



Environmental  
Protection Agency

Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Korleski, Director

12/29/2010

Certified Mail

Daniel Lake  
Faircrest Steel  
1835 Dueber Ave, S.W.  
Canton, OH 44706-2798

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 1576222001  
Permit Number: P0104388  
Permit Type: OAC Chapter 3745-31 Modification  
County: Stark

Yes	TOXIC REVIEW
Yes	PSD
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
Yes	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Please complete a survey at [www.epa.ohio.gov/dapc/permitsurvey.aspx](http://www.epa.ohio.gov/dapc/permitsurvey.aspx) and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Kevin Boyce," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. 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, OH 43215

The Ohio EPA is encouraging 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 Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Canton City Health Department. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA  
Canton; Pennsylvania; West Virginia





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Faircrest Steel**

Facility ID: 1576222001  
Permit Number: P0104388  
Permit Type: OAC Chapter 3745-31 Modification  
Issued: 12/29/2010  
Effective: 12/29/2010





## Response to Comments

Response to comments for: Permit-To-Install

Facility ID:	1576222001
Facility Name:	Faircrest Steel
Facility Description:	Faircrest Steel Plant
Facility Address:	1835 Dueber Avenue, S.W. Canton, OH 44706 Stark County
Permit #:	P0104388, OAC Chapter 3745-31 Modification
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the The Canton Repository on 11/15/2010. The comment period ended on 12/20/2010.	
Hearing date (if held)	12/16/2010
Hearing Public Notice Date (if different from draft public notice)	12/3/2010

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. Topic: Emissions increases from tire burning. (Submitted by USEPA)
  - a. Comment: In substituting tires for coke in the Electric Arc Furnaces (EAFs), were increases in CO, PM, and HAPs such as benzene taken into account?
  - b. Response: Yes. The permitted allowable emissions for CO and PM due to burning of tires for coke were based on a review of emissions data obtained from trial test-burns performed with and without tires in the EAF at Timken's Faircrest Steel Plant in 2006. Derivation of the PM and CO allowables with tire burning is further explained in the "Testing" terms of the PTI.

Although Timken's 2006 test-burn did not include benzene sampling, there is a considerable amount of other test data comparing emissions from combustion processes with and without supplemental tires or tire derived fuel (TDF). These other studies demonstrate that TDF substitution do not result in any emissions rate increases of a number of HAP's, including benzene. For example, an article in "Environmental Progress", July 2001, (Vol.20, No.2) titled "Air Regulatory Impacts of the Use of Tire-Derived Fuel", pg.85 tabulates a summary of data from a cross section of emission test reports which

shows either no change or a decrease in HAP,s and benzene when TDF is used to supplement the main fuel.

2. Topic: NSPS Subpart CCCC applicability (Submitted by USEPA)
  - a. Comment: By burning tires, would these facilities be subject to Commercial and Industrial Solid Waste Incinerator NSPS Subpart CCCC?
  - b. Response: The Ohio EPA believes that Subpart CCCC is not applicable to the EAFs because they do not meet the definition of a “Commercial and Industrial Solid Waste Incineration Unit (CISWI)” unit in that they do not combust “commercial or industrial waste” because they are designed to recover the energy from the burning of the tires (the energy is used in the melting of scrap iron). See Section 60.2265 of Subpart CCCC for the full definition of the quoted terms.

In addition, the EAFs are exempt from Subpart CCCC in accordance with paragraph 60.2020(h) because they “combust waste for the primary purpose of recovering metal” (iron and steel), “such as primary and secondary smelters”.



Division of Air Pollution Control
Permit-to-Install
for
Faircrest Steel

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## Authorization

Facility ID: 1576222001  
Facility Description: Faircrest Steel Plant  
Application Number(s): A0036605, A0036894, A0038296, A0040680  
Permit Number: P0104388  
Permit Description: Increase annual steel production of the EAF, burn scrap tires in the EAF to replace coke, add new Soaking Pit and new Caster.  
Permit Type: OAC Chapter 3745-31 Modification  
Permit Fee: \$2,050.00  
Issue Date: 12/29/2010  
Effective Date: 12/29/2010

This document constitutes issuance to:

Faircrest Steel  
1835 Dueber Avenue, S.W.  
Canton, OH 44706

of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Canton City Health Department  
420 Market Avenue  
Canton, OH 44702-1544  
(330)489-3385

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section 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 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

Chris Korleski  
Director



## Authorization (continued)

Permit Number: P0104388  
Permit Description: Increase annual steel production of the EAF, burn scrap tires in the EAF to replace coke, add new Soaking Pit and new Caster.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

<b>Emissions Unit ID:</b>	<b>P102</b>
Company Equipment ID:	#1 EAF
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P130</b>
Company Equipment ID:	New soaking pit
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P131</b>
Company Equipment ID:	Caster
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

## **A. Standard Terms and Conditions**



**1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A.2.a), Severability Clause
  - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A.9., Reporting Requirements
  - (5) Standard Term and Condition A.10., Applicability
  - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A.14., Public Disclosure
  - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A.16., Fees
  - (10) Standard Term and Condition A.17., Permit Transfers

**2. Severability Clause**

- a) 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.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they 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 and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

**3. 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 re-issuance, or modification.

- 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, 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 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.

#### **4. Monitoring and Related Record Keeping 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:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) 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:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Canton City Health Department.

- (2) 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 Canton City Health Department. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
  - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Canton City Health Department every six months, 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.
  - (4) This permit is for an emissions unit located at a Title V facility. 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.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## 5. 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 Canton City Health Department 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).

## 6. Compliance Requirements

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

- c) 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:
  - (1) 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.
  - (2) 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.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) 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.
- d) The permittee shall submit progress reports to the Canton City Health Department 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:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) 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.

**7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

**8. 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.

**9. 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 Canton City Health Department.

- 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 Canton City Health Department. 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 (i.e., postmarked) quarterly, 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.)

## **10. 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).

## **11. Construction of New Sources(s) and Authorization to Install**

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. 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 this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit 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.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. 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.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently

removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

## 12. Permit-To-Operate Application

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).

