling process, identified as EU-323, and the Disa 2 pouring and cooling process, identified as EU-333, are considered an existing affected source.

Existing: (**Source constructed before December 23, 2002**)

**Under the Iron and Steel Foundries NESHAP (40 CFR 63, Subpart EEEEE), the one (1) natural gas-fired No. 2 preheater and a charge handling system, identified as EU-118, is considered an existing affected source.**

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

2. The addition of the proposed No. 2 preheater does not necessitate any changes to the conditions in Section D.2 or the applicable portions of the NESHAP Subpart EEEEE in Section E.1. However, the addition of the proposed No. 2 preheater does change Section D.3 as follows:

Emission Limitations and Standards [326 IAC 2-7-5(1)]

### D.3.1 Source-Wide Natural Gas Usage Limits [326 IAC 2-2]

The total natural gas usage for the entire source shall not exceed 150.0 million cubic feet per twelve (12) consecutive month period with compliance determined at the end of each month.

- (a) CO emissions shall not exceed 84 pounds per million cubic feet of natural gas.

Compliance with the natural gas usage and CO emission limit renders the requirements of 326 IAC 2-2 (PSD) not applicable to the facilities listed in Section D.1.

- (b) VOC emissions shall not exceed 5.5 pounds per million cubic feet of natural gas.

Compliance with the natural gas usage and VOC emission limit renders the requirements of 326 IAC 2-2 (PSD) not applicable to the Disa 1 and Disa 2 processes for VOC.

### D.3.2 PM and PM<sub>10</sub> Minor PSD Limitations [326 IAC 2-2]

- (a) **The PM emission rate from the baghouse DC-9, controlling No. 1 and No. 2 preheaters and charge handling system, identified as EU-118, and the two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115, shall be less than 5.70 pounds per hour.**

- (b) **The PM<sub>10</sub> emission rate from the baghouse DC-9, controlling No. 1 and No. 2 preheaters and charge handling system, identified as EU-118, and the two (2) electric induction furnaces (4 and 5), identified as EU-114 and EU-115, shall be less than 3.42 pounds per hour.**

**Compliance with these limits which includes the potential to emit of the natural gas combustion from the No. 2 preheater shall ensure that the potential to emit from the No. 2 preheater permitted under Significant Source Modification 049-23878-00002 is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM<sub>10</sub> per year and therefore will render the requirements of 326 IAC 2-2 not applicable.**

**D.3.3 D.3.2 Particulate [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the following emission units and the control devices shall not exceed the pounds per hour limitation calculated using the following equations:

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

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

or

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

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

Control Device - Stack # Emission Units	Process Weight (tons per hour)	Particulate Emission Rate (pounds per hour)
Baghouse DC-9 - DC-9		
EU-114	10.5	19.8
EU-115	10.5	19.8
EU-118 (2 Preheaters)	13.0	22.9
	21.0	31.5
		Total 94.0
Baghouse DC-13 - DC-13		
EU-131	3.0	8.56
EU-132	3.0	8.56
EU-133	7.0	15.1
		Total 32.2

**D.3.4 D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the control devices, baghouses DC-9 and DC-13.

**Compliance Determination Requirements**

**D.3.5 D.3.4 Particulate Control [326 IAC 2-7-6(6)]**

Pursuant to CP-049-4112-00002, issued on July 3, 1995, and CP 049-8548-00002, issued on October 17, 1997, and in order to comply with **Conditions Condition D.3.2 and D.3.3.**

- (a) Baghouse DC-9 for particulate control shall be in operation and control emissions from the two (2) natural gas-fired preheaters and a charge handling system (EU-118) and the two (2) electric induction furnaces (EU-114 and EU-115) at all times that these processes are in operation.

- (b) Baghouse DC-13 for particulate control shall be in operation and control emissions from the three (3) Hunter electric induction furnaces (EU-131, EU-132 and EU-133) at all times that these processes are in operation.

