Ohio Environmental Protection Agency
John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

8/14/2012

Certified Mail

Facility ID: 0320010001
Permit Number: P0105131
County: Defiance

Mr. Ben Fogle
GM Defiance Casting Operations
26427 State Route 281 East
Defiance, OH 43512

RE: FINAL AIR POLLUTION CONTROL TITLE V PERMIT
Permit Type: Renewal

Dear Permit Holder:

Enclosed is the Title V permit that allows you to operate the facility in the manner indicated in the permit. Because this permit may contain several conditions and restrictions, we urge you to read it carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this Title V permit 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
309 South Fourth Street, Room 222
Columbus, OH 43215

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Northwest District Office. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern

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

Cc: U.S. EPA Region 5 *Via E-Mail Notification*
Ohio EPA DAPC, Northwest District Office

Ohio | Environmental Protection Agency

FINAL

Division of Air Pollution Control
Title V Permit
for
GM Defiance Casting Operations

Facility ID:	0320010001
Permit Number:	P0105131
Permit Type:	Renewal
Issued:	8/14/2012
Effective:	9/4/2012
Expiration:	9/4/2017

Ohio Environmental Protection Agency

Division of Air Pollution Control
Title V Permit
for
GM Defiance Casting Operations

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Authorization

Facility ID:	0320010001
Facility Description:	Foundry.
Application Number(s):	A0037785, A0038998, A0040659, A0041888, A0044431
Permit Number:	P0105131
Permit Description:	Renewal Title V operating permit for a grey iron foundry manufacturing automobile engine blocks, heads, and other automotive parts.
Permit Type:	Renewal
Issue Date:	8/14/2012
Effective Date:	9/4/2012
Expiration Date:	9/4/2017
Superseded Permit Number:	P0086875

This document constitutes issuance of an OAC Chapter 3745-77 Title V permit to:

GM Defiance Casting Operations
State Route 281 East
Defiance, OH 43512

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

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402
(419)352-8461

The above named entity is hereby granted a Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Ohio EPA DAPC, Northwest District Office. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months (540 days) and no later than 6 months (180 days) prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director

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. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions

(2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions

(3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting

(4) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(Authority for term: ORC 3704.036(A))

2. 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 (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

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 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c) The permittee shall submit required reports in the following manner:

(1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any scheduled maintenance, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive

measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as provided below, the written reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2)c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.19, A.20, A.21, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable requirements not specifically addressed by permit or rule for the

insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))

(4) 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 (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."

(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

(5) Reports of any required monitoring and/or record keeping information shall be submitted to Ohio EPA DAPC, Northwest District Office.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

3. Scheduled Maintenance

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

4. Risk Management Plans

If applicable, the permittee shall 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"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or

b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

5. 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.

(Authority for term: OAC rule 3745-77-07(A)(5))

6. Severability Clause

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

(Authority for term: OAC rule 3745-77-07(A)(6))

7. General Requirements

a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.

b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c) This permit may be modified, reopened, revoked, or revoked and reissued, for cause, in accordance with Standard Term and Condition A.11 below. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d) This permit does not convey any property rights of any sort, or any exclusive privilege.

e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the

Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:

(1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or

(2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or

(3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminent sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))

8. 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.

(Authority for term: OAC rule 3745-77-07(A)(8))

9. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

(Authority for term: OAC rule 3745-77-07(A)(9))

10. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these standard terms and conditions shall apply to all operating scenarios authorized in this permit.

(Authority for term: OAC rule 3745-77-07(A)(10))

11. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a) Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b) This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c) The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

12. Federal and State Enforceability

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

(Authority for term: OAC rule 3745-77-07(B))

13. Compliance Requirements

a) Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V 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 paragraph (E) of OAC rule 3745-77-03.

(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 appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

(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.

d) Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

(1) Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted (i.e., postmarked) on or before April 30th of each year during the permit term.

(2) Compliance certifications shall include the following:

a. An identification of each term or condition of this permit that is the basis of the certification.

b. The permittee's current compliance status.

c. Whether compliance was continuous or intermittent.

d. The method(s) used for determining the compliance status of the source currently and over the required reporting period.

e. Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.

(3) Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

14. Permit Shield

a) Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b) This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

15. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

16. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

(Authority for term: OAC rule 3745-77-07(G))

17. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a) The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b) The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c) The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d) The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e) The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit-to-install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(Authority for term: OAC rule 3745-77-07(I))

18. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.

(This term is provided for informational purposes only.)

19. Insignificant Activities or Emissions Levels

Each IEU that has one or more applicable requirements shall comply with those applicable requirements.

(Authority for term: OAC rule 3745-77-07(A)(1))

20. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-07(A)(1))

21. 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.

(Authority for term: OAC rule 3745-77-07(A)(1))

22. Permanent Shutdown of an Emissions Unit

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the responsible 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 responsible official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that 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 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

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

(Authority for term: OAC rule 3745-77-01)

23. Title VI Provisions

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.

b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.

c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

(Authority for term: OAC rule 3745-77-01(H)(11))

24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

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

25. Records Retention Requirements Under State Law Only

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.

26. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

(Authority for term: OAC rule 3745-77-07(C))

27. 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 of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. 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 emissions unit(s) that is (are) served by such control system(s).

28. Permit Transfers

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

(Authority for term: OAC rule 3745-77-01(C))

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

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or

b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potentials to emit; or

c) where the company's responsible official has certified that an emissions unit has been permanently shut down.

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) 8 through 11.

2. The following emissions units contained in this permit are subject to 40 CFR, Part 63,Subpart EEEEE--National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries: P012, P024, P188, P264, P271, and all fugitive emissions from foundry operations. The complete MACT requirements, including the 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 appropriate Ohio EPA District office or local air agency.

   [Authority for term: 40 CFR, Part 63, Subpart EEEEE]

3. All of the emissions units located at this facility are subject to the facility-wide opacity limitation for fugitive emissions established in 40 CFR 63.7690(a)(7). However, the fugitive particulate emissions from individual emissions units at this facility are either subject to opacity limitations under BAT or opacity limitations per OAC rule 3745-17-07(B), both of which are more stringent than the opacity limitation from 40 CFR 63.7690(a)(7).

   [Authority for term: 40 CFR, Part 63, Subpart EEEEE]

4. Pursuant to 40 CFR Part 64, the permittee has submitted and the Ohio EPA has approved a compliance assurance monitoring (CAM) plant for emissions units P003, P004, P010, P019, P020, P088, P098, P127, P142, P149, P154, P167, P173, P174, P180, P202, P203, P207, P209, P210, P216, P235, P248, P253, P254, P255, P256, P257, P273, P274, P360, P363, P364, P365, P380, P381, P382, P391, P392, P411, P412, P419, P420, P454, P461, P462, P472, P473, P478, P481, P518 through P523, P546 through P548, P595, P596 and P906 through P909 at this facility. The permittee shall comply with the provisions of the plan during any operation of the aforementioned emissions units.

   [Authority for term: 40 CFR Part 64]

5. The permittee is subject to the applicable emission limitation(s) and/or control measures, operational restrictions, monitoring and/or record keeping requirements, reporting requirements, testing requirements and the general and/or other requirements specified in 40 CFR Part 63, Subpart DDDDD, in accordance with 40 CFR Parts 63.7480 through 63.7575 (including the Table(s) and Appendix(ices) referenced in Subpart DDDDD).

   The following emissions units in this permit are subject to the aforementioned requirements: P024 (cupola #6E hot blast), P622 (CR8 hot box steam cleaning generator), P623 (CR3 hot box steam cleaning generator), P624 (CR9 hot box steam cleaning generator) and P625 (CR6 hot box steam cleaning generator).

