



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL  
MAHONING COUNTY**

**CERTIFIED MAIL**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 02-20393**

**Fac ID: 0250110625**

**DATE: 5/5/2005**

V and M Star  
Jeff Bindas  
2669 Martin Luther King Jr Blvd  
Youngstown, OH 44510

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section  
Division of Air Pollution Control

cc: USEPA

NEDO



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**Permit To Install  
Terms and Conditions**

**Issue Date: 5/5/2005  
Effective Date: 5/5/2005**

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**FINAL PERMIT TO INSTALL 02-20393**

Application Number: 02-20393  
Facility ID: 0250110625  
Permit Fee: **\$2500**  
Name of Facility: V and M Star  
Person to Contact: Jeff Bindas  
Address: 2669 Martin Luther King Jr Blvd  
Youngstown, OH 44510

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**2669 Martin Luther King Jr Blvd  
Youngstown, Ohio**

Description of proposed emissions unit(s):  
**Chapter 31 modification to several emissions units (F003, P905, P906, and P907) to increase annual production.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

**Part I - GENERAL TERMS AND CONDITIONS****A. State and Federally Enforceable Permit To Install General Terms and Conditions****1. Monitoring and Related Recordkeeping and Reporting Requirements**

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - i. The date, place (as defined in the permit), and time of sampling or measurements.
  - ii. The date(s) analyses were performed.
  - iii. The company or entity that performed the analyses.
  - iv. The analytical techniques or methods used.
  - v. The results of such analyses.
  - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
  - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous

calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

## 2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

## 3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

## 4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

## 5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition

declared invalid.

## 6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. 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 federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

## 7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

## 8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

## 9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
  - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
  - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

**10. Permit To Operate Application**

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

**11. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

**12. Air Pollution Nuisance**

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

**B. State Only Enforceable Permit To Install General Terms and Conditions****1. Compliance Requirements**

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

**2. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**3. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

**4. Termination of Permit To Install**

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete

within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

#### **5. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

#### **6. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

#### **7. Applicability**

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

#### **8. Construction Compliance Certification**

V and M Star

PTI Application: 02-20393

Issued: 5/5/2005

Facility ID: 0250110625

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) that the facility has been constructed in accordance with the Permit To Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**9. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)**

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**C. Permit To Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit: F003, P905, P906, and P907.

SUMMARY (for informational purposes only)  
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	81.14
PM10	61.87
NOx	159.85
CO	1420.5
SO2	88.8
VOC	63.9
Pb	1.35

11

**V and M Star**

**PTI Application: 02-20393**

**Issued: 5/5/2005**

**Facility ID: 0250110625**

**V and M Star**

**PTI Application: 02 20202**

**Issued**

**Facility ID: 0250110625**

Emissions Unit ID: F003

**Part II - FACILITY SPECIFIC TERMS AND CONDITIONS**

**A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions**

None

**B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions**

None

### Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

#### A. State and Federally Enforceable Section

##### I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F003 - Continuous caster (linked emissions unit with new steel production limitation of 710,000 tons per year)	OAC rule 3745-31-05	PE/PM10: 0.39 pound per hour  See A.I.2.b.  NOx: 5.50 pounds per hour (0.05 pound per ton of steel)
The requirement of this Permit to Install supercedes the requirements of PTI No. 02-12439 issued on May1, 2003.		The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(B) and OAC rule 3745-17-08(B).
	OAC rule 3745-31-05 (C)	PE/PM10: 1.24 tons per rolling 12-month period NOx: 17.75 tons per rolling 12-month period
	OAC rule 3745-17-07(B)(1)	See A.I.2.a.
	OAC rule 3745-17-08(B)	See A.I.2.b.

##### 2. Additional Terms and Conditions

- 2.a Visible particulate emissions of fugitive dust shall not exceed twenty percent opacity as a three-minute average. For purposes of verifying compliance with this requirement, the

visible particulate emissions shall be observed at any non-stack egress point from the building housing this emissions unit. These egress points shall include, but not be limited to, doorways, windows, and roof monitors.

- 2.b** The permittee shall minimize or eliminate visible fugitive particulate emissions through the employment of reasonably available control measures (RACM).

At a minimum, the permittee's employment of RACM shall include: the use of a ladle cover/mechanical shrouding between the ladle and the tundish and between the tundish and the mold.

## **II. Operational Restrictions**

1. The permittee shall restrict the annual liquid steel production to 710,000 tons per year, based upon a rolling, 12-month summation of the production rates.
2. To ensure enforceability during the first twelve months of operation following start-up, the permittee shall not exceed the following liquid steel production limits.

Month	Total Allowable liquid Steel Production
1	59,167 tons
1-2	118,333 tons
1-3	177,500 tons
1-4	236,667 tons
1-5	295,834 tons
1-6	355,001 tons
1-7	414,168 tons
1-8	473,335 tons
1-9	532,502 tons
1-10	591,669 tons
1-11	650,836 tons
1-12	710,000 tons

After the first twelve months of operation following start-up, the permittee shall restrict the liquid steel production to 710,000 tons per year, based upon a rolling 12-month summation.

## **III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain records of the following information:

- a. the liquid steel production rate for each month; and
- b. beginning after the first twelve calendar months of operation following start-up, the rolling, 12-month summation of the liquid steel production rates.

Also, during the first twelve calendar months of operation following start-up, the permittee shall record the cumulative liquid steel production rate for each calendar month.

2. The permittee shall perform monthly inspections on the mechanical shrouding between the ladle and the tundish and between the tundish and the mold to ensure that they are in good operating condition.
3. The permittee shall perform daily checks when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from any egress point (e.g., windows, doors, roof monitors, etc.) associated with this emissions unit. The presence or absence of any visible fugitive particulate emissions shall be noted in an operations log. If visible fugitive particulate emissions are observed, the permittee shall also note the following in the operations log:
  - a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible fugitive particulate emission incident; and
  - e. any corrective actions taken to eliminate the visible fugitive particulate emissions.

#### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month liquid steel production rate limitation and, for the first 12 calendar months of operation following start-up, all exceedances of the allowable cumulative liquid steel production levels for this emissions unit.
2. The permittee shall submit deviation (excursion) reports that identify all monthly inspections of the mechanical shrouding between the ladle and the tundish and between the tundish and the mold that indicate they were not in good operating condition and summarize any corrective action taken.
3. The permittee shall submit semiannual written reports which:
  - a. identify all days during which any visible fugitive particulate emissions were observed from any egress point serving this emissions unit; and
  - b. describe any corrective actions taken to eliminate the visible fugitive particulate emissions.

These reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6-month period.