## 13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

## 14. 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.

**15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

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., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**16. 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 any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

**18. 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.

**19. 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.

## **B. Facility-Wide Terms and Conditions**

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

a) [OAC rule 3745-31-10(A)(1)]

Before beginning actual construction of the new source review (NSR) project, the permittee shall document and maintain a record of the following information:

- (1) A description of the NSR project;
- (2) Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the NSR project; and
- (3) A description of the applicability test used to determine that the NSR project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of "could have accommodated" emissions excluded under paragraph (AAAAA)(1)(c) of rule 3745-31-01 of the Administrative Code and an explanation for why such amount was excluded, and any netting calculations, if applicable.

b) [OAC rule 3745-31-10(A)(2)]

The information required in OAC rule 3745-31-10(A)(2) was documented and submitted to the Ohio EPA within the Permit to Install application for the Harrison Steel Plant Permit-to-Install (Permit Number: P0105790) and Faircrest Steel Plant Permit-to-Install (Permit Number: P0104388). Both permits are considered one project for purposes of determining applicability of Major Source NSR.

c) [OAC rule 3745-31-10(A)(3)]

The permittee shall calculate the NO<sub>x</sub>, SO<sub>2</sub>, PM, PM<sub>10</sub>/PM<sub>2.5</sub>, CO, VOC, and Pb emissions from the emissions units affected by the Project (i.e., emissions units: P102, P130, and P132) as identified in the permit to install application and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change.

d) [OAC rule 3745-31-10(A)(5)]

The permittee shall submit a report to the director if the annual emissions, in tons per year as calculated pursuant to OAC rule 3745-31-10(A)(3), from the Project, exceed 40 tons per year of NO<sub>x</sub>, VOC, or SO<sub>2</sub>, 100 tons per year of CO, 25 tons per year of PM, 15 tons per year of PM<sub>10</sub>, 10 tons per year of PM<sub>2.5</sub>, or 0.6 ton per year of lead (Pb) per year, (i.e., the baseline actual emissions increase by a significant amount) and if such emissions differ from the preconstruction projection as documented and maintained pursuant to OAC rule 3745-31-10(A)(1). Such reports shall be submitted to the director within 60 days after the end of such year. The report shall contain the following:

- (1) The name, address, and telephone number of the major stationary source; and
- (2) The annual emissions as calculated pursuant to OAC rule 3745-31-10(A)(3)

## **C. Emissions Unit Terms and Conditions**



**1. P102, #1 EAF**

**Operations, Property and/or Equipment Description:**

200 tph electric arc furnace with Direct Evacuation Control (DEC), building evacuation system, and baghouse.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rules 3745-31-10 through OAC rule 3745-31-20  Best Available Control Technology (BACT) Determinations	CO emissions shall not exceed 3.5 lbs/ton, 700 lbs/hr, and 2275 tons per year.  VOC emissions shall not exceed 0.17 lb/ton, 34 lbs/hr, and 110.5 tons per year.  See b)(2)f.
b.	OAC rule 3745-31-05(D)  Synthetic Minor Restrictions to Avoid Major Source New Source Review	Filterable PM10 emissions shall not exceed 49.4 TPY as a rolling, 12-month summation.  See b)(2)h.  SO2 emissions from Emission Units P102, P258, and P292 combined shall not exceed 419 tons/yr as a rolling, 12-month summation. See c)(3) and c)(4)
c.	ORC 3704.03(T)  Best Available Technology (BAT) Determinations for NAAQS Pollutants > 10 TPY	Filterable PM10 emissions shall not exceed 0.0017 gr/dscf  Filterable PM2.5 emissions shall not exceed 0.0009 gr/dscf.  See b)(2)c.  SO2 emissions shall not exceed 0.52



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		lb/ton.  NOx emissions shall not exceed 0.20 lb/ton.
d.	OAC rule 3745-31-05(A)(3) (as effective 11/30/01)	Pb emissions shall not exceed 0.001 lb/ton, 0.20 lb/hr and 0.65 ton/yr. See b)(2)d.
e.	OAC rule 3745-31-05(A)(3)(b) (as effective 12/01/06)	See b)(2)e.
f.	OAC rule 3745-114	Mercury (Hg) emissions shall not exceed 0.0000185 lb/ton steel, 0.0037 lb/hr, and 0.012 tpy. See b)(2)b.  Fluoride emissions shall not exceed 0.007 lb/ton steel, 1.4 lb/hr, and 4.6 tpy.
g.	OAC rule 3745-17-11	The particulate emission (PE) limitation specified by this rule is less stringent than the PM10 and PM2.5 emissions limitations established pursuant to OAC rule 3745-31-05(D).
h.	OAC rule 3745-17-07(A)(1)  OAC rule 3745-17-07(B)(3)  OAC rule 3745-17-08	The visible emission limitations specified by these rules are less stringent than the visible emission limitations established pursuant to 40 CFR Part 60, Subpart AAa.
i.	OAC rule 3745-18-06	The SO2 emissions limitation specified by this rule is less stringent than the emissions limitation established pursuant to OAC rule 3745-31-05(D).
j.	40 CFR Part 60, Subpart AAa	Visible particulate emissions from the baghouse shall not exceed three (3) per cent opacity as a six-minute average.  Visible particulate emissions of fugitive dust from the melt shop shall not exceed six (6) per cent opacity as a six-minute average.  Visible particulate emissions from the melt shop baghouse dust handling equipment shall not exceed ten (10) per cent opacity as a six-minute average.  The mass emissions limitation specified by this rule is less stringent than the mass emissions limitation established pursuant to OAC rule 3745-31-05(D).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
k.	40 CFR Part 63, Subpart YYYYYY (40 CFR Part 63.10681 -10692)  [In accordance with 40 CFR 63.10680(a) and (b)(1), this emissions unit is an electric arc furnace (EAF) that is an area source of hazardous air pollutants (HAPs) and commenced construction on or before September 20, 2007.]	The mass emissions limitations and opacity limitations specified by 63.10686(b)(1) and (b)(2) of this rule are less stringent than the emissions limitations established pursuant to 40 CFR Part 60, Subpart AAa, OAC rule 3745-31-10 through OAC rule 3745-31-20, and OAC rule 3745-31-05(D).  See b)(2)g.
l.	40 CFR 63.1-16 (40 CFR 63.10690)	Table 1 to Subpart YYYYYY of 40 CFR Part 63 – Applicability of General Provisions to Subpart YYYYYY shows which parts of the General Provisions in 40 CFR 63.1-16 apply.

