



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

8/25/2016

Mr. Daniel Pellegrini
TimkenSteel Corporation - Faircrest Steel Plant
4511 Faircrest Street SW
FSP-01
Canton, OH 44706

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 1576222001
Permit Number: P0121454
Permit Type: Administrative Modification
County: Stark

Certified Mail

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

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA)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. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

How to appeal this permit

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 Josh Mandel," 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
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

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. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

What should you do if you notice a spill or environmental emergency?

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

If you have any questions regarding your permit, please contact Canton City Health Department at (330)489-3385 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

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



FINAL

**Division of Air Pollution Control
Permit-to-Install**

for

TimkenSteel Corporation - Faircrest Steel Plant

Facility ID:	1576222001
Permit Number:	P0121454
Permit Type:	Administrative Modification
Issued:	8/25/2016
Effective:	8/25/2016



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

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Final Permit-to-Install
TimkenSteel Corporation - Faircrest Steel Plant
Permit Number: P0121454
Facility ID: 1576222001
Effective Date:8/25/2016

Authorization

Facility ID: 1576222001
Facility Description: Steel mill w/ EAF
Application Number(s): M0004122
Permit Number: P0121454
Permit Description: Agency-initiated Administrative Modification to PTI P0119479 issued 1/11/2016 to incorporate the Scrap Management Plan and baghouse parameter ranges for the EAF into the terms & conditions of the permit.
Permit Type: Administrative Modification
Permit Fee: \$0.00
Issue Date: 8/25/2016
Effective Date: 8/25/2016

This document constitutes issuance to:

TimkenSteel Corporation - Faircrest Steel Plant
1835 Dueber Avenue, S.W.
Canton, OH 44706

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

Ohio Environmental Protection Agency (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


Craig W. Butler
Director



Final Permit-to-Install
TimkenSteel Corporation - Faircrest Steel Plant
Permit Number: P0121454
Facility ID: 1576222001
Effective Date:8/25/2016

Authorization (continued)

Permit Number: P0121454

Permit Description: Agency-initiated Administrative Modification to PTI P0119479 issued 1/11/2016 to incorporate the Scrap Management Plan and baghouse parameter ranges for the EAF into the terms & conditions of the permit.

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

Emissions Unit ID:	P102
Company Equipment ID:	#1 EAF
Superseded Permit Number:	P0119479
General Permit Category and Type:	Not Applicable



Final Permit-to-Install
TimkenSteel Corporation - Faircrest Steel Plant
Permit Number: P0121454
Facility ID: 1576222001
Effective Date:8/25/2016

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) 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 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted

local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
- (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.
- c) 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 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) not exempt from the requirement to obtain a Permit-to-Install.

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 permittee 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 "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director 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.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- 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 operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.

13. Construction Compliance Certification

The applicant shall identify the following dates in the "Air Services" 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 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.



Final Permit-to-Install
TimkenSteel Corporation - Faircrest Steel Plant
Permit Number: P0121454
Facility ID: 1576222001
Effective Date:8/25/2016

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) None
2. [OAC rule 3745-31-10(A)(3)]

The permittee shall calculate the NO_x, SO₂, PM, PM₁₀/PM_{2.5}, 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.
3. [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_x, VOC, or SO₂, 100 tons per year of CO, 25 tons per year of PM, 15 tons per year of PM₁₀, 10 tons per year of PM_{2.5}, 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:

 - a) The name, address, and telephone number of the major stationary source; and
 - b) The annual emissions as calculated pursuant to OAC rule 3745-31-10(A)(3).
4. The following emissions unit in this permit is subject to National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart YYYYY, Maximum Achievable Control Standards (MACT): P102. The complete NESHAP/MACT requirements, including the NESHAP/MACT General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Canton City Health Department, Air Pollution Control Division.
5. The following emissions units in this permit are subject to New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart AAa, for Electric Arc Furnaces in Steel Plants: P102. The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Canton City Health Department, Air Pollution Control Division.



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C. Emissions Unit Terms and Conditions



1. P102, #1 EAF

Operations, Property and/or Equipment Description:

200 ton steel/hr Electric Arc Furnace (EAF #1) with Direct Evacuation Control (DEC) and building evacuation system both exhausting to a common meltshop baghouse (BHC-1)

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) b)(1)e., b)(1)f., b)(2)e., b)(2)f., d)(10), d)(11), d)(12), d)(13), and e)(3)

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 originally established in P0104388 issued 12/29/2010 and unchanged in this administrative modification PTI)	CO emissions shall not exceed 3.5 lbs/ton, 700 lbs/hr, and 2275 tons/yr. VOC emissions shall not exceed 0.17 lb/ton, 34 lbs/hr, and 110.5 tons/yr. See b)(2)c., b)(2)h., and c)(9)
b.	OAC rule 3745-31-05(D) (Synthetic Minor Restrictions to Avoid Major Source New Source Review originally established in PTI P0104388 issued 12/29/2010 and unchanged in this administrative modification PTI)	Filterable PM ₁₀ emissions shall not exceed 49.4 tons/yr as a rolling, 12-month summation. See b)(2)j., c)(1), c)(2), and c)(9). SO ₂ emissions from Emission Units P102, P258, and P292 combined shall not exceed 419 tons/yr as a rolling, 12-month summation. See c)(3), c)(4), c)(5), and c)(9).
c.	ORC 3704.03(T) (Administrative modification to re-express Best Available Technology (BAT) Determinations for NAAQS Pollutants > 10 TPY that was originally established in PTI P0104388 issued 12/29/2010 per 02/07/2014 BAT policy)	Filterable PM ₁₀ emissions shall not exceed 4.117 tons/month averaged over a 12-month rolling period. Filterable PM _{2.5} emissions shall not exceed 2.167 tons/month averaged over a 12-month rolling period. See b)(2)a., b)(2)b., b)(2)c., c)(1), and