   [Authority for term: OAC rule 3745-77-07(A)(13), 40 CFR Part 63, Subpart DDDDD]

6. The following insignificant emissions units are located at this facility is subject to all applicable requirements as outlined in OAC rule 3745-31-03(A)(4)(b):

EU ID	Operations, Property and/or Equipment Description
P470	350 kW diesel fired emergency generator (Detroit diesel engine div.-model number 7123-7305) [PBR01762]
P471	260 kW diesel fired emergency generator (Detroit diesel allison div.-model number 7125-7200) [PBR01763]
P504	185 kW diesel fired emergency electrical generator (Detroit diesel engine, model 7085-7200) [PBR01756]
P505	185 kW diesel fired emergency electrical generator (Detroit diesel engine div., model 7085-7200) [PBR01757]
P506	185 kW diesel fired emergency electrical generator (Detroit diesel engine div., model 7085-7000) [PBR01758]
P507	185 kW diesel fired emergency electrical generator (Detroit diesel engine allison div., model 7084-7000) [PBR01759]
P508	265 hp diesel fired emergency electrical generator (Clarke-Detroit diesel engine allison div., model DDFP-L6VT 7362) [PBR01760]
P509	300 hp diesel fired emergency electrical generator (Clarke-Detroit diesel engine allison div., model JDFPO6WR-L1211H) [PBR01761]

[Authority for term: OAC rule 3745-77-07(A)(13)]

7. The following insignificant emissions units at this facility must comply with all applicable State and federal regulations, as well as any emissions limitations and/or control requirements contained within the identified permit to install for the emissions unit. The insignificant emissions units listed below are subject to one or more applicable requirements contained in a permit-to-install or in the SIP approved versions of OAC Chapters 3745-17, 3745-18, 3745-21 and 40 CFR Part 43 Subpart DDDDD:

EU ID	Operations, Property and/or Equipment Description
F002	Storage Piles & Yard
P622	CR8 hot box steam cleaning generator (0.015 mmBtu/hr natural gas fired)
P623	CR3 hot box steam cleaning generator (0.015 mmBtu/hr natural gas fired)
P624	CR9 hot box steam cleaning generator (0.015 mmBtu/hr natural gas fired)
P625	CR6 hot box steam cleaning generator (0.015 mmBtu/hr natural gas fired)

[Authority for term: OAC rule 3745-77-07(A)(13)]

8. The emissions units P464 through P469, P472, P473, P478, P518 through P540, and P546 through P548 and P801 through P804 were evaluated in PTI P0106622 based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit application. The Ohio EPA's "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) 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(s) emitted at over one ton per year using an air dispersion model such as SCREEN 3.0, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) 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 emitted from the emissions units, (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. TEL (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" hours per day and "Y" 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).

d) The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic contaminant: formaldehyde
TLV (mg/m3): 0.368
Maximum Hourly Emission Rate (lbs/hr): 0.72
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 6.27
MAGLC (ug/m3): 6.46

Toxic contaminant: m,p-Xylene
TLV (mg/m3): 434
Maximum Hourly Emission Rate (lbs/hr): 4.62
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 61.19
MAGLC (ug/m3): 10,337

Toxic contaminant: phenol
TLV (mg/m3): 19
Maximum Hourly Emission Rate (lbs/hr): 4.92
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 53.73
MAGLC (ug/m3): 458.21

Toxic contaminant: naphthalene
TLV (mg/m3): 54
Maximum Hourly Emission Rate (lbs/hr): 2.17

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 28.49
MAGLC (ug/m3): 1,248.31

Toxic contaminant: o-xylene
TLV (mg/m3): 434
Maximum Hourly Emission Rate (lbs/hr): 0.43
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 4.94
MAGLC (ug/m3): 10,337.90

Toxic contaminant: cumene
TLV (mg/m3): 245
Maximum Hourly Emission Rate (lbs/hr): 8.98
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 141.7
MAGLC (ug/m3): 5852.07

Toxic contaminant: acetophenone
TLV (mg/m3): 49.141
Maximum Hourly Emission Rate (lbs/hr): 1.04
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 17.82
MAGLC (ug/m3): 1,170.02

Toxic contaminant: alpha-Methylstyrene
TLV (mg/m3): 241
Maximum Hourly Emission Rate (lbs/hr): 1.28
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 2.21
MAGLC (ug/m3): 5754.21

The permittee, has demonstrated that emissions of m,p-xylene, phenol, naphthalene, o-xylene, cumene, acetophenone and alpha-Methylstyrene, from the emissions units contained in PTI P0106622 are calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic contaminant in accordance with ORC 3704.03(F).

The permittee, having demonstrated that emissions of formaldehyde from the emissions units contained in PTI P0106622, is estimated to be equal or greater than eighty per cent, but less than 100 per cent of the maximum acceptable ground level concentration (MAGLC), shall not operate the emissions unit(s) at a rate that would exceed the daily emissions rate, process weight rate, and/or restricted hours of operations, as allowed in this permit; and 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).

8. 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 1-hour maximum ground-level concentration", the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration 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 ORC 3704.03(F), the statute, has been documented. If the change(s) meet(s) the definition of a "modification" or the modeled toxic(s) is/are expected to exceed the previous modeled level(s), then the permittee shall apply for and obtain a final permit-to-install prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit-to-install application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and may require the permittee to submit a permit-to-install application for the increased emissions.

9. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute":

a) a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxics 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 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 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 ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.

10. 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 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.

The permittee shall submit quarterly reports to the appropriate Ohio EPA District Office or local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F),

through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect. These quarterly reports shall be submitted by April 30, July 31, October 31, and January 31, and shall cover the records for the previous calendar quarters.

C. Emissions Unit Terms and Conditions

1. F001, Roadways & Parking

Operations, Property and/or Equipment Description:

Roadways and Parking Lots (Paved and Unpaved Roads)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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
paved roadways and parking areas		
a.	OAC rule 3745-17-07(B)(4)	There shall be no visible emissions of fugitive dust, except for a period of 6 minutes during any 60-minute period [see b)(2)a.].
unpaved roadways and parking areas		
b.	OAC rule 3745-17-07(B)(5)	There shall be no visible emissions of fugitive dust, except for a period of 13 minutes during any 60-minute period [see b)(2)b.].
paved and unpaved roadways and parking areas		
c.	OAC rule 3745-17-08 (B)	Reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. [See b)(2)c., b)(2)d., b)(2)e., b)(2)f., b)(2)g., and b)(2)h.].

(2) Additional Terms and Conditions

a. The paved roadways and parking areas that are covered by this permit and subject to theabove-mentioned requirements are listed below:

paved roadways: landfill and general plant roadways

paved parking areas: landfill and general plant parking areas

b. The unpaved roadways and parking areas that are covered by this permit and subject to theabove-mentioned requirements are listed below:

unpaved roadways: landfill, settling basins and plant roadways

unpaved parking areas: settling basins and plant parking areas

c. The permittee shall employ reasonably available control measures on all paved roadways and parkingareas for the purpose of ensuring compliance with the above-mentioned applicable requirements. Inaccordance with the permittee's permit application, the permittee has committed to treat the pavedroadways and parking areas by employing control measures including, but not limited to: sweeping,applying a suitable dust suppressant, and speed reduction (vehicular traffic on paved surfaces shall notexceed 15 mph). Nothing in this paragraph shall prohibit the permittee from employing other controlmeasures to ensure compliance.

d. The permittee shall employ reasonably available control measures on all unpaved roadways and parking areas for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the unpaved roadways and parking areas by employing control measures including, but not limited to: applying a suitable dust suppressant and speed reduction (vehicular traffic on unpaved surfaces shall not exceed 15 mph). Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

e. The schedule for implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring section of this permit. Implementation of the control measures shall not be necessary for a paved or unpaved roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.

f. Any unpaved roadway or parking area, which during the term of this permit is paved or takes the characteristics of a paved surface due to the application of certain types of dust suppressants, may be controlled with the control measure(s) specified above for paved surfaces. Any unpaved roadway or parking area that takes the characteristics of a paved roadway or parking area due to the application of certain types of dust suppressants shall remain subject to the visible emission limitation for unpaved roadways and parking areas. Any unpaved roadway or parking area that is paved shall be subject to the visible emission limitation for paved roadways and parking areas.

g. The permittee shall promptly remove, in such a manner as to minimize or prevent re-suspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.

h. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas in accordance with the following frequencies:

paved roadways and parking areas: landfill and general plant roadways and parking areas

minimum inspection frequency: once during each operating calendar week

unpaved roadways and parking areas: landfill, settling basins and plant roadways and parking areas

minimum inspection frequency: once during each day of operation

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee may, upon receipt of written approval from the Northwest District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall maintain records of the following information:

a. the date and reason any required inspection was not performed, including those inspections that werenot performed due to snow and/or ice cover or precipitation;

b. the date of each inspection where it was determined by the permittee that it was necessary to implementthe control measures;

c. the dates the control measures were implemented; and

d. on a calendar quarter basis, the total number of days the control measures were implemented and thetotal number of days where snow and/or ice cover or precipitation were sufficient to make implementation ofcontrol measures unnecessary.