(2) Additional Terms and Conditions

- a. The requirements of this Permit to Install supersede the requirements of PTI No. 15-01339 issued on July 15, 2003.
- b. For scrap containing motor vehicle scrap, permittee shall procure the scrap pursuant to one of the options identified in paragraphs (b)(1), (2), or (3) of 40 CFR 63.10685.
- c. The PM10/PM2.5 emissions from this emissions unit shall be collected and controlled by means of a roof canopy hood fume collection system and a Direct Evacuation Control (DEC) system exhausting to a baghouse. Emissions units P103, P119, P120, P121, Z101, and Z102 also exhaust to the baghouse and are typically in operation during operation of this emissions unit.
- d. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- e. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the Pb emissions from this air contaminant source since

the potential to emit , taking into account air pollution controls serving this unit, is less than ten tons per year of Pb emissions.

This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan

- f. The permittee shall employ "Best Available Control Technology" (BACT) for controlling emissions of CO and VOC. BACT for this emissions unit has been determined to be the following:
- i. CO – Use of a Direct Evacuation Control (DEC) system on the EAF with adjustable air gap, elbow, and water cooled ductwork for enhanced burnout of CO. Acceptance of an emissions limitation of 3.5 lbs/ton of steel produced.
  - ii. VOC – The development, maintenance, and process operations under a Scrap Management Plan (SMP) that achieves a maximum emissions rate of 0.170 lb/ton of steel produced.

The emissions limits based on the BACT requirements are listed under OAC rule 3745-31-10 through OAC rule 3745-31-20 above.

- g. The scrap metals processed in this emissions unit are restricted to only those materials that comply with the scrap acquisition and inspection plan described in c)(6).
- h. Rolling average restrictions for PM and PM2.5 emissions to avoid exceeding NSR significance levels are not required because the PM10 restrictions are more stringent based on the emission factors in lb/ton set forth in section f)(1)a through f)(1)g.

c) Operational Restrictions

- (1) The emissions from this emissions unit shall be vented to the baghouse at all times the emissions unit is in operation. The capture system shall be designed and operated such that all emissions are captured and ducted to the baghouse.
- (2) The molten steel production from Emissions Unit P102 shall not exceed the following based upon a rolling, 12-month summation of the monthly molten steel production rates:
  - a. 1,300,000 tons/yr The permittee has existing records to demonstrate compliance with the rolling, 12-month molten steel production limitations specified above. Therefore, individual monthly production limitations for the 12 months following issuance of this permit are not required.

The permittee shall be subject to and shall comply with the applicable rolling, 12-month molten steel production limitation specified above based on the results of the emission testing in Section f).

- (3) The burning of used tires as a substitute for coke in the Electric Arc Furnaces is expected to increase SO<sub>2</sub> emissions. Accordingly, the annual combined quantity of used tires burned at the Faircrest Steel Plant (in P102) and the Harrison Steel Plant (P258

and P292) shall not exceed 12,930 tons/yr based upon a rolling, 12-month summation of the weight of tires burned.

- (4) The rolling, 12-month summation of the combined SO<sub>2</sub> emissions from the EAF's at the Harrison Steel Plant (HSP) and the Faircrest Steel Plant (FSP) shall not exceed 419 tons as calculated from the combined monthly sums of items a.i.(a), a.ii.(a), b.i.(a), b.ii.(a), c.i.(a), and c.ii.(a) below:
- a. P258 at HSP
    - i. SO<sub>2</sub> emissions without tire burning
      - (a)  $0.07 \text{ lb SO}_2 / \text{ ton steel} \times \text{ tons steel/month} \times 1 \text{ ton SO}_2 / 2000 \text{ lb SO}_2$
    - ii. SO<sub>2</sub> emissions with tire burning
      - (a)  $0.44 \text{ lb SO}_2 / \text{ ton steel} \times \text{ tons steel/month} \times 1 \text{ ton SO}_2 / 2000 \text{ lb SO}_2$
  - b. P292 at HSP
    - i. SO<sub>2</sub> emissions without tire burning
      - (a)  $0.07 \text{ lb SO}_2 / \text{ ton steel} \times \text{ tons steel/month} \times 1 \text{ ton SO}_2 / 2000 \text{ lb SO}_2$
    - ii. SO<sub>2</sub> emissions with tire burning
      - (a)  $0.44 \text{ lb SO}_2 / \text{ ton steel} \times \text{ tons steel/month} \times 1 \text{ ton SO}_2 / 2000 \text{ lb SO}_2$
  - c. P102 at FSP
    - i. SO<sub>2</sub> emissions without tire burning
      - (a)  $0.15 \text{ lb SO}_2 / \text{ ton steel} \times \text{ tons steel/month} \times 1 \text{ ton SO}_2 / 2000 \text{ lb/S}$
    - ii. SO<sub>2</sub> emissions with tire burning
      - (a)  $0.52 \text{ lb SO}_2 / \text{ ton steel} \times \text{ tons steel/month} \times 1 \text{ ton SO}_2 / 2000 \text{ lb/S}$
- (5) Sulfur shall not be added to this Electric Arc Furnace.
- (6) Prior to initiating modifications of this emissions unit per this permit (Permit Number P0104388), the permittee shall submit a Scrap Management Plan (SMP) to the Canton local air agency for review and approval. The SMP shall be implemented immediately after approval by the Canton LAA. The SMP shall incorporate the following restrictions on all scrap steel purchased or used by the facility for charging the EAF:
- a. Scrap materials must be depleted to the extent practicable of undrained used oil filters, chlorinated plastics, and free organic liquids.
  - b. Removal to the extent practicable of lead-containing components (such as batteries, battery cables, and wheel weights) from the scrap, except for scrap used to produce leaded steel.