## V. Testing Requirements

### 1. Emissions Limitation:

PE/PM10: 0.39 pound per hour

Applicable Compliance Method:

To determine the hourly particulate emissions rate for the continuous caster the following equation may be used:

$$E = (\text{tons of steel/hour}) (0.07 \text{ pound PE/PM10/ton steel}) (1 - 0.95)$$

where:

E = particulate emissions (lb/hr)

0.07 pound PE/PM10/ton steel = emission factor (AP-42 Section 12.5, Table 12.5-1, Teeming Unleaded Steel, Iron and Steel Production, 10/86)

0.95 = control efficiency for mechanical shrouding

If required by the Ohio EPA, compliance with the particulate emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 5.

### 2. Emissions Limitation:

PE/PM10: 1.24 tons per rolling 12-month period

Applicable Compliance Method:

To determine the annual particulate emissions rate for the continuous caster the following equation shall be used:

$$E = (\text{tons of steel/yr}) (0.07 \text{ lb PE/PM10/ton steel}) (1 - 0.95) (1 \text{ ton}/2000 \text{ lbs})$$

where:

E = particulate emissions (tons/yr)

0.07 pound PE/PM10/ton steel = emission factor (AP-42 Section 12.5, Table 12.5-1, Teeming Unleaded Steel, Iron and Steel Production, 10/86)

0.95 = control efficiency for mechanical shrouding

3. Emissions Limitation:

NOx: 5.50 pounds per hour

Applicable Compliance Method:

To determine the hourly NOx emissions rate for the continuous caster the following equation may be used:

$$E = (\text{tons of steel/hour}) (0.05 \text{ pound NOx/ton steel})$$

where:

E = NOx emissions (lb/hr)

0.05 pound NOx/ton steel = NOx emission factor (emission factor provided by permittee in PTI# 02-20393 application)

If required by the Ohio EPA, compliance with the NOx emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 7 or 7E.

4. Emissions Limitation:

NOx: 17.75 tons per rolling 12-month period

Applicable Compliance Method:

To determine the annual NOx emissions rate for the continuous caster the following equation shall be used:

$$E = (\text{tons of steel/year}) (0.05 \text{ pound NOx/ton steel}) (1 \text{ ton}/2000 \text{ pounds})$$

where:

E = NOx emissions (tons/yr)

0.05 pound NOx/ton steel = NOx emission factor (emission factor provided by permittee in PTI# 02-30393 application)

5. Emissions Limitation:

Fugitive visible emissions shall not exceed twenty percent opacity, as a three-minute average.

Applicable Compliance Method:

Compliance with the visible emission limitation for the operation(s) identified above shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix

**V and M Star**

**PTI Application: 02 20202**

**Issued**

**Facility ID: 0250110625**

Emissions Unit ID: F003

existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

**VI. Miscellaneous Requirements**

None

**B. State Only Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F003 - Continuous caster (linked emissions unit with new steel production limitation of 710,000 tons per year)	OAC rule 3745-31-05	LIMIT(s)

**2. Additional Terms and Conditions**

**2.a** None

**II. Operational Restrictions**

None

**III. Monitoring and/or Recordkeeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

20

**V and**

**PTI A**

**Issued: 5/5/2005**

Emissions Unit ID: F003

**VI. Miscellaneous Requirements**

None

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P905 - Single shell AC electric arc furnace (EAF) with roof canopy hood fume collection/direct evacuation control system and a fabric filter baghouse	OAC rule 3745-31-05(A)(3)
The requirement of this Permit to Install supercedes the requirements of PTI No. 02-12439 issued on May1, 2003.	OAC rule 3745-17-07(A)&(B) OAC rule 3745-17-08 OAC rule 3745-17-11 OAC rule 3745-18-06 OAC rule 3745-21-07 OAC rule 3745-21-08 OAC rule 3745-23-06 40 CFR Part 60, Subpart AAa
	OAC rule 3745-31-05 (C)

<u>Applicable Emissions Limitations/Control Measures</u>	
PE: 0.0032 gr/dscf of exhaust gases from the baghouse PE: 17.61 lbs/hr, (includes stack and fugitive emissions) PM10: 13.38 lbs/hr, (includes stack and fugitive emissions) NOx: 38.50 lbs/hr, CO: 385 lbs/hr, SO2: 16.5 lbs/hr, VOC: 19.8 lbs/hr, Pb: 0.30 lb/hr, 1.28 tpy	See Section A.I.2.a below.  See Section A.I.2.a below.  See Section A.I.2.a below.  See Section A.I.2.a below.  See Section A.I.2.b. below.  See Section A.I.2.b. below.  See Section A.I.2.b. below.
See section A.I.2.c, A.I.2.d, and A.I.2.e.	Visible particulate emissions from the baghouse shall not exhibit three (3) per cent opacity or greater as a six-minute average.
The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-07, 3745-21-08, 3745-23-06, and the VE limitations specified in 40 CFR, Part 60, Subpart AAa.	Visible particulate emissions of fugitive dust from the electric arc furnace shop due to operation of the EAF shall not exhibit six (6) per cent opacity or greater as a six-minute average.
PE: 75.43 tons per rolling 12-month period (includes stack and fugitive emissions) PM10: 57.33 tons per rolling 12-month period (includes stack and fugitive emissions) NOx: 124.25 tons per rolling 12-month period CO: 1243 tons per rolling 12-month period SO2: 53.3 tons per rolling 12-month period VOC: 63.9 tons per rolling 12-month period	The mass emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).

## 2. Additional Terms and Conditions

- 2.a** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- 2.b** The permit has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07 and 3745-21-08 and 3745-23-06, respectively, by committing to comply with the best available technology requirements established in permit to install 02-20393.
- 2.c** The electric arc furnace shall be installed with a roof canopy hood fume collection system in addition to a direct evacuation control (DEC) system. These systems shall be capable of capturing a minimum of 99 percent of the generated emissions of particulate from the air contaminant source operation including charging, melting, refining, and tapping periods in the steel making cycle.
- 2.d** Particulate emissions captured by the fume collection systems for the electric arc furnace shall be exhausted to the existing EAF/ LRS fabric filter control device.
- 2.e** The scrap metals processed in this emissions unit is restricted to only those materials that comply with the scrap acquisition and inspection plan described in term A.III.7.

## II. Operational Restrictions

- The permittee shall restrict the annual liquid steel production to 710,000 tons per year, based upon a rolling 12-month summation of the production rates.
- To ensure enforceability during the first twelve months of operation following start-up, the permittee shall not exceed the following liquid steel production limits.

Month	Total Allowable liquid Steel Production
1	59,167 tons
1-2	118,333 tons
1-3	177,500 tons
1-4	236,667 tons
1-5	295,834 tons
1-6	355,001 tons
1-7	414,168 tons
1-8	473,335 tons
1-9	532,502 tons
1-10	591,669 tons
1-11	650,836 tons
1-12	710,000 tons

After the first twelve months of operation following start-up, the permittee shall restrict the liquid

steel production to 710,000 tons per year, based upon a rolling 12-month summation.