The information required in d)(4)d. shall be kept separately for (i) the paved roadways and parking areas and (ii)the unpaved roadways and parking areas, and shall be updated on a calendar quarter basis within 30 daysafter the end of each calendar quarter.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit deviation reports that identify any of the following occurrences:

a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and

b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented, excluding control measures that were not performed because snow and/or ice cover or precipitation make the implementation of the control measure unnecessary.

The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emissions limitations in b)(1) shall be determined in accordance with the following methods:

a. <u>Emission Limitation:</u>

There shall be no visible emissions of fugitive dust from any paved roadway or parking area except for a period of time not to exceed 6 minutes during any 60-minute period.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 22 and the procedures specified in OAC rule 3745-17-03 (B)(4).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(4)]

b. Emission Limitation:

There shall be no visible emissions of fugitive dust from any unpaved roadway or parking area except for a period of time not to exceed 13 minutes during any 60-minute observation period.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 22 and the procedures specified in OAC rule 3745-17-03 (B)(4).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(4)]

g) Miscellaneous Requirements

(1) None.

2. F003, LANDFILL MOD

Operations, Property and/or Equipment Description:

Foundry Landfill - Residual & Exempt On-site Waste Disposal

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #03-7860, issued 11/1/95 and subsequently modified on 6/19/03)	Particulate emissions (PE) shall not exceed 180 pounds per day (lbs/day) and 34.23 tons per year (tpy). Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust [See b)(2)a., b)(2)b., and b)(2)c.] There shall be no visible emissions of fugitive dust, except for a period of time not to exceed 3 minutes during any 60-minute period. [See b)(2)e.]
b.	OAC rule 3745-17-07(B)(6)	See b)(2)d.
c.	OAC rule 3745-17-08(B)	See b)(2)e.

(2) Additional Terms and Conditions

a. The permittee shall employ best available control measures on all landfill operations for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the sources of fugitive emissions at sufficient treatment frequencies to ensure compliance. The following methods shall be used to minimize fugitive emissions from the landfill operations, and shall be deemed to be best available control measures:

i. minimizing the drop height of landfill wastes from transport vehicles;

ii. applying a suitable dust suppressant to wastes likely to become airborne during dumping operations;

iii. restricting dumping of dusty material during periods of high wind speed (i.e., excess of 25 mph) unless it has a moisture content sufficient to prevent it from becoming airborne;

iv. placing wastes within perimeter berms that shall have exterior surfaces seeded or slagged within 180 days after completion of construction;

v. minimizing the surface area of the "working face";

vi. seeding and/or covering with slag areas of the landfill that have not been worked on for more than 180 days; and

vii. minimizing vehicular traffic on the landfill and restricting it to predetermined routes.

Nothing in this paragraph shall prohibit the permittee from employing other equally-effective control measures to ensure compliance.

b. The above-mentioned control measure(s) shall be employed for each landfill operation if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary.

c. The transport vehicles used to deposit wastes in the landfill shall have their exhaust systems constructed so that they do not exhaust directly downward while depositing its load.

d. The requirements of this rule are equivalent to or less stringent than the requirements established pursuant to OAC rule 3475-31-05 (A)(3).

e. The opacity limitation established in this permit applies to all operations associated with the landfill, except roadways.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Except as otherwise provided in this section, the permittee shall perform inspections of the landfill operations once during each day of normal operation.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) No inspection shall be necessary for landfill operations covered with snow and/or ice and for any landfill activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed the next day after such event(s) has (have) ended.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee may, upon receipt of written approval from the Northwest District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) The permittee shall maintain records of the following information:

a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;

b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;

c. the dates the control measures were implemented;

d. on a calendar quarter basis, the total number of days the control measures were implemented; and

e. on a calendar quarter basis, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in d)(4)d. and d)(4)e. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(5) Pursuant to OAC Rule 3745-77-07(A)(3)(a)(ii), the following monitoring and record keeping requirements are as stringent as or more stringent than the monitoring and record keeping requirements contained in Permit to Install #03-7860, issued on June 19, 2003: **[d)(1), d)(2), d)(3), d)(4)]**. The monitoring and record keeping requirements contained in the above-referenced Permit to Install are subsumed into the monitoring and record keeping requirements of this operating permit, so that compliance with these requirements constitutes compliance with the underlying monitoring and record keeping requirements in the Permit to Install.

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii)]

e) Reporting Requirements

(1) The permittee shall submit deviation reports that identify any of the following occurrences:

a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and

b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented, excluding control measures that were not performed because snow and/or ice cover or precipitation make the implementation of the control measure unnecessary.

The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

There shall be no visible emissions of fugitive dust, except for a period of time not to exceed 3 minutes during any 60-minute period.

<u>Applicable Compliance Method:</u>

If required, compliance with the visible emission limitation shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 22 and the procedures specified in OAC rule 3745-17-03 (B)(4).

[Authority for term: OAC rule 3745-77-07(C)(1);OAC rule 3745-17-03 (B)(4); PTI 03-7860]

b. <u>Emissions Limitations:</u>

PE shall not exceed 180 lbs/day and 34.23 tpy.

Applicable Compliance Method:

Compliance with the daily emission limitation may be determined by combining the emissions from wind erosion and material handling operations. Fugitive dust emissions shall be calculated for the material handling operations utilizing AP-42 emission factors, section 13.2.4 (1/95), and for wind erosion utilizing USEPA's "Handbook: Dust Control at Hazardous Waste Sites" (EPA/540/2-85/003, 11/85, pg 4-2), and Ohio EPA's RACM Document Table 2.1.2-2 (for silt loading percentages).

The permittee may demonstrate compliance with the annual limitation by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hrs/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall demonstrate.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-7860]

g) Miscellaneous Requirements

(1) None.

3. F004, Reclaimer - Exempt

Operations, Property and/or Equipment Description:

Metals Separation and Exempt Waste Storage Piles

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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
magnetic metal separation andexempt waste storage		
a.	OAC rule 3745-31-05 (A)(3) (PTI #03-10979, issued 2/11/98 and subsequently modified on 10/28/03)	6.57 tons of fugitive dust emissions/yr from screening, conveyor and truck loading - core and mold waste crushing, screening, and truck loading operations
screening, conveyor and truck loading - core and mold waste crushing, screening, and truck loading operations		
b.	OAC rule 3745-31-05(A)(3) (PTI #03-10979, issued 2/11/98 and subsequently modified on 10/28/03)	opacity restrictions [See b)(2)b.] best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust [See b)(2)d. and b)(2)e.]
load-in and load-out of storage piles [See b)(2)f. for identification of storage piles]		
c.	OAC rule 3745-31-05(A)(3) (PTI #03-10979, issued 2/11/98 and subsequently modified on 10/28/03)	opacity restrictions [See b)(2)b.] best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust [See b)(2)d. and b)(2)e.]
wind erosion from storage piles [See b)(2)f. for identification of storage piles.)		
d.	OAC rule 3745-31-05(A)(3) (PTI #03-10979, issued 2/11/98 and subsequently modified on 10/28/03)	Visible emissions of fugitive dust shall not exceed 0% opacity, except for a period of time not to exceed one minute during any 60-minute period.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust [See b)(2)g. and b)(2)h.]
e.	OAC rule 3745-17-07(B)	See b)(2)c.
f.	OAC rule 3745-17-08(B)	See b)(2)c.