- c. Motor vehicle scrap must be depleted to the extent practicable of mercury-containing switches.
  - d. As part of the SMP, the permittee shall install a radionuclide detector which will be used to inspect all incoming scrap material into the facility. Radioactive scrap material shall not be used at this facility.
- (7) The emission factors in section f)(1), expressed in lb/ton, are derived from emissions data obtained from stack testing during trial runs at the Faircrest Steel Plant while adding used tires to the EAF charge at the average rate of 2000 lbs tires/150 tons steel per hour, or 13.3 lbs tires/ ton steel. Therefore the tire addition rate to P102 shall not exceed 13.3 lbs tires/ ton steel x 200 tons steel/hr\* = 2660 lb tires/hr.
- \* maximum rated hourly capacity of EAF P102.
- (8) See 40 CFR Part 60, Subpart AAa (40 CFR Part 60.271a - 60.276a)
- (9) See 40 CFR Part 63, Subpart YYYYYY (40 CFR Part 63.10681 – 63.10692).
- d) Monitoring and/or Recordkeeping Requirements
- (1) In accordance with NSPS Subpart AAa, observations of the opacity of the visible emissions from the control devices shall be performed by a certified visible emission observer as follows:
- a. Visible emission observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period. These observations shall be taken in accordance with Method 9 and, for at least three 6-minute periods, the 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 the visible emission, only one set of three 6-minute observations will be required. In this case, Method 9 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. Records shall be maintained of any 6-minute average that is in excess of the 3 percent opacity limit.
- (2) In accordance with NSPS Subpart AAa, a furnace static pressure monitoring device is not required on this EAF because it is equipped with a DEC system and observations of the opacity of the visible emissions from the shop shall be performed by a certified visible emission observer as follows:
- a. Visible emission observations shall be conducted at least once per day when the furnace is operating in the meltdown and refining period. 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. Where it is possible to determine that a number of visible emission sites relate to only one incident of the 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.

- (3) The permittee shall maintain records to identify the persons responsible for conducting the opacity readings and to verify that their Method 9 certifications are valid.
- (4) The permittee shall monitor the operation of the furnace control systems and maintain records in accordance with the following requirements:
- a. The permittee shall either: check and record the control system fan motor amperes and damper position on a once-per-shift basis; install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate at the control device inlet and check and record damper positions on a once-per-shift basis. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of  $\pm 10$  percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Ohio EPA, DAPC may require the permittee to demonstrate the accuracy of the monitoring devices relative to Methods 1 and 2 of Appendix A of 40 CFR, Part 60.
  - b. Either the control system fan motor amperes and all damper positions, the volumetric flow rate through each separately ducted hood, or the volumetric flow rate at the control device inlet and all damper positions shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the EAF. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate levels for each applicable period. Operation at other than baseline values may be considered by the Ohio EPA, DAPC to be unacceptable operation and maintenance of the control system. The permittee may petition the Ohio EPA for reestablishment of these parameters whenever the permittee can demonstrate to the Agency's satisfaction that the operating conditions upon which the parameters were previously established are no longer applicable.
  - c. The permittee shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture systems (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 ductwork, and fan erosion). Any deficiencies shall be recorded and proper maintenance performed. The permittee may petition the Ohio EPA, DAPC to approve any alternative to monthly operational status inspections that will provide a continuous record of the operation of each emission capture system.
- Upon approval by the USEPA, an alternative method may be established to replace the monitoring and recordkeeping requirements found in (4)a., (4)b., and (4)c., above.
- (5) The acceptable range for the pressure drop across the baghouse shall be 3.0 to 13.0 inches water gauge.

The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a once per shift basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable range for the pressure drop across the baghouse shall be 3.0 to 13.0 inches water gauge, as given in the PTI Application, until such time as any required performance testing is conducted and the appropriate range is established to demonstrate compliance.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification to this PTI or a minor permit modification to the TV permit.

- (6) The permittee shall maintain daily records of:
  - a. the time, duration, and weight of each charge;
  - b. the time, duration, and weight of each tap, in tons;
  - c. the time interval for each tap to tap cycle; and
  - d. the hourly tap to tap (tons/hr) for each tap.
- (7) The permittee shall calculate and record daily the total weight of tires added per ton of steel for each EAF tap to tap cycle and the total weight of tires added per hour.
- (8) The permittee shall maintain monthly records of the following information:
  - a. the molten steel production rate for each month without tire burning;
  - b. the molten steel production rate for each month with tire burning;
  - c. the rolling, 12-month summation of the molten steel production rates;
  - d. the combined weight of tires burned in P102, P258, and P292 for each month;
  - e. the rolling, 12-month summation of the tires burned in P102, P258, and P292;
  - f. the combined SO<sub>2</sub> emissions from P102, P258, and P292 for each month; and
  - g. the rolling, 12-month summation of the combined SO<sub>2</sub> emissions from P102, P258, and P292.
- (9) The Permit to Install (PTI) application for this emissions unit, P102, was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
- i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
  - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" = 24 hours per day and "Y" = 7 days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$\text{TLV}/10 \times 8/X \times 5/Y = 4 \text{ TLV}/XY = \text{MAGLC}$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year):

Toxic Contaminant: Fluoride

TLV (ug/m3): 2500

Maximum Hourly Emission Rate (lbs/hr): 1.4

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1.5

MAGLC (ug/m3): 59.5

Predicted 30-day average Maximum Ground-Level Concentration (ug/m3): 0.27  
(defined as 0.18 x the Predicted 1-Hour Maximum Ground-Level Concentration)