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>c)(9).</p> <p>SO₂ emissions shall not exceed 28.167 tons/month averaged over a 12-month rolling period .</p> <p>NOx emissions shall not exceed 10.833 tons/month averaged over a 12-month rolling period.</p> <p>The emissions limitations for CO and VOC specified by this rule are equivalent to the emissions limitations established pursuant to OAC rules 3745-31-10 through OAC rule 3745-31-20.</p>
d.	<p>OAC rule 3745-31-05(A)(3) June 30, 2008</p> <p>(Administrative modification to re-expressBAT for NAAQS Pollutants < 10 TPY that was originally established in PTI P0104388 issued 12/29/2010 per 02/07/2014 BAT policy)</p>	<p>Lead (Pb) emissions shall not exceed 0.054 tons/month averaged over a 12-month rolling period.</p> <p>See b)(2)c., b)(2)d., and c)(1).</p>
e.	<p>OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008</p> <p>(BAT Exemption for NAAQS Pollutants < 10 TPY that was originally established in PTI P0104388 issued 12/29/2010 and unchanged in this administrative modification PTI)</p>	<p>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, are less than 10 tons/year.</p> <p>See b)(2)e.</p>
f.	<p>OAC rule 3745-114 ORC 3704.03(F)(4)(d)</p> <p>(Administrative modification to Toxic Air Contaminant requirements originally established in PTI P0104388 issued 12/29/2010 to change limitations)</p>	<p>Fluoride emissions shall not exceed 0.007 lb/ton steel, 1.4 lb/hr, and 4.6 ton/yr. See b)(2)c. and b)(2)f.</p>
g.	<p>OAC rule 3745-17-11</p>	<p>The 58.51 lb/hr particulate emission (PE) limitation specified by this rule is less</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		stringent than the PM ₁₀ emissions limitation established pursuant to OAC rule 3745-31-05(D).
h.	<p>OAC rule 3745-17-07(A)(1)</p> <p>OAC rule 3745-17-07(B)(3)</p> <p>OAC rule 3745-17-08</p>	The visible emission limitations and/or control measures 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 SO ₂ emissions limitation specified by this rule is less stringent than the SO ₂ emissions limitation established pursuant to ORC 3704.03(T).
j.	<p>40 CFR Part 60, Subpart AAa (40 CFR 60.270a – 60.276a)</p> <p>[In accordance with 40 CFR 60.270a, this emissions unit is an electric arc furnace (EAF) located at a steel plant that commenced construction or modification after August 17, 1983]</p>	<p>Visible particulate emissions from the baghouse shall not exceed three (3) per cent opacity as a six-minute average.</p> <p>Visible particulate emissions of fugitive dust from the melt shop shall not exceed six (6) per cent opacity as a six-minute average.</p> <p>Visible particulate emissions from the melt shop baghouse dust handling equipment shall not exceed ten (10) per cent opacity as a six-minute average. Note: this limit is applicable and monitored under EU P129.</p> <p>The mass emissions limitation of 0.0052 gr/dscf of particulate emissions from control device specified by this rule is less stringent than the mass emissions limitations established pursuant to OAC rule 3745-31-05(D) and ORC 3704.03(T).</p>
k.	40 CFR Part 60, Subpart A (40 CFR 60.1 - 60.19)	General Provisions
l.	<p>40 CFR Part 63, Subpart YYYY (40 CFR 63.10681 - 63.10692)</p> <p>[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.]</p>	<p>0.0052 gr/dscf of PM from control device [63.10686(b)(1)]</p> <p>Visible particulate emissions of fugitive dust from the melt shop shall not exceed six (6) per cent opacity [63.10686(b)(2)]</p> <p>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</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		limitations established pursuant to 40 CFR Part 60, Subpart AAa, ORC 3704.03(T), and OAC rule 3745-31-05(D). See b)(2)i., c)(1), c)(6), and c)(7)
m.	40 CFR Part 63, Subpart A (40 CFR 63.1 - 63.16) (40 CFR 63.10690)	Table 1 to Subpart YYYYY of 40 CFR Part 63 – Applicability of General Provisions to Subpart YYYYY shows which parts of the General Provisions in 40 CFR 63.1-63.16 apply.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under ORC 3704.03(T) for this emissions unit shall be demonstrated by:
 - i. For PM₁₀ and PM_{2.5} emissions, compliance with terms b)(2)b. and c)(1)
 - ii. For NO_x, compliance with the tons/month limitation.
 - iii. For SO₂, compliance with term c)(5).
- b. The PM₁₀ and PM_{2.5} emissions from this emissions unit shall be collected and controlled by the meltshop building evacuation system with fume collection hoods and a Direct Evacuation Control (DEC) system on the EAF, all exhausting to a baghouse (BHC-1).
- c. Emissions units P103, P115, P117, P119, P120, P121, P901, and P902 also exhaust to baghouse BHC-1 and are typically in operation during the operation of this emissions unit. Therefore the emissions limitations specified for P102 in section b)(1) is a combined limit which includes the emissions from all these EUs.
- d. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- e. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
- f. The allowable Fluoride emissions limitations are required to satisfy the basis of the air dispersion modeling summarized in terms d)(14) – d)(17).