3. The permittee shall follow the "Scrap Management Program" that was submitted to Ohio EPA, Northeast District Office (NEDO) and that was developed to minimize the use of scrap that contains extraneous materials such as oiled steel, pipes with residues and coatings, enameled materials, transmissions, shock absorbers, tinned materials, rubber, concrete, dirt, or wood that may contaminate the scrap charged into the EAF. The "Scrap Management Program" shall be viewed as part of the operational requirements for the EAF permit. Any change to the "Scrap Management Program" that would increase the amounts of these compounds in the scrap, or result in the emissions of an air contaminant not previously emitted, must be approved by the NEDO.
4. The values for either the fan motor amperes and damper position for each operating fan or the volumetric flow rate through each separately ducted hood, as determined during the most recent visible particulate emission compliance demonstration, shall be maintained at all times when the EAF is operating (40 CFR Part 60.274a(c)).

### **III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain records of the following information:
  - a. the hours of operation for each calendar month;
  - b. the liquid steel production rate for each calendar month;
  - c. beginning after the first twelve calendar months of operation following start-up, the rolling, 12-month summation of the hours of operation; and
  - d. beginning after the first twelve calendar months of operation following start-up, the rolling, 12-month summation of the liquid steel production rates.

Also, during the first twelve calendar months of operation following start-up, the permittee shall record the cumulative hours of operation and the liquid steel production rate for each calendar month.

2. Visible particulate emissions observations of the EAF/LRS multiple-stack positive-pressure fabric filter shall occur at least once per day of operation. Observations shall be occur when the EAF is operating in the melting and refining phase of a heat cycle. Additional observations shall be made during the electric arc heating phase of the LRS processing cycle. These observations shall be taken in accordance with Method 9 of 40 CFR Part 60, Appendix A, and shall include at least

Emissions Unit ID: P905

three six-minute periods during EAF melting and refining and at least one six-minute period of the LRS electric arc heating phase in the processing cycle. The opacity shall be recorded for the stack(s) where the greatest opacity of the visible emissions are observed in accordance with the procedures listed in Method 9 of 40 CFR Part 60, Appendix A. Records shall be maintained of all the visible particulate emissions observed. (40 CFR Part 60 Subpart AAa requires these opacity observations.)

3. The permittee shall perform observations of shop opacity by a certified visible emission observer in lieu of installing and maintaining a furnace static pressure monitoring device on the DEC equipped EAF. Shop opacity observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period (40 CFR Part 60.273a (d)).
4. The permittee shall either (a) check and record the fabric filter control system fan motor amperes and damper position for each of the operating fans on a once-per-shift basis ; (b) install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood ; or (c) install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and check record damper positions on a once-per-shift basis. The monitoring device(s) shall be installed in a location in the exhaust duct such that reproducible flow rate data may be obtained. The flow rate monitoring device(s) shall have an accuracy of +/- 10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The permittee may be required to demonstrate the accuracy of the monitoring devices relative to Methods 1 and 2 of Appendix A of 40 CFR, Part 60. The values of these parameters as determined during the most recent visible particulate emission compliance demonstration shall be maintained at the appropriate levels for each applicable period. Operation at other than baseline values may be considered unacceptable operation and maintenance of the control system. The permittee may petition for reestablishment of these parameters whenever the permittee can demonstrate satisfactorily that the operating conditions upon which the parameters were previously established are no longer applicable.

Checking and recording of the pressure drop readings across the baghouse will not be required due to additional installation requirements of monitoring device(s), as specified in this section. OEPA, however, reserves the right to request pressure drop readings, if problems arise.

5. The permittee shall perform monthly operational status inspections of the equipment that are important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). Any deficiencies shall be recorded and proper maintenance performed. The permittee may petition for the approval of an alternative to monthly operational status inspections that will provide a continuous record of the operation of each emission capture system.
6. Shop opacity observations shall be conducted at least once per day for thirty minutes when the furnace is operating in the meltdown and refining period. (The "shop" is the building that houses the EAF.) Shop opacity shall be determined as the arithmetic average of 24 consecutive 15-second opacity observations of emissions from the shop taken in accordance with Method 9.

Emissions Unit ID: P905

Shop opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of visible emissions, only one observation of shop opacity will be required. In this case, the shop opacity observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. (40 CFR Part 60 Subpart AAa requires these shop opacity observations.) The shop opacity observations shall be taken at the shop roofline.

7. The permittee shall develop and write a Scrap Management Plan (Plan) for the selection and inspection of iron and steel scrap received for charge in the EAF. This plan shall provide for and define effective procedures to eliminate to minimize, to the extent practicable, mercury and organics charged to the electric arc furnace. The Plan is subject to approval by Ohio EPA and must be submitted to Ohio EPA, Northeast District Office, within 90 days of permit issuance. A copy of the plan must be maintained onsite and made readily available to all plant personnel having materials acquisition or inspection duties. A copy of the material specifications must be provided to all scrap suppliers. The Plan, at a minimum, shall include the following components:

- i. A materials acquisition program which shall include:
    - (a) Specifications for the supplier/marketer of the scrap metals that will minimize organic contaminants and mercury from the scrap received for charge to the electric arc furnace by excluding, at a minimum, the following materials and information:
      - used oil filters,
      - plastic parts,
      - organic liquids (transmission fluid, motor oil, ect.),
      - metal containers with residual organic liquids, and
      - free liquids

This program shall be applicable for scrap charged to this emissions unit.

  - (b) Specifications for the supplier/marketer of automotive bodies requiring the removal of readily accessible mercury-containing devices from under the trunks and hoods and removal of lead components such as batteries and wheel weights.
- A copy of the procedures used by the scrap supplier must be obtained and maintained onsite for either removing accessible mercury switches or for purchasing automobile bodies that have had readily accessible mercury switches removed, as applicable.
- ii. Procedures for visual inspection of scrap metals which shall include:
  - (a) procedures to document the amount (by weight) of each shipment of scrap received and the estimated percent of each shipment inspected; a representative portion of not less than 10 percent of each shipment of scrap metal received for charge into any scrap preheater and the electric arc furnace shall be inspected for the specifications contained in "i." above;
  - (b) identification of the location(s) where inspections are to be performed for each type of shipment, which shall provide a reasonable vantage point for visual inspections, with the consideration of worker safety; and
  - (c) provisions for rejecting or returning entire or partial scrap shipments that do not meet specifications and, unless satisfactory corrective measures are taken, limiting purchases whose shipments fail to meet specifications. The Plan shall describe what corrective actions are acceptable and when purchases will be limited.
- iii. Record keeping requirements which shall include the following for each shipment:

Emissions Unit ID: P905

- (a) the amount, date received, type of scrap, and the supplier/marketer or each shipment of scrap metal received;
- (b) the amount of material inspected, the date of inspection, and the inspector's name;
- (c) the results of the inspection on a shipment-by-shipment basis, to include a description and estimated amount of any material not meeting the specifications in "i" above and the marketer/supplier of the rejected scrap metals;
- (d) documentation of the return or disposal of the material rejected during each inspection;
- (e) certification, in writing, that each supplier/marketer of any scrap metals charged to this emissions unit has received the specifications of the Plan and agrees to these requirements; and
- (f) documentation that each supplier/marketer of scrap metals charged to this emissions unit has removed required materials in i.(a) and i.(b) above; or if the materials are not readily accessible, a description as to why the material could not be removed.

#### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month liquid steel production rate limitation and, for the first 12 calendar months of operation following start-up, all exceedances of the allowable cumulative liquid steel production levels for this emissions unit.
2. The permittee shall submit deviation (excursion) reports that identify all exceedances of the visible particulate emission limit for the fabric filter control device. For the purpose of these reports, an exceedance is defined as any six-minute period during which the average opacity is three percent or greater.
3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the fugitive visible particulate emission limit for the electric arc furnace shop. For the purpose of these reports, an exceedance is defined as any six-minute period during which the average opacity is six percent or greater.
4. The permittee shall submit deviation (excursion) reports that identify either operation of control system fan motor amperes at values exceeding + or - 15 percent of the value established during the most recent demonstration of compliance or operation at volumetric flow rates lower than those established during the compliance demonstration, when the EAF was operating (40 CFR Part 60.276a(c)).
5. The permittee shall submit deviation (excursion) reports that identify all instances when any portion of the Scrap Management Plan was not followed or the information required to be documented was not recorded.

#### V. Testing Requirements

1. Emission Limitation:

0.0032 grains of particulate matter per dry standard cubic foot

Applicable Compliance Method:

Compliance shall be determined by emission testing as specified in Section A.V.18.

2. Emissions Limitation:

PE: 17.61 pounds per hour (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the hourly particulate emission rate for the EAF, the following equations shall be used:

a.  $E1(\text{stack emissions}) = (619,584 \text{ scfm}) (\text{tested emission rate in gr/scf}) (1 \text{ pound}/7000 \text{ grains}) (60 \text{ minutes/hr}) (0.95)$

where:

$E1$  = particulate emissions from baghouse (lbs/hour)

619,584 SCFM = maximum baghouse flow rate

0.95 = assumed percent flow attributable to EAF (emissions unit P905)

b.  $E2(\text{fugitive emissions}) = (\text{tons of steel produced/hour}) (1.4 \text{ pounds PE/ton of steel}) (1-0.99) (0.95)$

where:

$E2$  = fugitive particulate emissions (lbs/hour)

1.4 pounds PE/ton steel = emission factor (AP-42 Section 12.5, Table 12.5-1, electric arc furnace charging, tapping, and slagging, Iron and Steel Production, 10/86)

0.95 = assumed percent of total fugitive emissions attributable to EAF (emissions unit P905)

0.99 = capture efficiency for direct evacuation fume collection system

c.  $E_{\text{total}} = E1 + E2$

where:

$E_{\text{total}}$  = total hourly PE emissions from EAF (lbs/hour)

$E1$  = particulate emissions from baghouse (lbs/hour)

$E2$  = fugitive particulate emissions (lbs/hour)

If required by the Ohio EPA, compliance with the particulate emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures outlined in OAC rule 3745-17-03.

3. Emissions Limitation:

PE: 75.43 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the annual particulate emission rate for the EAF, the following equations shall be used:

a.  $E1(\text{stack emissions}) = (619,584 \text{ scfm}) (\text{tested emission rate in gr/scf}) (1 \text{ pound}/7000 \text{ grains}) (60 \text{ minutes/hr}) (\text{actual hours of operation/year}) (1 \text{ ton}/2000 \text{ pounds}) (0.95)$

where:

$E1$  = particulate emissions from baghouse (tons/year)

619,584 SCFM = maximum baghouse flow rate

0.95 = assumed percent flow attributable to EAF (emissions unit P905)

b.  $E2(\text{fugitive emissions}) = (\text{tons of steel produced/year}) (1.4 \text{ pounds PE/ton of steel}) (1 - 0.99) (1 \text{ ton}/2000 \text{ pounds}) (0.95)$

where:

$E2$  = fugitive particulate emissions (tons/year)

1.4 pounds PE/ton steel = emission factor (AP-42 Section 12.5, Table 12.5-1, electric arc furnace charging, tapping, and slagging, Iron and Steel Production, 10/86)

0.95 = assumed percent of total fugitive emissions attributable to EAF (emissions unit P905)

0.99 = capture efficiency for direct evacuation fume collection system

c.  $E_{\text{total}} = E1 + E2$

where:

$E_{\text{total}}$  = total annual PE emissions from EAF (tons/year)

$E1$  = particulate emissions from baghouse (tons/year)

$E2$  = fugitive particulate emissions (tons/year)

4. Emissions Limitation:

PM10: 13.38 pounds per hour (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the hourly PM10 emission rate for the EAF the following equation shall be used:

$$E = (E_{total}) (0.76)$$

where:

E = hourly PM10 emissions (lbs/hour)

E<sub>total</sub> = total hourly PE emissions from EAF, as determined in Section A.V.2.

0.76 = fraction of total PE emissions assumed to be PM10 (factor supplied by the company in the application for PTI 02-20393 and is based upon a test of a similar EAF at CSC)

If required by the Ohio EPA, compliance with the PM10 emission rate shall be determined in accordance with 40 CFR Part 51, Appendix M, Methods 201 or 201A.

5. Emissions Limitation:

PM10: 57.33 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the annual PM10 emission rate for the EAF the following equation shall be used:

$$E = (E_{total}) (0.76)$$

where:

E = annual PM10 emissions (tons/year)

E<sub>total</sub> = total annual PE emissions from EAF, as determined in Section A.V.3.

0.76 = fraction of total PE emissions assumed to be PM10 (factor supplied by the company in the application for PTI 02-20393 and is based upon a test of a similar EAF at CSC)

6. Emissions Limitation:

NO<sub>x</sub>: 38.50 pounds per hour and 0.35 pound per ton of steel (includes stack and fugitive emissions)

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the NO<sub>x</sub> emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 7 or 7E.

7. Emissions Limitation:

NO<sub>x</sub>: 124.25 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the hourly NO<sub>x</sub> emission rate for the EAF the following equation shall be used:

$$E = (0.35 \text{ pound NO}_x/\text{ton of steel}) (\text{tons of steel produced/yr}) (1 \text{ ton}/2000 \text{ pound})$$

where:

E = NO<sub>x</sub> emissions (tons/yr)

0.35 pound NO<sub>x</sub>/ton of steel = allowable emission rate for NO<sub>x</sub>

8. Emissions Limitation:

CO: 385 pounds per hour and 3.5 pounds per ton of steel (includes stack and fugitive emissions)

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the CO emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 10.