Maximum Acceptable 30-day average ground-level Concentration (ug/m3): 0.50

The permittee, has demonstrated that emissions of fluoride, from emissions unit P102, is calculated to be less than eighty per cent of the Maximum Acceptable Ground-Level concentration (MAGLC) and less than the Maximum Acceptable 30-Day Average Ground-Level Concentration. Any new raw material or processing agent shall not be

applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

- (10) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted maximum ground-level concentrations", the permittee shall re-model the change(s) to demonstrate that the MAGLC's have not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour and 30-day average maximum ground-level concentrations include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
  - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
  - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground-level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- (11) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F),

- initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
- d. the documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- (12) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum and 30-day average ground-level concentrations. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- (13) See 40 CFR Part 60, Subpart AAa (40 CFR Part 60.271a - 60.276a).
- (14) See 40 CFR Part 63, Subpart YYYYY (40 CFR Part 63.10681 – 63.10692).
- e) Reporting Requirements
- (1) The permittee shall submit semiannual deviation (excursion) reports that identify:
- a. 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;
- b. 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 opacity is six percent or greater; and
- c. all exceedances of the visible particulate emission limit for the melt shop baghouse dust handling equipment. For the purpose of these reports, an exceedance is defined as any six-minute period during which the average opacity is ten percent or greater.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
- a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
- b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the baghouse;
- c. each incident of deviation described in (1)a, (1)b, or (1)c above where a prompt investigation was not conducted;

- d. each incident of deviation described in (2)a above where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken;
  - e. all exceedances of the rolling 12-month summation of the molten steel production rate;
  - f. all exceedances of the rolling 12-month summation of the weight of tires burned; and
  - g. all exceedances of the rolling 12-month summation of the combined SO<sub>2</sub> emissions from P258, P292, and P102.
- (3) 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.
- (4) See 40 CFR Part 60, Subpart AAa (40 CFR Part 60.271a - 60.276a).
- (5) See 40 CFR Part 63, Subpart YYYYYY (40 CFR Part 63.10681 – 63.10692).
- f) Testing Requirements
- (1) Compliance with the lb/ton allowable emission factors and grain loading limitations in b)(1) shall be determined in accordance with the following methods in f)(1)a. through f)(1)o. Initial compliance shall be determined in accordance with the testing requirements specified in f)(3).
- a. PM Emission Limitation  
0.10 lb PM/ton steel, and 0.0023 gr PM/dscf  
  
Applicable Compliance Method:  
  
Two stack tests at FSP were compared as shown below: one test while burning tires, another without tires. An increase in PM emissions was seen in the tire-burn test. However, because the stack tests both demonstrate PM emissions which are significantly less than the 0.125 lb/ton limit allowed under the current permit (PTI 15-01339), the post project allowable PM emissions has been reduced to 0.10 lb/ton as requested by the permittee.  
  
PM from Apr - 2006 tire test-burn at FSP, Table 3, Run 2, (highest PM with tires)  
0.042 lb/ton  
  
PM from May - 2008 stack test at FSP, Table 1, Run 3, (lowest value, no tires)  
0.007 lb/ton  
  
Post Project Allowable PM grain loading with tires:  
  
0.10 lb PM/ton x7000gr / lb x1 min/ 1,000,000 dscf x 200 ton/hr x1 hr/ 60 min = 0.0023 gr/dscf

where 200 ton/hr is the maximum capacity of the EAF, and 1,000,000 dscf is the nominal exhaust gas flow rate of the baghouse.

b. Filterable PM10 Emission Limitation:

0.076 lb PM10/ton steel, and

0.0017 gr PM10/dscf

Applicable Compliance Method:

PM10 is assumed to be 76% of PM from AP-42, Table 12.5-2, pg. 12.5-19.

Post Project Allowable PM10 with tires:

$$\text{PM10} = \text{PM} \times 0.76 = 0.10 \text{ lb/ton} \times 0.76 = 0.076 \text{ Lb/ton}$$

Post Project Allowable PM10 grain loading with tires:

$$\text{PM10} = 0.0023 \text{ gr/dscf} \times 0.76 = 0.0017 \text{ gr/dscf}$$

c. PM2.5 Emission Limitation:

0.04 lb PM2.5/ton steel, and

0.0009 gr PM2.5/dscf

Applicable Compliance Method:

PM2.5 is assumed to be 40% of PM as requested by the permittee and to be verified by post project stack testing.

Post Project Allowable PM2.5 with tires:

$$\text{PM2.5} = \text{PM} \times 0.40 = 0.10 \text{ lb/ton} \times 0.40 = 0.040 \text{ Lb/ton}$$

Post Project Allowable PM2.5 grain loading with tires:

$$\text{PM2.5} = 0.0023 \text{ gr/dscf} \times 0.40 = 0.0009 \text{ gr/dscf}$$

d. Emission Limitation (NOx):

0.20 lb NOx/ ton steel

Applicable Compliance Method:

Stack test results from a test-burn at FSP in 4-2006 with and without tires showed a NOx increase when burning tires. This  $\Delta$  NOx at FSP was added to the existing PTI 15-01339 allowable to determine the new allowable EF for tire burning in the HSP EAF as follows:

NOx from 4-2006 tire test burn at FSP, Table 2, Run1 (highest NOx with tires)  
0.15 lb/ton

NOx from 4-2006 tire test burn at FSP, Table 2, Run 3 (no tires)	- <u>0.12 lb/ton</u>
Δ NOx (worst case)	0.03 lb/ton
NOx allowable from current PTI 15-01339	0.20 lb/ton

Because both test runs show NOx emissions close to, but not exceeding, the current PTI allowable of 0.20 lb/ton, the post project allowable NOx emissions will be kept the same as the current PTI 15-01339 allowable:

0.20 lb/ton

e. Emission Limitation (CO):

3.5 lb CO/ ton steel

Applicable Compliance Method:

Results from several stack tests done from 1992 to 2006 showed average CO emissions range from 0.97 lb/ton to 4.8 lbs/ton with no burning of tires. Testing done on 4-2006 while burning tires showed CO emissions of 2.5 lbs/ton and 1.79 lbs/ton (Runs 1 and 2, Table 2 of test report). These values indicate that the allowable CO emissions rate of 4.8 lb/ton established in PTI 15-01339 can be reduced. Since the tire test burn results show no clear conclusion on the effect of tire burning on CO emissions, and past stack tests without tire burning show average CO emissions of 3.2 lbs/ton, it was decided to apply a 40% margin to the worst case CO emissions of 2.5 lbs/ton when burning tires to set the new allowable CO emissions at 3.5 lb/ton.

f. Emission Limitation (SO2):

0.52 lb SO2/ ton steel

Applicable Compliance Method:

Stack test results from a test-burn at FSP in 4-2006 with and without tires showed an SO2 increase when burning tires. This Δ SO2 at FSP was added to the existing PTI 15-01339 allowable to determine the new allowable EF for tire burning in the HSP EAF.