(2) Additional Terms and Conditions

a. The material handling operation(s) that are covered by this permit and subject to the above-mentioned requirements are listed below:

magnetic metal separation, screening, conveyor and truck loading - core and mold waste crushing, screening, truck loading operations, and load in and load out of the storage piles.

b. Visible emissions of fugitive dust shall not exceed the following opacity restrictions:

i. 10% opacity, as a 6-minute average from transfer points on belt conveyors, crushing, screening and magnetic separating operations; and

ii. 20% opacity, as a 3-minute average from truck loading, front end loading, and truck loading and conveyor discharge to storage piles;

c. The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3475-31-05 (A)(3).

d. As required by b)(2)e., the permittee shall employ best available control measures on all of the material handling operations associated with this emissions unit for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the material handling operations with the following methods in order to ensure compliance:

i. minimizing the drop height between material transfer points; and

ii. applying water as a dust suppressant as needed.

Nothing in this paragraph shall prohibit the permittee from employing other, equally effective control measures to ensure compliance.

e. The above-mentioned control measures shall be employed for each material handling operation if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control

measures are necessary to ensure compliance with the above-mentioned applicable requirements. The permittee shall maintain use of the control measures until it is determined they are no longer necessary.

f. The storage piles that are covered by this permit and subject to the requirements of OAC rule 3745-31-05 (A)(3) are listed below:

storage pile identification:

all metal separation and exempt waste storage piles

g. As required by b)(2)h., the permittee shall employ best available control measures for wind erosion from the surfaces of all storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to apply water as a dust suppressant, as needed, to the storage piles.

Nothing in this paragraph shall prohibit the permittee from employing other, equally effective control measures to ensure compliance.

h. The above-mentioned control measures shall be employed for wind erosion from each pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measures are necessary to ensure compliance with the above-mentioned applicable requirements. Implementation of the control measures shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain annual records of the total tons of material handled in these storage piles.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(2) Except as otherwise provided in this section, the permittee shall perform inspections of each of the material handling operations in accordance with the following minimum frequencies:

material handling operation(s): all magnetic metal separation, screening, conveyor and truck loading - core waste crushing, screening, truck loading operations, and load in and load out of the storage piles.

minimum inspection frequency: daily, during normal operations

The permittee may, upon receipt of written approval from the Northwest District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(3) The permittee shall maintain records of the following information:

a. The date and reason any required inspection was not performed;

b. the date of each inspection where it was determined by the permittee that it was necessary to implement additional control measure(s);

c. the dates the additional control measure(s) was (were) implemented as a result of an inspection conducted in accordance with this permit; and

d. on a calendar quarter basis, the total number of days additional control measure(s) was (were) implemented as a result of an inspection conducted in accordance with this permit.

The information in d)(3)d. shall be kept separately for each material handling operation identified above, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(4) Except as otherwise provided in this section, the permittee shall perform inspections for wind erosion of each of the storage piles in accordance with the following minimum frequencies:

minimum inspection frequency: daily, during normal operations

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(5) No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed the next day after such event(s) has (have) ended.

The permittee may, upon receipt of written approval from the Northwest District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(6) The permittee shall maintain records of the following information:

a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;

b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;

c. the dates the control measures were implemented; and

d. on a calendar quarter basis, the total number of days the control measures were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in d)(6)d. shall be kept for the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

e) Reporting Requirements

(1) The permittee shall submit deviation reports that identify any of the following occurrences:

a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation;

b. each day during which an inspection of the pile surfaces (wind erosion) was not performed by the required frequency, excluding a storage pile surface inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and

c. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented, excluding control measures that were not performed because snow and/or ice cover or precipitation make the implementation of the control measure unnecessary.

The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

Fugitive PE shall not exceed 6.57 tpy.

Applicable Compliance Method:

Compliance with the annual limitation may be determined by summing the fugitive dust emissions from the three emissions generating activities: material handling, wind erosion of storage piles, and core waste crushing and screening. Fugitive dust emissions shall be calculated for the material handling operations (including storage pile load-in/out) utilizing AP-42 emission factors, Section 13.2.4 (1/95); for the storage piles (i.e. wind erosion) utilizing U.S. EPA's "Handbook: Dust Control at Hazardous Waste Sites" (EPA/540/2-85/003, 11/85, pg 4-2) and Ohio EPA's RACM Document Table 2.1.2-2 (for silt loading percentages); and for the core waste crushing and screening operations utilizing AP-42 emissions factors, Section 11.19.2 (6/03).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

b. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 10% opacity, as a 6-minute average from transfer points on belt conveyors, crushing, screening and magnetic separating operations.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

c. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average from truck loading, front end loading, and conveyor discharge to storage piles.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined through visible emissions observations performed in accordance with 40 CFR,

Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

d. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 0% opacity, except for a period of time not to exceed one minute during any 60-minute period from wind erosion of the storage piles.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

g) Miscellaneous Requirements

(1) None.

4. F005, Reclaimer-Nonexempt

Operations, Property and/or Equipment Description:

Magnetic Metal Separation, Screening, Conveyor and Truck Loading – Core and Mold Waste Crushing, Screening, and Truck Loading Operations

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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
magnetic metal separation and non-exempt waste storage		
a.	OAC rule 3745-31-05 (A)(3) (PTI #03-10979, issued 2/11/98 and subsequently modified on 10/28/03)	6.57 tons of fugitive dust emissions/yr
screening, conveyor and truck loading – core and mold waste crushing, screening, and truck loading operations		
b.	OAC rule 3745-31-05(A)(3) (PTI #03-10979, issued 2/11/98 and subsequently modified on 10/28/03)	opacity restrictions [See b)(2)b.] best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust [See b)(2)d. and b)(2)e.]
load-in and load-out of storage piles [See b)(2)f. for identification of storage piles]		
c.	OAC rule 3745-31-05(A)(3) (PTI #03-10979, issued 2/11/98 and subsequently modified on 10/28/03)	opacity restrictions [See b)(2)b.]) best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust [See b)(2)d. and b)(2)e.]
wind erosion from storage piles [See b)(2)f. for identification of storage piles]		
d.	OAC rule 3745-31-05(A)(3) (PTI #03-10979, issued 2/11/98 and subsequently modified on 10/28/03)	Visible emissions of fugitive dust shall not exceed 0% opacity, except for a period of time not to exceed one minute during any 60-minute period.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust [See b)(2)g. and b)(2)h.]
e.	OAC rule 3745-17-07 (B)	See b)(2)c.
f.	OAC rule 3745-17-08(B)	See b)(2)c.

(2) Additional Terms and Conditions

a. The material handling operation(s) that are covered by this permit and subject to the above-mentioned requirements are listed below:

magnetic metal separation, screening, conveyor and truck loading – core and mold waste crushing, screening, truck loading operations, and load in and load out of the storage piles.

b. Visible emissions of fugitive dust shall not exceed the following opacity restrictions:

i. 10% opacity, as a 6-minute average from transfer points on belt conveyors, crushing, screening and magnetic separating operations; and

ii. 20% opacity, as a 3-minute average from truck loading, front end loading, and truck loading and conveyor discharge to storage piles;

c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3475-31-05 (A)(3).

d. As required by b)(2)e., the permittee shall employ best available control measures on all of the material handling operations associated with this emissions unit for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to treat the material handling operations with the following methods in order to ensure compliance:

i. minimizing the drop height between material transfer points; and

ii. applying water as a dust suppressant as needed.

Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

e. The above-mentioned control measure(s) shall be employed for each material handling operation if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned

applicable requirements. The permittee shall maintain use of the control measures until it is determined they are no longer necessary.

f. The storage piles that are covered by this permit and subject to the requirements of OAC rule 3745-31-05 (A)(3) are listed below:

storage pile identification:

all metal separation and nonexempt waste storage piles

g. As required by b)(2)h., the permittee shall employ best available control measures for wind erosion from the surfaces of all storage piles for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to apply water as a dust suppressant, as needed, to the storage piles.

Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

h. The above-mentioned control measure(s) shall be employed for wind erosion from each pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Implementation of the control measure(s) shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain annual records of the total tons of material handled in these storage piles.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(2) Except as otherwise provided in this section, the permittee shall perform inspections of the material handling operations in accordance with the following minimum frequencies:

material handling operation(s): all magnetic metal separation, screening, conveyor and truck loading – core and mold waste crushing, screening, truck loading operations, and load in and load out of the storage piles.

minimum inspection frequency: daily, during normal operations

The permittee may, upon receipt of written approval from the Northwest District Office, modify the above-mentioned inspection frequencies if operating experience indicates

that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(3) The permittee shall maintain records of the following information:

a. the date and reason any required inspection was not performed;

b. the date of each inspection where it was determined by the permittee that it was necessary to implement additional control measure(s);

c. the dates the additional control measure(s) was (were) implemented as a result of an inspection conducted in accordance with this permit; and

d. on a calendar quarter basis, the total number of days additional control measure(s) was (were) implemented as a result of an inspection conducted in accordance with this permit.

The information in d)(4)d. shall be kept separately for each material handling operation identified above, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(4) No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed the next day after such event(s) has (have) ended.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(5) The permittee shall maintain records of the following information:

a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;

b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measures;

c. the dates the control measures were implemented; and

d. on a calendar quarter basis, the total number of days the control measures were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in d)(6)d. shall be kept for the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(6) Except as otherwise provided in this section, the permittee shall perform inspections for wind erosion of the nonexempt waste storage piles in accordance with the following minimum frequencies:

minimum inspection frequency: daily, during normal operations

The permittee may, upon receipt of written approval from the Northwest District Office, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

e) Reporting Requirements

(1) The permittee shall submit deviation reports that identify any of the following occurrences:

a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation;

b. each day during which an inspection of the pile surfaces (wind erosion) was not performed by the required frequency, excluding a storage pile surface inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and

c. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented, excluding control measures that were not performed because snow and/or ice cover or precipitation make the implementation of the control measure unnecessary.

The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

6.57 tons of fugitive dust emissions/yr

Applicable Compliance Method:

Compliance with the annual limitation may be determined by summing the PE from the three emissions generating activities: material handling, wind erosion of storage piles, and core waste crushing and screening. fugitive dust emissions will be calculated for the material handling operations (including storage pile load-in/out) utilizing AP-42 emission factors, Section 13.2.4 (1/95); for the storage piles (i.e. wind erosion) utilizing U.S. EPA's "Handbook: Dust Control at Hazardous Waste Sites" (EPA/540/2-85/003, 11/85, pg 4-2) and Ohio EPA's RACM Document Table 2.1.2-2 (for silt loading percentages); and for the core waste crushing and screening operations utilizing AP-42 emissions factors, Section 11.19.2 (6/03)."

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

b. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 10% opacity, as a 6-minute average from transfer points on belt conveyors, crushing, screening and magnetic separating operations.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

c. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 20% opacity, as a 3-minute average from truck loading, front end loading, and conveyor discharge to storage piles.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

d. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 0% opacity, except for a period of time not to exceed one minute during any 60-minute period from wind erosion of the storage piles.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-10979]

g) Miscellaneous Requirements

(1) None.

5. F009, Precision Sand Mod (Pilot line) Mold Fill Pouring Station

Operations, Property and/or Equipment Description:

mold fill pouring station (pilot line)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-10 through 20 (PTI #P0106622 issued December 20, 2010)	Volatile organic compound (VOC) emissions shall not exceed 0.11 ton per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI #P0106622 issued December 20, 2010)	Particulate emissions (PE) shall not exceed 0.01 tpy, based upon a rolling, 12-month summation of the monthly emissions. Particulate matter less than or equal to 10 microns in size (PM_{10}) shall not exceed 0.02 tpy, based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. and b)(2)f.
c.	OAC rule 3745-17-08(B)(3)	See b)(2)c.
d.	OAC rule 3745-17-07(B)	Visible PE shall not exceed 20% opacity, as a three-minute average, except as provided by rule.
e.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d.
f.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)e.

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that no control technologies for VOC were cost effective.

b. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PE and PM_{10}. The PTE is being restricted such that emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control.

c. The permittee shall utilize reasonable available control measures (RACM) that are sufficient to minimize or eliminate visible emissions of fugitive dust. In accordance with the permittee's permit application, the permittee has committed to perform the following control measure to ensure compliance:

i. Building enclosure.

Nothing in this paragraph shall prohibit the permittee from employing other equally-effective control measures to ensure compliance.

d. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by the U.S. EPA.

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

BAT requirements under OAC rule 374-31-05(A)(3)(a), as effective December 1, 2006, do not apply to VOC and PM_{10} emissions from this air contaminant source

since the potential to emit for each is less than ten tons per year taking into account the federally enforceable requirements established under OAC rule 3745-31-05(D). BAT requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, are not applicable to the particulate emissions emitted from this emissions unit. BAT is only applicable to emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard (NAAQS) has been adopted under the Clean Air Act. Particulate emissions (also referred to as total suspended particulate or particulate matter) is an air contaminant that does not involve an established NAAQS.

f. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size ($PM_{2.5}$) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for $PM_{2.5}$, all emissions of PM_{10} will be considered $PM_{2.5}$.

c) Operational Restrictions

(1) The maximum castings processed by this emissions unit shall not exceed 21,240, based upon a rolling, 12-month summation of the monthly castings produced.

To ensure federal enforceability during the first 12 calendar months of operation, the permittee shall not exceed the number of castings specified in the following table:

Month(s)	Maximum Allowable Cumulative quantity of Castings Processed
1	1770
1-2	3540
1-3	5310
1-4	7080
1-5	8850
1-6	10,620
1-7	12,390
1-8	14,160
1-9	15,930
1-10	17,700
1-11	19,470
1-12	21,240

After the first 12 calendar months of operation, compliance with the quantity of castings processed restriction shall be based upon a rolling, 12-month summation of the monthly quantity of castings processed in this emissions unit.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for this emissions unit:

a. the number of castings processed;

b. for the first 12 months of operation, the cumulative quantity of castings processed; and

c. after the first 12 months of operation, the quantity of castings processed, based on a rolling, 12-month summation of the monthly quantity of castings processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when this emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) of the building containing this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) of the building containing these emissions units; and

b. any corrective actions taken to minimize or eliminate the visible emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation, the restriction on the maximum allowable cumulative quantity of castings processed; and

b. after the first 12 calendar months of operation, the rolling, 12-month restriction on the quantity of castings processed.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A); PTI P0106622]]

f) Testing Requirements

(1) Compliance with the emissions limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation:</u>

The maximum annual quantity of castings processed shall not exceed 21,240 per rolling, 12-month period.

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. <u>Emission Limitation:</u>

VOC emissions shall not exceed 0.11 tpy, based upon a rolling, 12 month summation of the monthly emissions.