## 9. Emissions Limitation:

CO: 1243 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the annual CO emission rate for the EAF the following equation shall be used:

$$E = (3.5 \text{ pounds CO/ton of steel}) (\text{tons of steel produced/year}) (1 \text{ ton}/2000 \text{ pounds})$$

where:

E = CO emissions (tons/yr)

3.5 pounds CO/ton of steel = allowable emission rate for CO

## 10. Emissions Limitation:

SO<sub>2</sub>: 16.5 pounds per hour and 0.15 pound per ton of steel (includes stack and fugitive emissions)

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the SO<sub>2</sub> emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 6 or 6C.

## 11. Emissions Limitation:

SO<sub>2</sub>: 53.3 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the annual SO<sub>2</sub> emission rate for the EAF the following equation shall be used:

$$E = (0.15 \text{ pound SO}_2\text{/ton of steel}) (\text{tons of steel produced/year}) (1 \text{ ton}/2000 \text{ pounds})$$

where:

E = SO<sub>2</sub> emissions (tons/yr)

0.15 pound SO<sub>2</sub>/ton of steel = allowable emission rate for SO<sub>2</sub>

## 12. Emissions Limitation:

VOC: 19.8 pounds per hour and 0.18 pound per ton of steel (includes stack and fugitive emissions)

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the VOC emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 18, 25, or 25A .

## 13. Emissions Limitation:

VOC: 63.9 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the annual VOC emission rate for the EAF the following equation shall be used:

$$E = (0.18 \text{ pound VOC/ton of steel}) (\text{tons of steel produced/year}) (1 \text{ ton}/2000 \text{ pounds})$$

where:

E = VOC emissions (ton/yr)

0.18 pound VOC/ton of steel = allowable emission rate for VOC

## 14. Emissions Limitation:

Pb: 0.30 pound per hour (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the hourly Pb emission rate for the EAF the following equation shall be used:

$$E = (E_{\text{total}}) (0.017)$$

where:

E = Pb emissions (lb/hr)

$E_{\text{total}}$  = total hourly PE emissions from EAF, as determined in Section A.V.2

0.017 = the average Pb content of the baghouse dust, as a weight fraction

If required by the Ohio EPA, compliance with the Pb emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 29.

## 15. Emissions Limitation:

Pb: 1.28 tons per year (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the annual Pb emission rate for the EAF the following equation shall be used:

$$E = (E_{total}) ( 0.017)$$

where:

E = Pb emissions (tons/yr)

E<sub>total</sub> = total annual PE emissions from EAF, as determined in Section A.V.3

0.017 = the average Pb content of the baghouse dust, as a weight fraction

16. Emissions Limitation:

Visible particulate emissions of fugitive dust from the electric arc furnace shop due to operation of the EAF shall not exhibit six (6) percent opacity or greater as a six-minute average.

Applicable Compliance Method:

Compliance with the allowable visible emissions limitations shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in OAC rule 3745-17-03.

17. Emissions Limitation:

Visible particulate emissions from the baghouse shall not exhibit three (3) percent opacity or greater as a six-minute average.

Applicable Compliance Method:

Compliance with the visible emission limitation for the operation(s) identified above shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

18. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. After issuance of this permit, emission testing shall be conducted in concurrence with V&M Star's first round Title V compliance demonstration requirements, which shall be conducted within 6-months prior to expiration of the Title V permit on July 27, 2006.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for PE, NO<sub>x</sub>, CO, VOC, SO<sub>2</sub>, and Hg.

- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
- |                 |   |   |
|-----------------|---|---|
| PE              | - | Method 5 of 40 CFR Part 60, Appendix A              |
| NO <sub>x</sub> | - | Method 7, 7E of 40 CFR Part 60, Appendix A          |
| CO              | - | Method 10 of 40 CFR Part 60, Appendix A             |
| VOC             | - | Method 18, 25, or 25A of 40 CFR Part 60, Appendix A |
| SO <sub>2</sub> | - | Method 6A of 40 CFR Part 60, Appendix A             |
| Hg              | - | Methods 29 of 40 CFR Part 60, Appendix A            |
- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

## VI. Miscellaneous Requirements

None

**B. State Only Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P905 - Single shell AC electric arc furnace (EAF) with roof canopy hood fume collection/direct evacuation control system and a fabric filter baghouse	OAC rule 3745-31-05	LIMIT(s)

**2. Additional Terms and Conditions**

- 2.a None

**II. Operational Restrictions**

None

**III. Monitoring and/or Recordkeeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-31-05 (C)
P906 - Ladle refining station (LRS) equipped with baghouse	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-07(A) & (B) OAC rule 3745-17-08(B)
The requirement of this Permit to Install supercedes the requirements of PTI No. 02-12439 issued on May 5, 2003.		OAC rule 3745-17-11
		OAC rule 3745-18-06
		OAC rule 3745-21-08
		OAC rule 3745-23-06
		40 CFR Part 60, Subpart AAa

**V and M Star**

PTI Application: 02-20202

**Issued****Facility ID: 0250110625**

Emissions Unit ID: P906

Applicable Emissions  
Limitations/Control  
Measures

PE: 0.0032 gr/dscf of  
 exhaust gases from the  
 baghouse

PE: 0.93 lb/hr, (includes  
 stack and fugitive emissions)

PM10: 0.71 lb/hr, (includes  
 stack and fugitive emissions)

NOx: 5.5 lbs/hr,

CO: 55 lbs/hr,

SO2: 11 lbs/hr,

Pb: 0.02 lb/hr, 0.07 tpy

See Section A.I.2.c. and d.  
 below.

The requirements of this rule  
 also include compliance with  
 the requirements of OAC  
 rule 3745-21-07, 3745-21-  
 08, 3745-23-06, and the VE  
 limitations specified in 40  
 CFR, Part 60, Subpart AAa.

PE: 3.97 tons per rolling  
 12-month period

PM10: 3.02 tons per rolling  
 12-month period

NOx: 17.8 tons per rolling  
 12-month period

CO: 178 tons per rolling  
 12-month period

SO2: 35.5 tons per rolling  
 12-month period

See Section A.I.2.a below.

See Section A.I.2.a below.

See Section A.I.2.a below.

See Section A.I.2.a below.

See Section A.I.2.b below.

See Section A.I.2.b below.

Visible particulate emissions from the  
 baghouse shall not exhibit three (3)  
 per cent opacity or greater as a six-  
 minute average.

Visible particulate emissions of  
 fugitive dust from the electric arc  
 furnace shop due to operation of the  
 EAF shall not exhibit six (6) per cent  
 opacity or greater as a six-minute  
 average.