SO2 from 4-2006 tire test burn at FSP, Table 2, Run1 (highest SO2 with tires)	0.51 lb/ton
SO2 from 4- 2006 tire test burn at FSP Table 2, Run 3 (no tires)	- <u>0.14 lb/ton</u>
Δ SO2 (worst case)	0.37 lb/ton
SO2 allowable from current PTI 15-01339	0.15 lb/ton
Δ SO2 (worst case)	<u>+ 0.37 lb/ton</u>
Post Project Allowable SO2 with tires	0.52 lb/ton



g. Emission Limitation(VOC):

0.17 lb VOC/ ton steel

Applicable Compliance Method:

Stack test results from a test-burn at FSP in 4-2006 with and without tires showed a VOC increase when burning tires. This Δ in VOC was added to the existing PTI 15-01339 allowable to determine the new allowable EF for tire burning in the HSP EAF as follows:

VOC from 4-2006 tire test burn at FSP, Table 2, Run1 (highest VOC with tires) 0.09 lb/ton

VOC from 4- 2006 tire test burn at FSP Table 2, Run 3 (no tires) - 0.02 lb/ton

Δ VOC (worst case) 0.07 lb/ton

VOC allowable from current PTI 15-01339 0.10 lb/ton

Δ VOC (worst case) + 0.07 lb/ton

Post Project Allowable VOC with tires: 0.17 lb/ton

h. Emission Limitation (Pb):

Pb emissions shall not exceed 0.001 lb/ton steel

Applicable Compliance Method:

Stack test results from a test-burn at FSP in 4-2006 with and without tires showed a negligible increase in Pb emissions when burning tires as follows:

Pb from 4-2006 tire-test burn at FSP, Table 3, Run1 (highest Pb with tires) 0.000048 lb/ton

Pb from 4-2006 tire test burn at FSP, Table 3, Run 3 (no tires) 0.000045 lb/ton

Δ Pb (worst case) Negligible 0.000003 lb/ton

Pb allowable from current PTI 15-01339 0.0013 lb/ton

Δ Pb (worst case) Negligible (0.000003) 0.0000 lb/ton

Post Project Allowable PM with tires (unadjusted)\* 0.0013 lb/ton

\*Since the facility has accepted a post project reduction in their current allowable PM emissions from 0.125 lb/ton to 0.10 lb/ton, a corresponding reduction in Pb emissions is expected as follows:

$0.0013 \text{ lb Pb/ton} \times 0.10 \text{ lb PM/ton} = 0.0010 \text{ lb Pb/ton}$

Post Project Allowable PM with tires (adjusted): 0.0010 lb/ton

i. Emission Limitation (Hg):

Mercury (Hg) emissions shall not exceed 0.0000185 lb/ton

Applicable Compliance Method:

The allowable emissions factor of 0.0000185 lb/ton is the same as used in the previous PTI 15-01339. The proposed used tire feedstock contains no Hg, and consequently the burning of tires is not expected to affect the emissions factor. The permittee shall maintain a scrap management plan to control the presence of Hg in the scrap received by purchasing or utilizing motor vehicle scrap from providers who purchase motor vehicle scrap through the National Vehicle Mercury Switch Recovery Program (NVMSRP).

j. Emission Limitation (Fluoride):

Fluoride emissions shall not exceed 0.007 lb/ton

Applicable Compliance Method:

Burning of tires is not expected to affect the hourly fluoride emissions rate. Therefore the allowable emissions factor of 0.007 lb/ton is the same as used in the previous PTI 15-01339.

A typical analysis of scrap tires (without wire) has a fluoride (F) content of 0.0010 % by weight. Assuming the worst case where all the F in the fuel analysis is exhausted to the baghouse and the maximum allowable quantity of tires is charged (838 lb tires/hr), the maximum F emissions with the EAF operating at 200 tph are:

$$\text{Fluoride emissions} = \frac{0.001 \text{ lb F} / 100 \text{ lb tires} \times 838 \text{ lb tires/hr}}{200 \text{ ton/hr}} = 0.00004 \text{ lb F} / \text{ton}$$

The baghouse efficiency for Fluoride capture was 99.57 % during a 4-15,16-2002 stack test at FSP.

Conservatively assuming a baghouse efficiency of 99.5 % for Fluoride capture, the additional outlet loading for F leaving the baghouse from F in the tires is:

$$0.00004 \text{ lb F/ton} \times (1 - 0.995) = 0.00000002 \text{ lb F/ton hr, which is negligible compared to the allowable rate of } 0.007 \text{ lb F/ton.}$$

k. Emission Limitation:

Filterable PM10 emissions shall not exceed 0.0017 gr/dscf and

Filterable PM2.5 emissions shall not exceed 0.0009 gr/dscf.

Applicable Compliance Method:

Compliance with each gr/dscf limitation is demonstrated by the applicable calculations in the Testing Requirements Section f)(1)b. through f)(1)g. above.