- g. 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) consistent with terms c)(6) and c(7) and below that achieves a maximum emissions rate of 0.170 lb/ton of steel produced.

The emissions limits based on the BACT requirements are listed in b)(1)a. above.

- h. The scrap metals processed in this emissions unit are restricted to only those materials that comply with the Scrap Management Plan (SMP) described in c)(6) - c)(9).
- i. Rolling average restrictions for PM and PM_{2.5} emissions to avoid exceeding NSR significance levels are not required because the PM₁₀ restrictions are more stringent based on the emissions factors in lb/ton set forth in section f)(1)a. through f)(1)c.

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 annual molten steel production from Emissions Unit P102 shall not exceed 1,300,000 tons based upon a rolling, 12-month summation of the molten steel production rates.
- (3) The burning of used tires as a substitute for coke in the Electric Arc Furnaces is expected to increase SO₂ emissions. Accordingly, the annual combined quantity of used tires burned at the Faircrest Steel Plant (in P102) and the Harrison Steel Plant (in 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 SO₂ 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. SO₂ 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. SO₂ 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. SO₂ 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. SO₂ 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. SO₂ 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. SO₂ 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) For control of chlorinated plastic, lead, and free organic liquid contaminants in the metallic scrap utilized in the EAFs, the permittee shall comply with the following applicable requirements identified in 40 CFR 63 Subpart YYYYYY:

Applicable Rule	Requirement
63.10685(a)(1)	Implement and maintain a pollution prevention plan for metallic scrap selection and inspection, generally called a Scrap Management Plan (SMP)
63.10685(a)(2)	Restrictions on contaminants in metallic scrap charged to the EAFs

- (7) For control of VOC contaminants in the metallic scrap utilized in the EAF, the permittee shall comply with the following applicable requirements identified in accordance with the permittee's Scrap Management Plan:

Applicable SMP Topic	Requirement
General Scrap Specifications	Scrap materials must be depleted to the extent practicable of undrained used oil filters, chlorinated plastics, and free organic liquids at the time of charging to the furnace.

Applicable SMP Topic	Requirement
Visual Inspection	Conduct routine visual inspections of incoming scrap loads to determine whether there is an obvious presence of free organic liquids or chlorinated plastics. Foreign materials in excess of de minimis amounts will be removed to the extent practicable.
Free Organic Liquid Inspection	Turnings, borings, and other forms of scrap that were generated from the use of cutting, lubricating, or cooling fluids used when machining the metal shall be visually inspected prior to charging to the furnace to ensure that such scrap does not contain free organic liquids.
Depletion of Chlorinated Plastics	Purchased scrap that has been processed through a shredder that utilizes magnetic or density separation techniques will be presumed to be depleted of chlorinated plastics to the extent practicable.
Inspections	The permittee shall identify any scrap provider whose scrap (except as described in unrestricted scrap below) is not subject to inspection pursuant to the SMP. The permittee shall audit or inspect the facilities from which such uninspected scrap is provided on a periodic basis at a rate of not less than 10-25% of such facilities each year.
Unrestricted Scrap	Unrestricted types of scrap, including “factory bundles”, “demolition debris”, “home scrap”, “return scrap”, “rail”, “flashings”, and similar uncontaminated scrap are not expected to contain free organic liquids or chlorinated plastics, and will be presumed to be free of these contaminants. This scrap is not subject to the inspection and verification requirements of the SMP.
Corrective Action – Chlorinated Plastics, Free Organic Liquids	<p>If, during inspection of scrap pursuant to the SMP, the permittee determines the scrap has not met the specifications of the SMP, the scrap provider will be subject to corrective action as follows:</p> <ol style="list-style-type: none"> a. rejection of the scrap load unless contaminants can be removed to the extent practicable. b. the scrap provider must furnish a signed statement acknowledging the requirements of the scrap specifications and provide certification that the scrap specifications will be met in the future. c. upon continued failure to meet scrap specifications, the scrap provider may be suspended for a period of 30 days. d. a scrap provider who fails to meet scrap specifications multiple times in a one year period may be suspended until the scrap provider demonstrates the cause for the failure has been remedied. The scrap provider may deliver Unrestricted Scrap in accordance with the SMP.