**D.3.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

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**Within one hundred and eighty (180) days after start-up of No. 2 preheater approved for operation by SPM 049-24044-00002 in order to demonstrate compliance with Condition D.3.2, the Permittee shall perform PM and PM<sub>10</sub> testing for the two (2) natural-gas fired preheaters and a charge handling system, (EU-118) and the two (2) electric induction furnaces (EU-114 and EU-115) all controlled by baghouse DC-9, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>. Testing shall be conducted in accordance with Section C - Performance Testing.**

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

**D.3.7 ~~D.3.5~~ Visible Emissions Notations**

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- (a) Visible emission notations of the two (2) preheaters and a charge handling system (EU-118) and the two (2) electric induction furnaces (EU-114 and 115) Stack exhaust DC-9 as well as the three (3) Hunter electric induction furnaces (EU-131, EU-132 and EU-133) Stack exhaust DC-13 shall be performed at least once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

**D.3.8 ~~D.3.6~~ Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

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- (a) The Permittee shall record the pressure drop across baghouse DC-9 used in conjunction with the two (2) preheaters and a charge handling system (EU-118) and the two (2) electric induction furnaces (EU-114 and EU-115) at least once per day when these preheaters, charging handling and melting processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The Permittee shall record the pressure drop across baghouse DC-13 used in conjunction with the three (3) Hunter electric induction furnaces (EU-131, EU-132 and EU-133) Stack

exhaust DC-13 at least once per day when these melting processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 0.5 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

- (c) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

**D.3.9** ~~D.3.7~~ Broken or Failed Bag Detection

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- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

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

**D.3.10** ~~D.3.8~~ Record Keeping Requirements

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- (a) To document compliance with Condition D.3.1, the Permittee shall maintain records of the natural gas usage for the entire source on a monthly basis.
- (b) To document compliance with Condition **D.3.7** ~~D.3.5~~, the Permittee shall maintain records of visible emission notations of Stack exhausts DC-9 and DC-13 once per day.
- (c) To document compliance with Condition **D.3.8** ~~D.3.6~~, the Permittee shall maintain records once per day of the pressure drop during normal operation.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**D.3.11** ~~D.3.9~~ Reporting Requirements

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A quarterly summary of the information to document compliance with Condition D.3.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Conclusion and Recommendation

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 049-23878-00002 and Significant Permit Modification No. 049-24044-00002. The staff recommends to the Commissioner that this Part 70 Significant Source Modification and Significant Permit Modification be approved.

**Appendix A: Emission Calculations**  
**Gray and Ductile Iron Foundry**

**Company Name:** Rochester Metal Products Corp.  
**Address City IN Zip:** 616 Indiana Avenue, Rochester, IN 46975  
**Significant Source Modification** SSM 049-23878-00002  
**Significant Permit Modification** SPM 049-24044-00002  
**Pit ID:** 049-00002  
**Reviewer:** Mark L. Kramer  
**Application Date:** November 9, 2006

<b>No. 2 Preheater &amp; Charge Handling System (part of EU-118)</b>	Throughput tons/hr	21.00	PM Control	96.79%
			PM-10 Control	96.11%

SCC 03-04-003-15

Capacity: 21 tons of metal per hour

	PM	PM10
Emission Factors lbs/ton produced	0.600	0.360
Percentage of Emissions	100%	100%
Potential Emissions lbs/hr	12.6	7.56
<b>Potential Emissions tons/yr</b>	<b>55.2</b>	<b>33.1</b>
Potential Emissions after Controls lbs/hr	0.404	0.294
Potential Emissions after Controls tons/yr	1.77	1.29
<b>Potential Emissions from Natural Gas Combustion tons/yr</b> See Below	<b>0.117</b>	<b>0.466</b>
<b>Total Potential Emissions after Controls &amp; Limits tons/yr for DC 9</b>	<b>Less than 25</b>	<b>Less than 15</b>

Emission Factors for PM & PM-10 AIRS SCC 03-04-003-15

<b>No. 2 Natural Gas-Fired Preheater rated at 14.0 mmBtu/hr</b>	Potential Throughput
Heat Input Capacity	MMCF/yr
MMBtu/hr	
14.000	122.64

Note: Entire source-wide natural gas usage is limited to 150.0 MMCF/year

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100	5.50	84.0
				**see below		
<b>Potential Emission in tons/yr</b>	<b>0.117</b>	<b>0.466</b>	<b>0.037</b>	<b>6.132</b>	<b>0.337</b>	<b>5.15</b>

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

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

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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

(SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

**HAPs - Organics**

Emission Factor in lb/MMcf	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	0.002	0.001	0.075	1.80	0.003
<b>Potential Emission in tons/yr</b>	0.00013	0.00007	0.00460	0.11038	0.00021

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead	Cadmium	Chromium	Manganese	Nickel	Total HAPs
	0.0005	0.001	0.001	0.0004	0.002	
<b>Potential Emission in tons/yr</b>	0.00003	0.00007	0.00009	0.00002	0.00013	0.116

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.