I. Emission Limitation:

CO emissions shall not exceed 700 lbs/hr, and 2275 tons per year

VOC emissions shall not exceed 34 lbs/hr, and 110.5 tons per year

Pb emissions shall not exceed 0.20 lbs/hr, and 0.65 tons per year

Mercury (Hg) emissions shall not exceed 0.0037 lb/hr and 0.012 tons per year

Fluoride emissions shall not exceed 1.4 lb/hr and 4.6 tpy

Applicable Compliance Method:

Compliance with each hourly emission limitation is demonstrated by multiplying the applicable allowable emissions factor from f)(1)a. through f)(1)j., in lb/ton steel, by the maximum capacity of the EAF (200 tons steel/hr).

Each annual limitation was established by multiplying the applicable allowable emissions factor from f)(1)a. through f)(1)j., in lb/ton steel, by the maximum annual production capacity of the EAF in tons steel/yr and dividing by a conversion factor of 2000 lb/ton. Therefore compliance with the applicable allowable emission factor from f)(1)a. through f)(1)j. demonstrates compliance with the corresponding annual emission limitation.

m. Emission Limitation:

Filterable PM10 emissions shall not exceed 49.4 tons/yr.

Applicable Compliance Method:

Compliance with the annual PM10 emissions limitations shall be demonstrated by multiplying the PM10 emissions factor of 0.0.76 lb PM10/ton steel by the 12-month rolling sum for molten steel production, in tons, from the recordkeeping section [d)(8)c], and dividing by a conversion factor of 2000 lb / ton

n. Emission Limitation:

SO2 emissions from Emission Units P102, P258, and P292 combined shall not exceed 419 tons/yr.

Applicable Compliance Method:

Compliance with the annual combined SO2 limitation shall be demonstrated by the records required in section d)(8)f and d)(8)g.

- (2) Compliance with the remaining emission limitations in b)(1) shall be determined in accordance with the following methods:

Emission Limitation:

Visible particulate emissions from the baghouse shall not exceed 3% opacity. Visible particulate emissions of fugitive dust shall not exceed 6% opacity from the melt shop area and 10% opacity from the associated dust handling equipment.

Applicable Compliance Method:

Compliance with the allowable visible emissions limitations shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9.

- (3) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 6 months after start-up of the modified emission unit.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable emission factors in lbs/ton each for emissions of Filterable PM, Filterable PM10, Filterable PM2.5, NOx, CO, SO2, VOC, Pb, Hg, and Fluoride, and to demonstrate the exhaust gas flow rate of the baghouse in dscfm.
- c. The following test methods found in 40 CFR Part 60, Appendix A shall be employed (alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA):
  - i. Filterable PM: Method 5D
  - ii. Filterable PM10: Method 201 or 201A
  - iii. Filterable PM2.5: Other Test Method (OTM) 27
  - iv. NOx: Method 7 or 7A
  - v. CO: Method 10
  - vi. SO2: Method 6 or 6A
  - vii. VOC: Method 18, 25, or 25A
  - viii. Pb: Method 12 or 29
  - ix. Hg: Method 29
  - x. Fluoride Method 13
- d. The tests shall be conducted at the baghouse outlet while the emissions unit is operating at or near its maximum steel production capacity of 200 tph with the maximum allowable amount of tires included in the furnace charge (13.3 lbs

tires/ ton steel), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

- e. The following emission units (EU's) exhaust to the baghouse in addition to P102 (EAF):
  - P103 (Ladle Refiner), classified as deminimus,
  - P119 (Ladle Preheater #2), 10mm Btu/hr,
  - P120 (Ladle Preheater #3), 10mm Btu/hr,
  - P121 (Ladle Preheater #4), 10mm Btu/hr,
  - Z101 (Slag Processing), and
  - Z102 (Hot Metal Transfer).
- f. The additional emissions contributed by these EU's are negligible (estimated at 1-3% of total emissions leaving the baghouse) compared to the emissions from P102. Consequently the compliance of P102 shall be presumed if the stack test results for the combined emissions do not exceed the permit allowable emission rates for P102 by more than 3%.
- g. 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).
- h. 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.
- i. 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.

g) **Miscellaneous Requirements**

- (1) None.



**2. P130, New soaking pit**

**Operations, Property and/or Equipment Description:**

Natural gas-fired (20 mmBtu/hr) soaking pit

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (as effective 11/30/01)	The emissions limitations for NOx and CO specified by this rule are equivalent to the emissions limitations established pursuant to OAC rule 3745-31-10 through 3745-31-20.  See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(b) (as effective 12/01/06)	See b)(2)b.
c.	OAC rule 3745-31-10 through OAC rule 3745-31-20	NOx emissions shall not exceed 1.3 lb/hr and 5.5 tons/year.  CO emissions shall not exceed 1.7 lb/hr and 7.4 tons/year.  See b)(2)c. and b)(2)d.
d.	OAC 3745-17-11	Exempt. See b)(2)e.
e.	OAC 3745-17-10	Exempt. See b)(2)f.
f.	OAC rule 3745-17-07(A)(1)	Exempt. See b)(2)g.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that

BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- b. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO<sub>x</sub> and CO emissions from this air contaminant source since the uncontrolled potential to emit for NO<sub>x</sub> and CO emissions is less than ten tons per year each.

This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

- c. The permittee shall employ "Best Available Control Technology" (BACT) for controlling emissions of NO<sub>x</sub> and CO. BACT for this emissions unit has been determined to be the following:
- i. NO<sub>x</sub> – Use of low NO<sub>x</sub> burners and acceptance of a NO<sub>x</sub> emissions limitation of 63 lb/mmscf of natural gas burned.
  - ii. CO – Good combustion practices and acceptance of a CO emissions limitation of 84 lb/mmscf of natural gas burned.
  - iii. Compliance with the emissions limits listed in b)(1)c above.
- d. This emissions unit has emissions of sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC's), and particulate matter 10 microns or less in size (PM<sub>10</sub>) which are associated with the combustion of natural gas. The potential emissions of SO<sub>2</sub>, VOC's, and PM<sub>10</sub> are negligible and therefore emissions limits for these pollutants have not been established for this emissions unit.
- e. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply pursuant to OAC rule 3745-17-11(A)(4) because the process weight that causes any emissions of particulate matter is equal to zero.
- f. This emissions unit is designed such that the products of combustion come into direct contact with materials being processed and therefore does not meet the definition of "fuel burning equipment" given in OAC rule 3745-17-01(B)(5). It is, therefore, exempt from emission limitations and control requirements contained in OAC rule 3745-17-10 for fuel burning equipment.
- g. This emissions unit is exempt from the visible particulate emissions limitations specified in OAC rule 3745-17-07(A)(1), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC 3745-17-11 is not applicable.