- (8) For control of mercury contaminants in the metallic scrap utilized in the EAFs, the permittee shall comply with the following applicable requirements identified in 40 CFR 63 Subpart YYYYYY:

Applicable Rule	Requirement
63.10685(b)(1)	Implement and maintain a site specific plan for the removal of mercury switches as part of the Scrap Management Plan (SMP)
63.10685(b)(2)	Participate in and purchase motor vehicle scrap only from providers who participate in an approved mercury removal program
63.10685(b)(3)	Documentation requirements for motor vehicle scrap materials recovered for their specialty alloy content only
63.10685(b)(4)	Documentation requirements for non-motor vehicle scrap

- (9) As part of the Scrap Management Plan (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.
- (10) 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.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) Pursuant to 40 CFR 60.273a(c), a continuous opacity monitoring system (COMS) is not required on this EAF since observations of the opacity of the visible emissions from the meltshop baghouse shall be performed by a certified visible emission observer as follows:

Visible emission observations shall be conducted at least once per day for at least three 6-minute periods when the furnace is operating in the meltdown and refining period. All visible emissions observations shall be conducted in accordance with Method 9. If visible emissions occur from more than one point, the opacity shall be recorded for any points 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 that case, the 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. The permittee shall maintain copies of all daily opacity observations.

- (2) Pursuant to 40 CFR 60.273a(d), a furnace static pressure monitoring device is not required on this EAF equipped with a DEC system since observations of the opacity of

the visible emissions from the melt shop shall be performed by a certified visible emission observer as follows:

Shop opacity 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. Shop opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of 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. The permittee shall maintain copies of all daily opacity observations.

- (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. Pursuant to 40 CFR 60.274a(b), the permittee shall either:
 - i. check and record the control system fan motor amperes and damper position on a once-per-shift basis;
 - ii. install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood; or
 - iii. 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 ± 10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. If required, the permittee shall demonstrate the accuracy of the monitoring devices relative to Methods 1 and 2 of Appendix A of 40 CFR, Part 60.

- b. Pursuant to 40 CFR 60.274a(c), during all periods in which a hood is operated for the purpose of capturing emissions from the EAF, the permittee shall maintain, at the appropriate levels established during the most recent emission test that demonstrated that the emissions unit was in compliance, either:
 - i. the control system fan motor amperes and all damper positions;
 - ii. the volumetric flow rate through each separately ducted hood; or



- iii. the volumetric flow rate at the control device inlet and all damper positions.

The most recent demonstration of compliance is the results of emissions testing performed on 4/14-16/2015, with all (3) of the baghouse exhaust fans operating and while recording all (3) fan motor amp and damper position readings. Therefore for the purpose of meeting the requirements of option b.i. the permittee shall operate all (3) fans and maintain the fan amps and damper positions in accordance with the values specified in the following Table I below at all times that the EAF is operating:

Table I

Simultaneous Readings of Each of the (3) Fans		
EAF Roof Status	Fan Motor Amps	Damper Position, Minimum % Open
Roof Removed	233 ± 15%	83
Roof On	215 ± 15%	47

The permittee may petition the Ohio EPA for re-establishment of these parameters whenever the permittee can demonstrate to the Agency's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable.

The permittee may also petition the Ohio EPA for re-establishment of these parameters based on baghouse operation utilizing only 2 fans by conducting a 3-run full compliance stack test. Since the baghouse controls only particulate matter emissions, the compliance testing would have to be conducted only for the emissions of PM, PM₁₀, and PM_{2.5} per the requirement listed in term f)(2).

- c. Pursuant to 40 CFR 60.274a(d), 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.
 - d. Pursuant to 40 CFR 60.274a(e), the Permittee may petition the U.S. EPA to approve any alternative to either the monitoring requirements specified in (4)a. above or the monthly operational status inspections specified in (4)c. above, if the alternative will provide a continuous record of operation of each emission capture system.
- (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.

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:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. 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 SO₂ emissions from P102, P258, and P292 for each month; and
 - g. the rolling, 12-month summation of the combined SO₂ emissions from P102, P258, and P292.
- (9) The permittee shall comply with the recordkeeping requirements for the control of contaminants from scrap pursuant to 40 CFR 63 Subpart YYYYY, Section 63.10685(c); 63.10685(c)(1)(i); and 63.10685(c)(2)
- (10) 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):

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

- 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).

- (11) 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.

- (12) 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.

- (13) 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 ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify, at a minimum:
 - 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 acceptable range specified in d)(5);
 - b. each period of time (start time and date, and end time and date) when recorded motor amperage(s) of the fans exhausting the baghouse and fan damper positions were outside of the acceptable range(s) specified in d)(4);
 - c. 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;
 - d. each incident of deviation described in “a”, “b”, and/or “c” (above) where a prompt investigation was not conducted;
 - e. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the specified parameters into compliance with the acceptable range, was determined to be necessary and was not taken;
 - f. each incident of deviation described in “a” and “b” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - g. all exceedances of the rolling 12-month summation of the molten steel production rate;
 - h. all exceedances of the rolling 12-month summation of the weight of tires burned; and
 - i. all exceedances of the rolling 12-month summation of the combined SO₂ emissions from P258, P292, and P102; and

- j. all instances when any portion of the Scrap Management Plan was not followed or the information required to be documented was not recorded.
- (2) The permittee shall submit semi-annual deviation (excursion) reports that identify, at a minimum:
 - 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; and
 - b. all exceedances of the fugitive visible particulate emission limit for the melt shop. For the purpose of these reports, an exceedance is defined as any six-minute period during which the average opacity is six percent or greater.
 - (3) The permittee shall submit annual reports that include any changes to any 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 concentration. The report should include:
 - a. the original model input;
 - b. the updated model input;
 - c. the reason for the change(s) to the input parameter(s); and
 - d. a summary of the results of the updated modeling, including the input changes; and
 - e. a statement that the model results indicate that the 1-hour maximum ground-level concentration is less than 80% of the MAGLC.