The mass emission limitation  
 specified by this rule is less stringent  
 than the emission limitation  
 established pursuant to OAC rule  
 3745-31-05 (A)(3).

## 2. Additional Terms and Conditions

- 2.a** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- 2.b** The permit has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07 and 3745-21-08 and 3745-23-06, respectively, by committing to comply with the best available technology requirements established in permit to install 02-20393.
- 2.c** The ladle refining furnace shall be installed with a roof canopy hood fume collection system in addition to a direct evacuation control (DEC) system. These systems shall be capable of capturing a minimum of 99% of the generated emissions of particulate from the air contaminant source operation including electric arc heating, melting, charging, tapping, argon stirring, bulk alloy additions, alloy wire feed, manual door emissions, and steel processing in the ladle refining station.
- 2.d** Particulate emissions captured by the fume collection systems for the electric arc furnace shall be exhausted to the existing EAF/ LRS fabric filter control device.

## II. Operational Restrictions

1. The permittee shall restrict the annual liquid steel production to 710,000 tons per year, based upon a rolling 12-month summation of the production rates.
2. To ensure enforceability during the first twelve months of operation following start-up, the permittee shall not exceed the following liquid steel production limits.

Month	Total Allowable liquid Steel Production
1	59,167 tons
1-2	118,333 tons
1-3	177,500 tons
1-4	236,667 tons
1-5	295,834 tons
1-6	355,001 tons
1-7	414,168 tons
1-8	473,335 tons
1-9	532,502 tons
1-10	591,669 tons

1-11	650,836 tons
1-12	710,000 tons

After the first twelve months of operation following start-up, the permittee shall restrict the liquid steel production to 710,000 tons per year, based upon a rolling 12-month summation.

### III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain records of the following information:
  - a. the liquid steel production rate for each month; and
  - b. beginning after the first twelve calendar months of operation following start-up, the rolling, 12-month summation of the liquid steel production rates.

Also, during the first twelve calendar months of operation following start-up, the permittee shall record the cumulative liquid steel production rate for each calendar month.

2. Visible particulate emissions observations of the ladle refining station (LRS) multiple-stack positive-pressure fabric filter shall occur at least once per day of operation. Observations shall be made during the electric arc heating phase of the LRS processing cycle. These observations shall be taken in accordance with Method 9 of 40 CFR Part 60, Appendix A, and shall include at least one six-minute period of the LRS electric arc heating phase in the processing cycle. The opacity shall be recorded for the stack(s) where the greatest opacity of the visible emissions are observed in accordance with the procedures listed in Method 9 of 40 CFR Part 60, Appendix A. Records shall be maintained of all the visible particulate emissions observed. (40 CFR Part 60 Subpart AAa requires these opacity observations).
3. The permittee shall either (a) check and record the fabric filter control system fan motor amperes and damper position for each of the operating fans on a once-per-shift basis; (b) install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or (c) install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and check record damper positions on a once-per-shift basis. The monitoring device(s) shall be installed in a location in the exhaust duct such that reproducible flow rate data may be obtained. The flow rate monitoring device(s) shall have an accuracy of +/- 10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The permittee may be required to demonstrate the accuracy of the monitoring devices relative to Methods 1 and 2 of Appendix A of 40 CFR, Part 60. The values of these parameters as determined during the most recent visible particulate emission compliance demonstration shall be maintained at the appropriate levels for each applicable period. Operation at other than baseline values may be considered unacceptable operation and maintenance of the control system. The permittee may petition for reestablishment of these parameters whenever the permittee can demonstrate satisfactorily that the operating conditions upon which the parameters were previously established are no longer applicable.

Checking and recording of the pressure drop readings across the baghouse will not be required

due to additional installation requirements of monitoring device(s), as specified in this section. OEPA, however, reserves the right to request pressure drop readings, if problems arise.

#### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month liquid steel production rate limitation and, for the first 12 calendar months of operation following start-up, all exceedances of the allowable cumulative liquid steel production levels for this emissions unit.
2. The permittee shall submit deviation (excursion) reports that identify all exceedances of the visible particulate emission limit for the fabric filter control device. For the purpose of these reports, an exceedance is defined as any six-minute period during which the average opacity is three percent or greater.
3. The permittee shall submit deviation (excursion) reports that identify either operation of control system fan motor amperes at values exceeding + or - 15 percent of the value established during the most recent demonstration of compliance or operation at volumetric flow rates lower than those established during the compliance demonstration, when the LRS was operating.

#### V. Testing Requirements

1. Emission Limitation:

0.0032 grains of particulate matter per dry standard cubic foot

Applicable Compliance Method:

Compliance shall be determined by emission testing as specified in Section A.V.16.

2. Emissions Limitation:

PE: 0.93 pound per hour (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine actual particulate emission rate for the LRS, the following equations shall be used:

- a.  $E1(\text{stack emissions}) = (619,584 \text{ scfm}) (\text{tested emission rate in gr/scf}) (1 \text{ pound}/7000 \text{ grains}) (60 \text{ minutes/hr}) (0.05)$

where:

E1 = particulate emissions from baghouse (pounds/hour)

619,584 SCFM = maximum baghouse flow rate

0.05 = assumed percent flow attributable to LRS (emissions unit P906)

- b.  $E2$  (fugitive emissions) = (tons of steel produced/hour) (1.4 pounds PE/ton of steel) (1-0.99) (0.05)

where:

E2 = fugitive particulate emissions (pounds/hour)

95.0 tons steel/ hour = maximum hourly steel processing capacity

1.4 pounds PE/ton steel = emission factor (AP-42 Section 12.5, Table 12.5-1, electric arc furnace charging, tapping, and slagging, Iron and Steel Production, 10/86)

0.05 = assumed percent of total fugitive emissions attributable to LRS (emissions unit P906)

0.99 = capture efficiency for direct evacuation fume collection system

- c.  $E_{total} = E1 + E2$

where:

$E_{total}$  = total hourly PE emissions from LRS (pounds/hour)

E1 = particulate emissions from baghouse (pounds/hour)

E2 = fugitive particulate emissions (pounds/hour)

3. Emissions Limitation:

PE: 3.97 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine actual baghouse particulate emission rate for the LRS, the following equations shall be used:

- a.  $E1$ (stack emissions) = (619,584 SCFM) (tested emission rate in gr/scf) (1pound/7000 grains) (60 minutes/hr) (8760 hours/year) (1 ton/2000 pounds) (0.05)

where:

E1 = particulate emissions from baghouse (tons/year)

619,584 SCFM = maximum baghouse flow rate

0.05 = assumed percent flow attributable to LRS (emissions unit P906)

- b.  $E2$  (fugitive emissions) = (tons of steel produced/year) (1.4 pounds PE/ton of steel) (1-0.99) (1ton/2000 pounds) (0.05)

where:

E2 = fugitive particulate emissions (tons/year)

1.4 pounds PE/ton steel = emission factor (AP-42 Section 12.5, Table 12.5-1, electric arc furnace charging, tapping, and slagging, Iron and Steel Production, 10/86)

0.05 = assumed percent of total fugitive emissions attributable to LRS (emissions unit P906)

0.99 = capture efficiency for direct evacuation fume collection system

- c.  $E_{total} = E1 + E2$

where:

$E_{total}$  = total annual PE emissions from LRS (tons/year)

E1 = particulate emissions from baghouse (tons/year)

E2 = fugitive particulate emissions (tons/year)

4. Emissions Limitation:

PM10: 0.71 pound per hour (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the hourly PM10 emission rate for the LRS the following equation shall be used:

$$E = (E_{total}) (0.76)$$

where:

E = hourly PM10 emissions (lbs/hour)

$E_{total}$  = total hourly PE emissions from LRS, as determined in Section A.V.1.