c) Operational Restrictions

(1) The permittee shall use only natural gas as fuel for this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type, quantity, and quality of fuel burned in this emissions unit.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitation:

NOx emissions shall not exceed 1.3 lb/hr and 5.5 tons/yr

Applicable Compliance Method:

To determine the NOx emission rate (E) in lb/hr from burning natural gas, the following equation shall be used:

$E = (A) \times (B)$ , where

A = 63 lb/mmscf based on adding a 25% margin to the 50 lb/mmscf emission factor for low NOx burners firing natural gas from AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-1, 7/98

B = 0.020 mmscf/ hr, maximum fuel consumption rate of the furnace

The annual limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore compliance with the hourly NOx emission limitation demonstrates compliance with the annual NOx emission limitation.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation through emissions testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7 or 7E. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

b. Emission Limitation:

CO emissions shall not exceed 1.7 lbs/hour and 7.4 tons/yr

Applicable Compliance Method:

To determine the CO emission rate (E) in lb/hr from burning natural gas, the following equation shall be used:

$E = (A) \times (B)$ , where

A = 84 lb/mmscf, emission factor for CO using low NOx burners firing natural gas from AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-1, 7/98

B = 0.020 mmscf/ hr, maximum fuel consumption rate of the furnace

The annual limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore compliance with the hourly CO emission limitation demonstrates compliance with the annual CO emission limitation.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation through emissions testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 10. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

g) Miscellaneous Requirements

(1) None.



3. P131, Caster

Operations, Property and/or Equipment Description:

Natural gas-fired continuous caster (30 mmBtu/hr)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (as effective 11/30/01)	The emissions limitations for NOx specified by this rule are equivalent to the emissions limitations established pursuant to OAC rule 3745-31-10 through 3745-31-20.  See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(b) (as effective 12/01/06)	See b)(2)b.
c.	OAC rule 3745-31-10 through OAC rule 3745-31-20	NOx emissions shall not exceed 1.9 lb/hr and 8.3 tons/year.  CO emissions shall not exceed 2.5 lb/hr and 11.0 tons/year.  See b)(2)c. and b)(2)d.
d.	OAC 3745-17-11	Exempt. See b)(2)e.
e.	OAC 3745-17-10	Exempt. See b)(2)f.
f.	OAC rule 3745-17-07(A)(1)	Exempt. See b)(2)g.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that

BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- b. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NO<sub>x</sub> emissions from this air contaminant source since the uncontrolled potential to emit for NO<sub>x</sub> emissions is less than ten tons per year.

This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

- c. The permittee shall employ "Best Available Control Technology" (BACT) for controlling emissions of NO<sub>x</sub> and CO. BACT for this emissions unit has been determined to be the following:
- i. NO<sub>x</sub> – Use of low NO<sub>x</sub> burners and acceptance of a NO<sub>x</sub> emissions limitation of 63 lb/mmscf of natural gas burned.
  - ii. CO – Good combustion practices and acceptance of a CO emissions limitation of 84 lb/mmscf of natural gas burned.
  - iii. Compliance with the emissions limits listed in b)(1)c above.
- d. This emissions unit has emissions of sulfur dioxide (SO<sub>2</sub>), volatile organic compounds (VOC's), and particulate matter 10 microns or less in size (PM<sub>10</sub>) which are associated with the combustion of natural gas. The potential emissions of SO<sub>2</sub>, VOC's, and PM<sub>10</sub> are negligible and therefore emissions limits for these pollutants have not been established for this emissions unit.
- e. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 pounds per hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply pursuant to OAC rule 3745-17-11(A)(4) because the process weight that causes any emissions of particulate matter is equal to zero.
- f. This emissions unit is designed such that the products of combustion come into direct contact with materials being processed and therefore does not meet the definition of "fuel burning equipment" given in OAC rule 3745-17-01(B)(5). It is, therefore, exempt from emission limitations and control requirements contained in OAC rule 3745-17-10 for fuel burning equipment.
- g. This emissions unit is exempt from the visible particulate emissions limitations specified in OAC rule 3745-17-07(A)(1), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC 3745-17-11 is not applicable.

c) Operational Restrictions

(1) The permittee shall use only natural gas as fuel for this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type, quantity, and quality of fuel burned in this emissions unit.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitation:

NOx emissions shall not exceed 1.9 lb/hr and 8.3 tons/yr

Applicable Compliance Method:

To determine the NOx emission rate (E) in lb/hr from burning natural gas, the following equation shall be used:

$E = (A) \times (B)$ , where

A = 63 lb/mmescf based on adding a 25 % margin to the 50 lb/mmescf emission factor for low NOx burners firing natural gas from AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-1, 7/98

B = 0.030 mmescf/ hr, maximum fuel consumption rate of the furnace

The annual limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore compliance with the hourly NOx emission limitation demonstrates compliance with the annual NOx emission limitation.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation through emissions testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7 or 7E. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

b. Emission Limitation:

CO emissions shall not exceed 2.5 lbs/hour and 11.0 tons/yr

Applicable Compliance Method:

To determine the CO emission rate (E) in lb/hr from burning natural gas, the following equation shall be used:

$E = (A) \times (B)$ , where

A = 84 lb/mmscf, emission factor for CO using low NOx burners firing natural gas from AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-1, 7/98

B = 0.030 mmscf/ hr, maximum fuel consumption rate of the furnace

The annual limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore compliance with the hourly CO emission limitation demonstrates compliance with the annual CO emission limitation.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation through emissions testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 10. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

g) Miscellaneous Requirements

(1) None.