If no changes to the emissions, emissions unit(s), or the exhaust stack have been made during the reporting period, then the report shall include a statement to that effect.
 - (4) The permittee shall comply with the reporting requirements pursuant to 40 CFR Part 60, Subpart A section 60.7.
 - (5) The permittee shall comply with the reporting requirements for the control of contaminants from scrap pursuant to 40 CFR 63 Subpart YYYYY, Section 63.10685(a)(1), 63.10685(c)(1)(ii) and 63.10685(c)(3)
 - (6) All reports shall be submitted in accordance with the reporting requirements of Part A: Standard Terms and Conditions of this permit. Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- f) Testing Requirements
 - (1) Compliance with the emission limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:



a. Filterable PM₁₀ Emission Limitation:

Filterable PM₁₀ emissions shall not exceed 4.117 tons/month averaged over a 12-month rolling period.

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 previous 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

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:

$$PM_{10} = PM \times 0.76 = 0.10 \text{ lb/ton} \times 0.76 = 0.076 \text{ Lb/ton}$$

Compliance shall be demonstrated per the testing required in term f)(2).

0.076 lb/ton emission factor was converted to a tons/month emission limitation using the maximum annual production capacity of the EAF in tons steel/yr listed in term c)(2) as shown in the following equation:

$$\frac{0.076 \text{ lb PM}_{10}}{\text{ton steel}} \times \frac{1,300,000 \text{ ton steel}}{\text{yr}} \times \frac{\text{ton PM}_{10}}{2000 \text{ lb PM}_{10}} \times \frac{\text{yr}}{12 \text{ mos}} = 4.117 \text{ tons/mo PM}_{10}$$

Compliance with the monthly PM₁₀ emissions limitation is demonstrated by multiplying the PM₁₀ emissions factor of 0.076 lb PM₁₀/ton steel by the 12-month rolling sum for molten steel production, in tons, from the recordkeeping section [term d)(12)c], and dividing by 12 months/yr.

b. PM_{2.5} Emission Limitation:

Filterable PM_{2.5} emissions shall not exceed 2.167 tons/month averaged over a 12-month rolling period.

Applicable Compliance Method:

PM_{2.5} is assumed to be 40% of PM as requested by the permittee and to be verified by post project stack testing.

Post Project Allowable PM_{2.5} with tires:



$$PM_{2.5} = PM \times 0.40 = 0.10 \text{ lb/ton} \times 0.40 = 0.040 \text{ Lb/ton}$$

Compliance shall be demonstrated per the testing required in term f)(2).

0.040 lb/ton emission factor was converted to a tons/month emission limitation using the maximum annual production capacity of the EAF in tons steel/yr listed in term c)(2) as shown in the following equation:

$$\frac{0.040 \text{ lb } PM_{2.5}}{\text{ton steel}} \times \frac{1,300,000 \text{ ton steel}}{\text{yr}} \times \frac{\text{ton } PM_{2.5}}{2000 \text{ lb } PM_{2.5}} \times \frac{\text{yr}}{12 \text{ mos}} = 2.167 \text{ tons/mo } PM_{2.5}$$

Compliance with the monthly $PM_{2.5}$ emissions limitation is demonstrated by multiplying the $PM_{2.5}$ emissions factor of 0.04 lb $PM_{2.5}$ /ton steel by the 12-month rolling sum for molten steel production, in tons, from the recordkeeping section [term d)(12)c], and dividing by 12 months/yr.

c. Emission Limitation (NOx):

NOx emissions shall not exceed 10.833 tons/month averaged over a 12-month rolling period.

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 Δ 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) - 0.12 lb/ton

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

Compliance shall be demonstrated per the testing required in term f)(2).

0.20 lb/ton emission factor was converted to a tons/month emission limitation using the maximum annual production capacity of the EAF in tons steel/yr listed in term c)(2) as shown in the following equation:

$$\frac{0.20 \text{ lb NOx}}{\text{ton steel}} \times \frac{1,300,000 \text{ ton steel}}{\text{yr}} \times \frac{\text{ton NOx}}{2000 \text{ lb NOx}} \times \frac{\text{yr}}{12 \text{ mos}} = 10.833 \text{ tons/mo NOx}$$



Compliance with the monthly NOx emissions limitation is demonstrated by multiplying the NOx emissions factor of 0.20 lb NOx /ton steel by the 12-month rolling sum for molten steel production, in tons, from the recordkeeping section [term d)(12)c], and dividing by 12 months/yr.

d. 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.

Compliance shall be demonstrated per the testing required in term f)(2).

e. Emission Limitation (SO₂):

SO₂ emissions shall not exceed 28.167 tons/month averaged over a 12-month rolling period

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) - 0.14 lb/ton

Δ SO₂ (worst case) 0.37 lb/ton

SO₂ allowable from current PTI 15-01339 0.15 lb/ton

Δ SO₂ (worst case) + 0.37 lb/ton

Post Project Allowable SO₂ with tires 0.52 lb/ton

Compliance shall be demonstrated per the testing required in term f)(2).