<u>Applicable Compliance Method:</u>

The emission limitation was established by multiplying the company-supplied emission factor of 0.12 pound per ton (lb/ton) of aluminum by the annual restriction of 21,240 castings processed, by 0.0875 ton of aluminum per casting and, then dividing by 2000 lbs/ton. If required, testing to verify the accuracy of the emission factor shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as

applicable) of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitation:

PE shall not exceed 0.01 tpy, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factor of 0.012 lb/ton of aluminum by the annual restriction of 21,240 castings processed, by 0.0875 ton of aluminum per casting and dividing by 2000 lb/ton and dividing by 2000 lb/ton. If required, testing to verify the accuracy of the emission factor shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitation:

PM_{10} shall not exceed 0.02 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factor of 0.023 lb/ton of aluminum by the annual restriction of 21,240 castings processed, by 0.0875 ton of aluminum per casting and dividing by 2000 lb/ton and dividing by 2000 lbs/ton. If required, testing to verify the accuracy of the emission factor shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitation:

Visible PE from the egress points of the building containing this emissions unit shall not exceed 20% opacity, as a three-minute average.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources" or as such Appendix existed on July 1, 2002, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC

rule 3745-17-03. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(3); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

6. P003, ML6 Mold Facilities

Operations, Property and/or Equipment Description:

ML6 (Plant 2W) - Mold Facilities

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 46 pounds per hour (lbs/hr).
c.	40 CFR, Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: F013, F036 and F038

Dust collectors: DC-008A Plt2W and DC-009A Plt2W

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 46 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.]

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

7. P004, ML6 MOLD S/O & CC

Operations, Property and/or Equipment Description:

ML6 (Plant 2W) - Mold Shakeout and Casting Cooling

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	18 lbs PE/hr
c.	40 CFR Part 63 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: F023, F024, F024A, F-025, F-025A and F-033

Dust collectors: DC014A Plt2W

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 18 lbs/hr and 0.020 gr/dscf (if applicable)

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

8. P010, ML6 MOLD COOLING

Operations, Property and/or Equipment Description:

ML6 (Plant 2W) - Mold Cooling

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 5.1 pounds per hour (lbs/hr).
c.	40 CFR, Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: F-011A, F-016A, F-049

Dust collectors: DC-027 Plt2W

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 5.1 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

9. P012, ML6 IRON POUR

Operations, Property and/or Equipment Description:

ML6 (Plant 2W) – Rotary mechanical iron pourer (RMIP) & Rod Furnace

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 13 pounds per hour (lbs/hr).
c.	40 CFR, Part 63, Subpart EEEEE (40 CFR 63.7680-63.7765) [In accordance with 40 CFR 63.7690(a)(5), this emissions unit includes a pouring station at an existing iron and steel foundry subject to the emissions limitations and/or control measures specified in this section.]	Comply with either: 0.010 gr/dscf (grains per dry standard cubic foot) of PM; or 0.0008 gr/dscf of total metal hazardous air pollutant (HAP). [40 CFR 63.7690(a)(5).] See b)(2)a.
d.	40 CFR 63.1-15 (40 CFR 63.7760)	Table 1 to Subpart EEEEE of 40 CFR Part 63 – Applicability of General Provisions to Subpart EEEEE shows which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional terms and conditions

a. The RMIP contained within this emissions unit and its associated air pollution control system(s) shall be maintained in accordance with the Operations,

Maintenance, and Monitoring Plan required under 40 CFR Part 63, Subpart EEEEE in order to minimize air contaminant emissions.

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

c. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

d. Nothing in this permit shall preclude the permittee from routing emissions from the Rod Furnace contained within this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: M-20

Dust collectors: DC-027 Plt2W, DC31/32

c) Operational Restrictions

(1) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart EEEEE for the RMIP, including the following sections:

63.7710(a), (b)(1) through (5)	operation and maintenance (including bag leak detection system)
63.7720(c)	startup, shutdown, and malfunction plan

[Authority for term: OAC rule 3745-77-07(A)(1); 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 63, Subpart EEEEE, for the RMIP, including the following sections:

63.7740(b)	bag leak detection system for baghouse
63.7740(c)	bag house inspections
63.7741(b)	install, operate, and maintain bag leak detection system
63.7741(f)	operate each CPMS per (f)(1) through (f)(3)
63.7742	monitor continuously except for monitoring malfunctions, associated repairs and required quality control
63.7743(a)(5)	maintain either average PM or metal HAP concentration or mass loadings below limitations
63.7743(c)	bag leak detection system – maintain records
63.7745(a)	records for continuous compliance for capture system and each control device
63.7745(b)	maintain current copy of operation and maintenance plans
63.7752(a) and (c)	required overall records that should be maintained

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving these emissions units. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to 40 CFR Part 63, Subpart EEEEE, per the following sections:

63.7746(a)	submission of deviation reports
63.7751(a)	semi-annual compliance report
63.7751(b)	content of compliance reports
63.7751(c)	startup, shutdown, malfunction report
63.7751(d)	Title V monitoring report allowance

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitations:</u>

0.010 gr/dscf of PM; or
0.0008 gr/dscf of total metal HAP

<u>Applicable Compliance Method:</u>

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A for particulate emissions or 1 through 4 and 29 of 40 CFR Part 60, Appendix A for total metal HAPs.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

b. <u>Emission Limitation:</u>

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

<u>Applicable Compliance Method:</u>

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitations:

PE shall not exceed 13 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(2) and d)(3), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

(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 no less frequently than every 5 years (initial test performed on August 10, 2007). Visible emission observations of facility-wide opacity shall be performed in accordance with U.S. EPA Method 9 at least once every six months.

b. The emission testing shall be conducted to demonstrate compliance with the allowable particulate or metal HAPs and opacity (stack and fugitive).

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

i. For particulates, Methods 1 - 5 of 40 CFR Part 60, Appendix A; and

ii. For total metal HAPs, Methods 1 through 4 and 29 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. The minimum sample volume collected during each run shall be 60 dscf. The stack test shall be performed in accordance with the requirements established in 40 CFR 63.7732.

e. 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).

f. 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.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii), 40 CFR Part 63, Subpart EEEEE]

g) Miscellaneous Requirements

(1) None.

10. P019, ML6 SAND SYSTEM

Operations, Property and/or Equipment Description:

ML6 (Plant 2W) - Mold Sand and Slurry Mix System

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 50 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: F-034

Dust collectors: DC-008A Plt2W, DC-009A Plt2W, DC-011A Plt2W, DC-012A Plt2W, DC013A Plt2W, DC014A Plt2W, DC-021 Plt2W, DC023 Plt2W, DC024 Plt2W and DC025 Plt2W

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emissions limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitations:

PE shall not exceed 50 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

11. P020, ML6 BLAST CABINET

Operations, Property and/or Equipment Description:

ML6 (Plant 2W) - Blast Cabinet

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 26 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC010A Plt2W and DC-030 Plt2W

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emissions limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitations:

PE shall not exceed 26 lbs/hr and 0.020 gr/dscf, 0.050 gr/dscf (if applicable)

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-01(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-01(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

12. P024, Cupola - #6E

Operations, Property and/or Equipment Description:

Cupola #6E (Plant 2W) - Cupola and Iron Troughs

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by the rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 42 pounds per hour (lbs/hr), not including PE that are fugitive, or are from the hot blast unit
c.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity, as a three-minute average, except as provided by the rule. See b)(2)a.
d.	OAC rule 3745-17-08(B)	reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust See b)(2)b. and b)(2)c.
Hot blast unit (32 mmBtu/hr natural gas fired), only		
e.	OAC rule 3745-17-10(B)	PE shall not exceed 0.020 lb per mmBtu of actual heat input.
Cupola, only		
f.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 502 lbs/hr. See b)(2)d.
g.	40 CFR, Part 63, Subpart EEEEE (40 CFR 63.7680-63.7765)	Comply with either:

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	[In accordance with 40 CFR 63.7690(a)(2), this emissions unit is a cupola metal melting furnace at an existing iron and steel foundry subject to the emissions limitations and/or control measures specified in this section.]	0.006 gr/dscf (grains per dry standard cubic foot) of PM; or 0.10 pound of PM per ton (lb/ton) of metal charged; or 0.0005 gr/dscf of total metal hazardous air pollutant (HAP); or 0.008 pound of total metal HAP per ton (lb/ton) of metal charged. [40 CFR 63.7690(a)(2).] Volatile organic hazardous air pollutants (VOHAPs) from this emissions unit shall not exceed 20 parts per million by volume (ppmv) corrected to 10 percent oxygen. [40 CFR 63.7690(a)(8) and 63.7690(b)] See b)(2)e. and b)(2)f.
h.	40 CFR 63.1-15 (40 CFR 63.7760)	Table 1 to Subpart EEEEE of 40 CFR Part 63 – Applicability of General Provisions to Subpart EEEEE shows which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

a. The opacity limitation established pursuant to this rule is more stringent than the facility-wide opacity limitation established by 40 CFR Part 63, Subpart EEEEE.

b. During cupola furnace charging, a continuous draft shall be maintained through the charge opening during charging sufficient to minimize visible emissions of fugitive dust consistent with good engineering design.

c. During cupola furnace tapping, the tapping hood shall have a collection efficiency sufficient to minimize visible emissions of fugitive dust at the point of capture consistent with good engineering design.

d. OAC Chapter 3745-18 does not establish sulfur dioxide emission limitation for the hot blast associated with this emissions unit because the hot blast only employs natural gas as fuel.

The sulfur dioxide emissions generated by the cupola associated with this emissions unit are due solely to the combustion of natural gas, coal and coke. The combustion of natural gas, coal and coke generate minor amounts of sulfur

dioxide emissions. The natural gas is specifically exempted from the emissions unit's process weight rate which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into this emissions unit, which are used for the process weight rate would be the iron being melted, limestone, coal and coke. Using the weight of these materials as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation (502 lbs/hr) relative to the sulfur dioxide emissions generated from the combustion of the fuels used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

e. VOHAP gases generated during the operation of this emission units shall be combusted such that the 15-minute average combustion zone temperature does not fall below 1,300 degrees Fahrenheit. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.

f. This emissions unit and its associated air pollution control system(s) shall be maintained in accordance with the Operations, Maintenance, and Monitoring Plan required under 40 CFR Part 63, Subpart EEEEE in order to minimize air contaminant emissions.

c) Operational Restrictions

(1) The permittee shall burn only natural gas in the hot blast unit.

[OAC rules 3745-77-07(A)(1), 3745-18-06(A)]

(2) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart EEEEE, including the following sections:

63.7690(b)(1)	capture and collection system
63.7690(b)(3)	temperature for combustion device
63.7700(a)	scrap material usage
63.7710(a) and (b)	operation and maintenance
63.7720(c)	startup, shutdown, and malfunction plan
63.7733(a), (e), and (f)	site specific operating limits for capture system

[Authority for term: OAC rule 3745-77-07(A)(1); 40 CFR Part 63, Subpart EEEEE]

(3) The certification or the scrap management plan requirements of 63.7700 shall be met. Use of scrap that may contain organic contaminants, plastics and HAP metals shall be minimized or eliminated, to the extent practicable. Accessible lead components and mercury switches shall be removed from any automotive bodies by suppliers.

[Authority for term: OAC rule 3745-77-07(A)(1); 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 63, Subpart EEEEE, including the following sections:

63.7740(a)	capture system – maintain a CPMS
63.7740(d)	monitor combustion zone temperature for the combustion device
63.7741(a)	capture system – install, operate, and maintain CPMS
63.7741(d)	install and maintain a CPMS to measure and record the combustion zone temperature zone temperature for the oxidizer
63.7741(f)	operate each CPMS per (f)(1) through (f)(3)
63.7742	monitor continuously except for monitoring malfunctions, associated repairs and required quality control
63.7743(b)	monitor and record capture system data
63.7743(e)	record data for combustion zone temperature
63.7744(a)	maintain records of continuous compliance with certification requirements for scrap collection
63.7745(a)	records for continuous compliance for capture system and each control device
63.7745(b)	maintain current copy of operation and maintenance plans
63.7752(a) and (c)	required overall records that should be maintained

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

(2) The permittee shall perform weekly* checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

*Once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) For each day during which the permittee burns a fuel other than natural gas in the hot blast unit, the permittee shall maintain a record of the type of fuel burned.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to 40 CFR Part 63, Subpart EEEEE, per the following sections:

63.7751(a)	semi-annual compliance report
63.7751(b)	content of compliance reports
63.7751(c)	startup, shutdown, malfunction report
63.7751(d)	Title V monitoring report allowance
63.7746(a)	submission of deviation reports

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit;

b. any corrective actions taken to minimize or eliminate the visible emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in the hot blast unit associated with this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

0.006 gr/dscf (grains per dry standard cubic foot) of PM; or
0.10 pound of PM per ton (lb/ton) of metal charged; or
0.0005 gr/dscf of total metal hazardous air pollutant (HAP); or
0.008 pound of total metal HAP per ton (lb/ton) of metal charged.

Applicable Compliance Method:

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A for particulate emissions and 1 through 4 and 29 of 40 CFR Part 60, Appendix A for total metal HAPs.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

b. Emission Limitation:

VOHAPs from this emissions unit shall not exceed 20 ppmv corrected to 10 percent oxygen.

Applicable Compliance Method:

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 – 4 and 18 of 40 CFR Part 60, Appendix A. Alternatively, Methods 25 or 25A of 40 CFR Part 60, Appendix A can be used in accordance with 40 CFR Part 63, Subpart EEEEE.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

c. Emission Limitation:

PE shall not exceed 42 lbs/hr, not including emissions from the hot blast unit.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the hourly allowable PE based on the results of emission testing conducted for all the stacks associated with this emissions unit, except for the hot blast stack, in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

d. Emission Limitation:

SO2 emissions shall not exceed 502 lbs/hr.

Applicable Compliance Method:

If required, compliance with the lbs/hr SO2 emission limitation shall be determined based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR, Part 60, Appendix A.

* The only significant SO2 emissions are from the Venturi scrubber stack.

[Authority for term: OAC rule 3745-77-07(C)(1);OAC rule 3745-18-06(A)]

e. Emission Limitation:

PE shall not exceed 0.020 lb/mmBtu of actual heat input from the hot blast unit.

Applicable Compliance Method:

The permittee may determine compliance with this limitation by multiplying the maximum hourly natural gas consumption rate (mm cu. ft/hr) by the emission factor from AP-42, Table 1.4-2 (revised 7/98) of 1.9 lbs PE (filterable)/mm cu. ft, and then dividing by the maximum heat input capacity of the hot blast unit (38.5 mmBtu/hr).

If required, compliance with the PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(9).

[Authority for term: OAC rule 3745-77-07(C)(1);OAC rule 3745-17-03(B)(9)]

f. Emission Limitation:

For all stacks associated with this emissions unit, visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitation:

For fugitive dust emissions associated with this emissions unit, visible emissions shall not exceed 20% opacity, as a 3-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1);OAC rule 3745-17-03(B)(3)]

(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 no less frequently than every 5 years (initial test performed on August 22, 2008). Visible emission observations of facility-wide opacity shall be performed in accordance with U.S. EPA Method 9 at least once every six months.

b. The emission testing shall be conducted to demonstrate compliance with the allowable particulate or metal HAPs, opacity (stack and fugitive) and VOHAPs emission limitations.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

i. For particulates, Methods 1 - 5 of 40 CFR Part 60, Appendix A;

ii. For total metal HAPs, Methods 1 through 4 and 29 of 40 CFR Part 60, Appendix A; and

iii. For VOHAPs, Methods 1 – 4 and 18 of 40 CFR Part 60, Appendix A. Alternatively, Methods 25 or 25A of 40 CFR Part 60, Appendix A can be used in accordance with 40 CFR Part 63, Subpart EEEEE

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Sampling shall occur only during times when the cupola is on blast. The minimum sample volume collected during each run shall be 60 dscf. The combustion temperature of the afterburner shall be monitored and recorded during each test run. The stack test shall be performed in accordance with the requirements established in 40 CFR 63.7732.

e. 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).

f. 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.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii), 40 CFR Part 63, Subpart EEEEE]

g) Miscellaneous Requirements

(1) None.