0.76 = fraction of total PE emissions assumed to be PM10 (factor supplied by the company in the application for PTI 02-20393 and is based upon a test of a similar EAF at CSC)

If required by the Ohio EPA, compliance with the PM10 emission rate shall be determined in

accordance with 40 CFR Part 51, Appendix M, Methods 201 or 201A.

5. Emissions Limitation:

PM10: 3.02 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine the annual PM10 emission rate for the LRS the following equation shall be used:

$$E = (E_{total}) (0.76)$$

where:

E = annual PM10 emissions (tons/year)

E<sub>total</sub> = total annual PE emissions from LRS, as determined in Section A.V.2.

0.76 = fraction of total PE emissions assumed to be PM10 (factor supplied by the company in the application for PTI 02-20393 and is based upon a test of a similar EAF at CSC)

6. Emissions Limitation:

NO<sub>x</sub>: 5.50 pounds per hour and 0.05 pound per ton of steel (includes stack and fugitive emissions)

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the NO<sub>x</sub> emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 7 or 7E.

7. Emissions Limitation:

NO<sub>x</sub>: 17.8 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine annual NO<sub>x</sub> emissions rate for the LRS the following equation shall be used:

$$E = (0.05 \text{ pound NO}_x/\text{ton of steel}) (\text{tons of steel produced/year}) (1\text{ton}/2000 \text{ pounds})$$

where:

E = NO<sub>x</sub> emissions (tons/yr)

0.05 pound NO<sub>x</sub>/ton of steel = NO<sub>x</sub> emission factor (emission factor provided by permittee in PTI# 02-20393 application)

8. Emissions Limitation:

CO: 55 pounds per hour and 0.5 pound per ton of steel (includes stack and fugitive emissions)

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the CO emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 10.

9. Emissions Limitation:

CO: 178 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine annual CO emissions rate for the LRS the following equation shall be used:

$$E = (0.5 \text{ pound CO/ton of steel}) (\text{tons of steel produced/year}) (1 \text{ ton}/2000 \text{ pounds})$$

where:

E = CO emissions (tons/yr)

0.5 pound CO/ton of steel = CO emission factor (emission factor provided by permittee in PTI# 02-12439 application)

10. Emissions Limitation:

SO<sub>2</sub>: 11 pounds per hour and 0.10 pound per ton of steel (includes stack and fugitive emissions)

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the SO<sub>2</sub> emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 6 or 6C.

11. Emissions Limitation:

SO<sub>2</sub>: 35.5 tons per rolling 12-month period (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine annual SO<sub>2</sub> emissions rate for the LRS the following equation shall be used:

$$E = (0.10 \text{ pound SO}_2\text{/ton of steel}) (\text{tons of steel produced/year}) (1\text{ton}/2000 \text{ pounds})$$

where:

E = SO<sub>2</sub> emissions (tons/yr)

0.10 pound SO<sub>2</sub>/ton of steel = emission factor (AP42 Section 12.5, Table 12.5-1, Iron and Steel Production, 10/86)

12. Emissions Limitation:

Pb: 0.02 pound per hour (includes stack and fugitive emissions)

Applicable Compliance Method:

To determine hourly Pb emissions rate for the LRS the following equation shall be used:

$$E = (E_{total}) (0.017)$$

where:

E = Pb emissions (lb/hr)

E<sub>total</sub> = total hourly PE emissions from LRS, as determined in Section A.V.2

0.017 = the average Pb content of the baghouse dust as a weight fraction

If required by the Ohio EPA, compliance with the Pb emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 29.

13. Emissions Limitation:

Pb: 0.07 ton per year (includes annual emissions from stack and fugitives)

Applicable Compliance Method:

To determine annual Pb emissions rate for the LRS the following equation shall be used:

$$E = (E_{total}) (0.017)$$

where:

E = Pb emissions (tons/yr)

E<sub>total</sub> = total annual PE emissions from LRS, as determined in Section A.V.3

0.017 = the average Pb content of the baghouse dust as a weight fraction

14. Emissions Limitation:

Visible emissions from the baghouse stacks shall not exceed three percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance with the allowable visible emissions limitations shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in OAC rule 3745-17-03.

15. Emissions Limitation:

Visible emissions of fugitive dust shall not exceed six percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance with the visible emission limitation for the ladle refining station operation(s) identified above shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraph (B)(3)(b) of OAC rule 3745-17-03.

16. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. After issuance of this permit, emission testing shall be conducted in concurrence with V&M Star's first round Title V compliance demonstration requirements, which shall be conducted within 6-months prior to expiration of the Title V permit on July 27, 2006.
  - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for PE, NO<sub>x</sub>, CO, VOC, and SO<sub>2</sub>.
  - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 

PE	-	Method 5 of 40 CFR Part 60, Appendix A
NO <sub>x</sub>	-	Method 7, 7E of 40 CFR Part 60, Appendix A
CO	-	Method 10 of 40 CFR Part 60, Appendix A
VOC	-	Method 18, 25, or 25A of 40 CFR Part 60, Appendix A
SO <sub>2</sub>	-	Method 6A of 40 CFR Part 60, Appendix A
  - d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

**V and M Star****PTI Application: 02-20202****Issued****Facility ID: 0250110625**

Emissions Unit ID: P906

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

**VI. Miscellaneous Requirements**

None

**B. State Only Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P906 - Ladle refining station (LRS) equipped with baghouse	OAC rule 3745-31-05	LIMIT(s)

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

**III. Monitoring and/or Recordkeeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

52

**V and**

**PTI A**

**Issued: 5/5/2005**

Emissions Unit ID: P906

**Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. State and Federally Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P907 - Alloy, additives, and flux handling system (with three storage silos [for flux and ladle carbon] equipped with bin vents, six alloy storage bins, six alloy trim bins, and five alloy batch holding bins)	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-07
The requirement of this Permit to Install supercedes the requirements of PTI No. 02-3098 issued on June 30,1999.		OAC rule 3745-17-08
		OAC rule 3745-17-11

**V and M Star**

PTI Application: 02-20202

**Issued****Facility ID: 0250110625**

Emissions Unit ID: P907

Applicable Emissions  
Limitations/Control  
Measures

PE: 0.01 gr/dscf of exhaust gases from the storage silo bin vents, 0.50 tpy (includes stack and fugitive emissions)

PM10: 0.28 tpy (includes stack and fugitive emissions)

Visible particulate emissions from the storage silo bin vent exhausts shall not exceed six percent opacity, as a six-minute average.