0.52 lb/ton emission factor was converted to a tons/month emission limitation using the maximum annual production capacity of the EAF in tons steel/yr listed in term c)(2) as shown in the following equation:

$$\frac{0.52 \text{ lb SO}_2}{\text{ton steel}} \times \frac{1,300,000 \text{ ton steel}}{\text{yr}} \times \frac{\text{ton SO}_2}{2000 \text{ lb SO}_2} \times \frac{\text{yr}}{12 \text{ mos}} = 28.167 \text{ tons/mo SO}_2$$

Compliance with the monthly SO₂ emissions limitation is demonstrated by multiplying the SO₂ emissions factor of 0.52 lb SO₂/ton steel by the 12-month rolling sum for molten steel production, in tons, from the recordkeeping section [term d)(12)c], and dividing by 12 months/yr.

f. 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

Compliance shall be demonstrated per the testing required in term f)(2).

g. Emission Limitation (Pb):

Lead (Pb) emissions shall not exceed 0.054 tons/month averaged over a 12-month rolling period.

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

Compliance shall be demonstrated per the testing required in term f)(2).

0.0010 lb/ton emission factor was converted to a tons/month emission limitation using the maximum annual production capacity of the EAF in tons steel/yr listed in term c)(2) as shown in the following equation:

$$\frac{0.0010 \text{ lb Pb}}{\text{ton steel}} \times \frac{1,300,000 \text{ ton steel}}{\text{yr}} \times \frac{\text{ton Pb}}{2000 \text{ lb Pb}} \times \frac{\text{yr}}{12 \text{ mos}} = 0.054 \text{ tons/mo Pb}$$

Compliance with the monthly Pb emissions limitation is demonstrated by multiplying the Pb emissions factor of 0.001 lb Pb /ton steel by the 12-month rolling sum for molten steel production, in tons, from the recordkeeping section [term d)(12)c], and dividing by 12 months/yr.

h. 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 lb F/ton x (1 - 0.995) = 0.00000002 lb F/ton hr, which is negligible compared to the allowable rate of 0.007 lb F/ton.

Compliance shall be demonstrated per the testing required in term f)(2).

i. Emission Limitation:

The 58.51 lb/hr particulate emission (PE) limitation specified by this rule is less stringent than the PM₁₀ emissions limitation established pursuant to OAC rule 3745-31-05(D) (4.117 tons/month).

Applicable Compliance Method:

The allowable rate of particulate emissions E is calculated from the formula given in Table I in the Appendix of OAC rule 3745-17-11 using a process weight rate P of 200 tons steel per hour as follows:

$$E = 55.0(P)^{0.11} - 40.0 = 55.0(200)^{0.11} - 40.0 = 58.51 \text{ lb/hr PE}$$

The 4.117 tons PM₁₀/month is converted to lbs PM₁₀/hr using the maximum annual production capacity of the EAF in tons steel/yr listed in term c)(2) as shown in the following equation:

4.117 tons PM ₁₀	12 months	yr	200 tons steel	2000 lb	= 15.2 lb PM ₁₀ /hr
month	yr	1,300,000 tons steel	hr	ton	

15.2 lb PM₁₀/hr was converted to PE using the information from f)(1)a:

$$15.2 = 0.76(PE); \text{ solve for PE} = 15.2 \div 0.76 = 20 \text{ lb PE/hr} < 58.51 \text{ lb/hr}$$

j. 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

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)d. through f)(1)h., 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)d. through f)(1)h., in lb/ton steel, by the maximum annual production capacity of the EAF in tons steel/yr listed in term c)(2) and dividing by a conversion factor of 2000 lb/ton. Therefore compliance with the applicable allowable emission factor from f)(1)d. through f)(1)h. demonstrates compliance with the corresponding annual emission limitation.

k. Emission Limitation:

Filterable PM₁₀ emissions shall not exceed 49.4 tons/yr averaged over a 12-month rolling period.

Applicable Compliance Method:

Compliance with the annual PM₁₀ emissions limitation is demonstrated by multiplying the PM₁₀ emissions factor of 0.076 lb PM₁₀/ton steel by the 12-month rolling sum for molten steel production, in tons, from the recordkeeping section [term d)(12)c].

l. Emission Limitation:

SO₂ emissions from Emission Units P102, P258, and P292 combined shall not exceed 419 tons/yr as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the annual combined SO₂ limitation is demonstrated by the records required in section d)(12)g.

m. Emission Limitation:

0.0052 gr/dscf of particulate emissions

Applicable Compliance Method:

Compliance with the 0.0052 gr/dscf of the particulate emissions (PM) limitation is demonstrated by converting the PM₁₀ emissions limitation of 0.076 lb PM₁₀/ton steel to gr/dscf as follows:

$$\frac{0.076 \text{ lb PM}_{10}}{\text{ton steel}} \times \frac{2000 \text{ ton steel}}{\text{hr}} \times \frac{7000 \text{ gr}}{\text{lb PM}_{10}} \times \frac{\text{min}}{1,007,761 \text{ dscf}} \times \frac{\text{hr}}{60 \text{ min}} = 0.00176 \text{ gr/dscf}$$

where 1,007,761 dscf/min is the baghouse exhaust gas flow rate.

Since PM₁₀ = 0.76 x PM,

$$\text{PM} = \frac{\text{PM}_{10}}{0.76} = \frac{0.00176 \text{ gr/dscf}}{0.76} = 0.0023 \text{ gr/dscf,}$$

which is less than the 0.0052 gr/dscf. PM limitation.

n. 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 shall be demonstrated per the testing required in term f)(2). Compliance with the allowable visible emissions limitations shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9. The points of observation for visible emissions of fugitive dust determination shall include all non-stack egress points from the building housing the emissions units. Such points include, but are not limited to, doorways, windows, and roof monitors.

(2) 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 per the time schedule specified in the facility's Title V permit.
- b. The test results shall be based on the arithmetical average of three (3) consecutive test runs. The sampling time for each test run shall include an integral number of heats. If the facility's production schedule cannot accommodate performing (3) consecutive runs, (3) complete test runs performed no more than (30) days apart shall be acceptable.
- c. The emission testing shall be conducted to demonstrate compliance with the allowable emission factors in lbs/ton each, listed in f)(1), for emissions of Filterable PM₁₀, Filterable PM_{2.5}, NO_x, CO, SO₂, VOC, Pb, and Fluoride, to demonstrate compliance with the visible emissions limitations in b)(1), and to demonstrate the exhaust gas flow rate of the baghouse in dscfm.
- d. 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 PM₁₀: Method 201 or 201A
 - ii. *Filterable PM_{2.5}: Method 201A
 - iii. NO_x: Method 7 or 7A
 - iv. CO: Method 10
 - v. SO₂: Method 6 or 6A
 - vi. VOC: Method 18, 25, or 25A
 - vii. Pb: Method 12 or 29



viii. Fluoride: Method 13

ix. Visible Emissions: Method 9

* Method 201 and 201A are used in conjunction with Method 5D for a positive pressure baghouse, which requires at least 4 hours and 160 dscf per test run pursuant to §60.275a(e)(1)

- e. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, minimum number of baghouse fans, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

The following emission units (EUs) also exhaust to the meltshop building evacuation system which exhausts to baghouse BHC-1 and are typically in operation during the operation of the EAF (P102):

- P103 (Degasser Refiner);
- P115 (Ladle Dryer);
- P117 (Ladle Preheater);
- P119 (Ladle Preheater #2);
- P120 (Ladle Preheater #3);
- P121 (Ladle Preheater #4);
- P901 (Slag Processing); and
- P902 (Hot Metal Transfer).

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. Therefore the emissions limitations specified for P102 in section b)(1) are considered as combined limits which include the emissions from the above listed EUs.



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%. If the test results show the combined limit for any pollutant is exceeded, then all emissions units which contribute to that pollutant's emissions limitations for P102 shall be considered out of compliance.

- f. Monitoring and recording of the operating parameters of the baghouses specified in terms d)(4) and d)(5) above shall be conducted at 15 minute intervals during the duration of the test(s). Hourly averages of the readings shall be used to establish and/or re-verify the parameter ranges or minimum limits specified in those terms.
- g. Pursuant to §60.274a(h), the permittee shall monitor and record the following information for all heats covered by the test:
 - i. charge weights and materials, and tap weights and materials;
 - ii. heat times, including start and stop times, and a log of process operation, including periods of no operation during testing;
 - iii. control device operation parameters (as listed in term f)(2)f. above); and
 - iv. opacity Method 9 data.
- h. 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).
- i. 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.
- j. 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 report shall contain all required information pursuant to §60.276a(f). 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. Emissions Unit Group -Caster and Soaking Pit #13: P130,P131,

EU ID	Operations, Property and/or Equipment Description
P130	Soaking Pit #13 to heat steel ingots, rated at 20 mmBtu/hr, with oxyfuel (100% oxygen-enriched natural gas) fired low NOx burners
P131	20 mmBtu/hr natural gas-fired Continuous Steel Caster equipped with low NOx burners, with a maximum operating rate of 170 tons of steel per hour

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) b)(1)b. and b)(2)c.

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) June 30, 2008 (Administrative modification to re-express Best Available Technology (BAT) Determinations for NAAQS Pollutants < 10 TPY that was originally established in PTI P0104388 issued 12/29/2010 per 02/07/2014 BAT policy)	The emissions limitations for carbon monoxide (CO) specified by this rule are equivalent to the emissions limitations established pursuant to OAC rule 3745-31-10 through 3745-31-20. Nitrogen oxide (NOx) emissions shall not exceed 0.445 tons/month averaged over a 12-month rolling period. See b)(2)a. b)(2)b., and b)(2)e.
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008 (BAT Exemption for NAAQS Pollutants < 10 TPY that was originally established in PTI P0104388 issued 12/29/2010 and unchanged in this administrative modification PTI)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the NOx and CO emissions from this air contaminant source since the uncontrolled potential to emit is less than 10 tons/year each. See b)(2)c.
c.	OAC rule 3745-31-10 through OAC rule 3745-31-20 (Administrative modification to Best	CO emissions shall not exceed 1.64 lb/hr and 7.18 tons/year. See b)(2)d.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	Available Control Technology (BACT) Determinations originally established in P0104388 issued 12/29/2010)	
d.	OAC 3745-17-11	Exempt. See b)(2)f. and c)(1)
e.	OAC 3745-17-10	Exempt. See b)(2)g.
f.	OAC rule 3745-17-07(A)(1)	Exempt. See b)(2)h.
g.	OAC rule 3745-18-06(E) OAC rule 3745-18-82(A)	Exempt. See b)(2)i. and c)(1)