Visible emissions of fugitive dust from the dumping of alloy and charge carbon into the receiving hopper shall not exceed six percent opacity, as a six-minute average.

Visible emissions of fugitive dust from the alloy handling operations (i.e., the storage bins, trim bins, and batch holding bins) shall not exceed six percent opacity, as a six-minute average.

See A.I.2.a through A.I.2.d.

The emission limitations specified by this rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).

The emission limitation specified by this rule is less stringent than the emission

limitation established pursuant to OAC rule 3745-31-05 (A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05 (A)(3).

## **2. Additional Terms and Conditions**

- 2.a** The flux and ladle carbon are transferred pneumatically to storage. The pneumatic system shall be adequately enclosed so as to eliminate, at all times, visible emissions of fugitive dust. Any visible emissions of dust emanating from the delivery vehicle shall be cause for the immediate halt of the unloading process and the refusal of the material load until the situation is corrected.
- 2.b** The flux and ladle carbon silos shall be adequately enclosed and vented to bin vent fabric filters. The enclosures shall be sufficient to eliminate, at all times, any visible emissions of fugitive dust from the enclosure.
- 2.c** Alloys, additives, and charge carbon are dumped into a receiving hopper. The receiving hopper shall be enclosed on all sides with an opening for the truck. At the opening, overlapping plastic sheets shall be draped to allow for passage of the truck while maintaining the enclosure.
- 2.d** The six alloy storage bins shall be loaded by an enclosed conveyor. The six alloy trim bins shall be loaded by means of an enclosed conveyor and a movable hopper. The five alloy batch holding bins shall be loaded by means of an enclosed conveyor and a rotary loading spout. After loading, the storage bins, trim bins, and batch holding bins shall be covered. The enclosures shall be sufficient to minimize, at all times, visible emissions of fugitive dust at all transfer points.

## **II. Operational Restrictions**

- 1. The permittee shall make certain that all emissions from the silos shall be vented to the respective silo bin vent control devices.

## **III. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall maintain annual records of the operating hours for the silo loading operations. The records may be maintained in computerized form.
- 2. The permittee shall maintain records of the quantities of all alloys, additives, and flux materials received during each calendar year. The records may be maintained in computerized form.
- 3. The permittee shall maintain records of all the time periods when the silos were not vented to the silo bin vent control devices.

Emissions Unit ID: P907

4. The permittee shall perform weekly checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from any non-stack egress point (e.g., windows, doors, roof monitors, conveyors, hopper, etc.) and/or from the storage silo bin vents associated with this emissions unit. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible particulate emissions are observed, the permittee shall also note the following in the operations log:
  - a. the color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible particulate emission incident; and
  - e. any corrective actions taken to eliminate the visible particulate emissions.

#### IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which:
  - a. identify all days during which any visible particulate emissions were observed from any non-stack egress point and/or the storage silo bin vents associated with this emissions unit; and
  - b. describe any corrective actions taken to eliminate the visible particulate emissions.

These reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit semiannual written reports which identify all time periods when the silos were not vented to the silo bin vent control devices.

These reports shall be submitted by January 31 and July 31 of each year and shall cover the previous 6-month period.

#### V. Testing Requirements

1. Emissions Limitation:  
PE: 0.01 grain per dry standard cubic foot of exhaust gases from the storage silo bin vents

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the particulate emission rate shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures in OAC rule 3745-17-03.

2. Emissions Limitation:

PE: 0.50 ton per year and PM10: 0.28 ton per year

Applicable Compliance Method:

To determine annual particulate and PM10 emissions for silos 1-3, 6 alloy storage bins, 6 alloy trim bins, and 5 alloy batch holding bins the following equations shall be used:

Silos 1-3:

This equation shall be applied to each silo for PE and PM10:

$$E1 = (1.286E-3 \text{ lb PE/PM10/min}) (\text{fan operating min/day}) (365 \text{ day/yr}) (1\text{ton}/2000 \text{ lbs})$$

Alloy storage bins 1-6:

These equations shall be used for determination of PE:

1. Truck dump to holding hopper

$$E2 = (\text{material throughput tons/year}) (7.8E-3 \text{ lb PE/ton}) (1\text{ton}/2000 \text{ lbs})$$

2. Holding hopper to conveyor

$$E3 = (\text{material throughput tons/year}) (7.8E-3 \text{ lb PE/ton}) (1\text{ton}/2000 \text{ lbs})$$

3. Rotary spout

$$E4 = (\text{material throughput tons/year}) (1.56E-3 \text{ lb PE/ton}) (1\text{ton}/2000 \text{ lbs})$$

$$PE_{\text{total}} (\text{for alloy storage bins 1-6}) = E2 + E3 + E4$$

These equations shall be used for determination of PM10:

1. Truck dump to holding hopper

$$E5 = (\text{material throughput tons/year}) (1 - \text{assumed CE}) (7.4E-2 \text{ lb PM10/ton}) (1 \text{ ton}/2000 \text{ lbs})$$

CE = control efficiency

58

**V and**

**PTI A**

**Issued: 5/5/2005**

Emissions Unit ID: P907

2. Holding hopper to conveyor

$E6 = (\text{material throughput tons/year}) (1 - \text{assumed CE}) (7.4E-2 \text{ lb PM10/ton}) (1 \text{ ton}/2000 \text{ lbs})$

CE = control efficiency

3. Rotary spout

$E7 = (\text{material throughput tons/year}) (1 - \text{assumed CE}) (7.4E-2 \text{ lb PM10/ton}) (1 \text{ ton}/2000 \text{ lbs})$

CE = control efficiency

$\text{PM10total (for alloy storage bins 1-6)} = E5 + E6 + E7$

## VI. Miscellaneous Requirements

None

**B. State Only Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P907 - Alloy, additives, and flux handling system (with three storage silos [for flux and ladle carbon] equipped with bin vents, six alloy storage bins, six alloy trim bins, and five alloy batch holding bins)	OAC rule 3745-31-05	LIMIT(s)

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

**III. Monitoring and/or Recordkeeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

61

**V and M Star**

**PTI Application: 02 20202**

**Issued**

**Facility ID: 0250110625**

Emissions Unit ID: P907

None

**VI. Miscellaneous Requirements**

None