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of oxyfuel firing only in P130 and natural gas firing only in P131.
- b. This Best Available Technology (BAT) emissions limit applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
- d. The permittee shall employ "Best Available Control Technology" (BACT) for controlling emissions of CO. BACT for CO emissions from this unit has been determined to be the following:
 - i. Good combustion practices and acceptance of a CO emissions limitation of 84 lb/mmscf of oxyfuel or natural gas burned.
 - ii. Compliance with the emissions limits listed in b)(1)c above.
- e. The uncontrolled potential emissions of sulfur dioxide (SO₂), volatile organic compounds (VOC), and particulate emissions less than 10 microns in diameter (PM₁₀) when firing oxyfuel in this emissions unit are negligible (less than 10 pounds per day), and therefore emissions limits for these pollutants have not been established.
- f. The burning of oxyfuel in P130 and natural gas in P131 are the only sources of particulate emissions from these emissions units. The uncontrolled mass rate of particulate emissions from these emissions units 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.

- g. These emissions units are designed such that the products of combustion come into direct contact with materials being processed and therefore do not meet the definition of "fuel burning equipment" given in OAC rules 3745-17-01(B)(5) and 3745-18-01(B)(4). They are, therefore, exempt from emission limitations and control requirements contained in OAC rule 3745-17-10 for fuel burning equipment and subject to the requirements in OAC rule 3745-18-06 as process equipment.
- h. These emissions units are 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.
- i. The burning of oxyfuel in P130 and natural gas in P131 are the only sources of sulfur dioxide from these emissions units. Pursuant to OAC rule 3745-18-06(C), these emissions units are exempt from OAC rules 3745-18-06(E) and 3745-18-82 because the process weight input (excludes gaseous fuels) that causes any emissions of sulfur dioxide is equal to zero, which is less than 1,000 lbs/hour.

c) Operational Restrictions

- (1) The permittee shall burn only oxyfuel (100% oxygen-enriched natural gas) as fuel in emissions unit P130 and only natural gas in emissions unit P131.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than oxyfuel in P130 or other than natural gas in P131, the permittee shall maintain a record of the type and quantity of fuel burned in each emissions unit.
- (2) Records shall be maintained of the total annual amount of oxyfuel burned in P130 and natural gas in P131.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify, at a minimum, each day when a fuel other than oxyfuel was burned in P130 and each day when a fuel other than natural gas was burned in P131.
- (2) All reports shall be submitted in accordance with the reporting requirements of Part A: Standard Terms and Conditions of this permit. Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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 0.445 tons/month averaged over a 12-month rolling period.

Applicable Compliance Method:

An emissions rate of 0.061 lb NOx/mmBtu was calculated by dividing the NOx emissions factor of 50 lb NOx/10⁶ scf for natural gas combustion (also best approximation for oxyfuel) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4, Table 1.4-1 (07/98) by the natural gas heating value of 1,020 Btu/scf and multiplying the result by 1.25 to provide a 25% margin.

An annual NOx emissions rate of 5.34 tons/yr was calculated by multiplying the lb/mmBtu NOx emissions by the maximum rated heat input of 20 mmBtu/hr times the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 pounds per ton. The tons-per-month emission limitation is established by dividing the annual NOx emissions in tons/yr by 12 months/yr. Therefore, compliance with the lb/mmBtu NOx emissions limitation demonstrates compliance with the 12-month rolling period emissions 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 Canton City Health Department, Air Pollution Control Division.

b. Emission Limitation:

CO emissions shall not exceed 1.64 lbs/hour and 7.18 tons/yr

Applicable Compliance Method:

An emissions rate of 0.082 lb CO/mmBtu was calculated by dividing the CO emissions factor of 84 lb CO/10⁶ scf for natural gas combustion (also best approximation for oxyfuel) from AP-42, "Compilation of Air Pollutant Emission Factors", 5th Edition, Section 1.4, Table 1.4-1 (07/98) by the natural gas heating value of 1,020 Btu/scf.

The hourly emissions limitation was developed by multiplying the 0.082 lb CO/mmBtu emissions rate by the maximum rated heat input of 20 mmBtu/hr.

The annual emissions limitation was developed by multiplying the hourly emissions limitation by the maximum annual hours of operation (8,760 hours) and then dividing by 2,000 pounds per ton. Therefore, compliance with the hourly emissions limitation demonstrates compliance with the annual emissions limitation.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation through emissions testing performed in accordance with 40 CFR Part



Final Permit-to-Install
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60, Appendix A, Methods 1 - 4 and 10. Alternative U.S. EPA approved test methods may be used with prior approval from the Canton City Health Department, Air Pollution Control Division.

- g) Miscellaneous Requirements
 - (1) None.