13. P027, 6E & 6W SLAGGING

Operations, Property and/or Equipment Description:

Cupola #6E & #6W (Plant 2W) - Slag removal & quench

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 49 pounds per hour (lbs/hr).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust

collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: F-001, M-2A and M-016

Dust collectors: none

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 49 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

14. P088, ML2 SAND SYSTEM

Operations, Property and/or Equipment Description:

ML2 (Plant 1) - Mold Sand Mix System

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 46 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: None

Dust collectors: DC055 Plt1, DC062 Plt1 and DC063 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 46 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

15. P098, FN4 BLAST CABINET #5

Operations, Property and/or Equipment Description:

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 18 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust

collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: None

Dust collectors: DC-011B Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

PE shall not exceed 18 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

16. P127, FN4 Grinder NE 5 B/C

Operations, Property and/or Equipment Description:

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 9 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust

collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: None

Dust collectors: DC-011B Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

PE shall not exceed 9 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

17. P141, ML3 MOLD FACILITIES

Operations, Property and/or Equipment Description:

ML3 (Plant 1) - Molding Facilities

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (PTI 03-17353 issued June 10, 2008)	Particulate matter emissions less than or equal to 10 microns in size (PM10) shall not exceed 0.92 ton per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. See b)2)d.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	PE shall not exceed 53 pounds per hour (lbs/hr).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-079 Plt1

d. The rolling, 12-month limitation is a federally enforceable restriction on the potential to emit established for the purpose of establishing a net decrease within the contemporaneous period for PTI 03-17353.

c) Operational Restrictions

(1) The maximum annual number of castings poured shall not exceed 1.1 million, for the Mold 3 manufacturing line (ML3), which includes emissions units P141, P142, P149, P154, P248 and P264, based upon a rolling, 12-month summation of the monthly number of castings poured.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-17353]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(2) The permittee shall collect and record the following information each month for ML3, which includes emissions units P141, P142, P149, P154, P248 and P264:

a. the production rate for each month, number of castings poured; and

b. the rolling, 12-month summation of the monthly production rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(3) In addition to the above information, the permittee shall also record the following information each month for this emissions units:

a. the calculated emission rate for PM10, in tons [d)(3)a. x 1.676E-03 lb PM10/castings poured x 1/2000 pounds); and

b. the annual PM10 emission rate, in tons, based upon, the 12-month summation of the monthly emission rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

a. the rolling, 12-month production rate limitation; and

b. the rolling, 12-month emission limitation for PM10.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 53 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

The number of castings poured shall not exceed 1.1 million, per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

d. Emission Limitation:

PM10 shall not exceed 0.92 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(3).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

g) Miscellaneous Requirements

(1) None.

18. P142, ML3 MOLD COOLING

Operations, Property and/or Equipment Description:

ML3 (Plant 1) - Mold Cooling

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (PTI 03-17353 issued June 10, 2008)	Particulate matter emissions less than or equal to 10 microns in size (PM10) shall not exceed 1.39 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. Volatile organic compound (VOC) emissions shall not exceed 8.10 tpy, based upon a rolling, 12-month summation of the monthly emissions. See b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	PE shall not exceed 26 pounds per hour (lbs/hr).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following

dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: 304, 308, 309, 379, 384, 385, and 474

Dust collectors: DC-087 Plt1, DC-088 Plt1 and DC-089 Plt1

d. The rolling, 12-month limitation is a federally enforceable restriction on the potential to emit established for the purpose of establishing a net decrease within the contemporaneous period for PTI 03-17353.

c) Operational Restrictions

(1) The maximum annual number of castings poured shall not exceed 1.1 million, for the Mold 3 manufacturing line (ML3), which includes emissions units P141, P142, P149, P154, P248 and P264, based upon a rolling, 12-month summation of the monthly number of castings poured.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-17353]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(5) The permittee shall collect and record the following information each month for ML3, which includes emissions units P141, P142, P149, P154, P248 and P264:

a. the production rate for each month, number of castings poured; and

b. the rolling, 12-month summation of the monthly production rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(6) In addition to the above information, the permittee shall also record the following information each month for this emissions units:

a. the calculated emission rate for PM10, in tons [d)(3)a. x 2.529E-03 lb PM10/castings poured x 1/2000 pounds];

b. the calculated emission rate for VOC, in tons [d)(3)a. x 1.472E-02 lb of VOC/castings poured x 1/2000 pounds];

c. the annual PM10 emission rate, in tons, based upon, the 12-month summation of the monthly emission rates; and

d. the annual VOC emission rate, in tons, based upon, the 12-month summation of the monthly emission rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

a. the rolling, 12-month production rate limitation; and

b. the rolling, 12-month emission limitation for PM10 and VOC.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 26 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

The number of castings poured shall not exceed 1.1 million, per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(5).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

d. Emission Limitation:

PM10 emissions shall not exceed 1.39 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(6).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

e. Emission Limitation:

VOC emissions shall not exceed 8.10 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(6).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

g) Miscellaneous Requirements

(1) None.

19. P149, ML3 SAND SYSTEM

Operations, Property and/or Equipment Description:

ML3 (Plant 1) - Mold Sand Mix System

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (PTI 03-17353 issued June 10, 2008)	Particulate matter emissions less than or equal to 10 microns in size (PM10) shall not exceed 6.14 ton per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. See b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	PE shall not exceed 50 pounds per hour (lbs/hr).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: 218

Dust collectors: DC-060 Plt1 and DC-066 Plt1

d. The rolling, 12-month limitation is a federally enforceable restriction on the potential to emit established for the purpose of establishing a net decrease within the contemporaneous period for PTI 03-17353.

c) Operational Restrictions

(1) The maximum annual number of castings poured shall not exceed 1.1 million, for the Mold 3 manufacturing line (ML3), which includes emissions units P141, P142, P149, P154, P248 and P264, based upon a rolling, 12-month summation of the monthly number of castings poured.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-17353]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(5) The permittee shall collect and record the following information each month for ML3, which includes emissions units P141, P142, P149, P154, P248 and P264:

a. the production rate for each month, number of castings poured; and

b. the rolling, 12-month summation of the monthly production rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(6) In addition to the above information, the permittee shall also record the following information each month for this emissions units:

a. the calculated emission rate for PM10, in tons [d)(3)a. x 1.117E-02 lb PM10/castings poured x 1/2000 pounds); and

b. the annual PM10 emission rate, in tons, based upon, the 12-month summation of the monthly emission rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353; 40 CFR Part 64]

(2) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

a. the rolling, 12-month production rate limitation; and

b. the rolling, 12-month emission limitation for PM10.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 50 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

The number of castings poured shall not exceed 1.1 million, per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(5).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

d. Emission Limitation:

PM10 shall not exceed 6.14 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(6).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

g) Miscellaneous Requirements

(1) None.

20. P154, ML3 SPRUE HANDLING

Operations, Property and/or Equipment Description:

ML3 (Plant 1) - Casting Separation, Shakeout & Sprue Handling

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (PTI 03-17353 issued June 10, 2008)	Particulate matter emissions less than or equal to 10 microns in size (PM10) shall not exceed 8.63 tons per year, based upon a rolling, 12-month summation of the monthly emissions. See b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible particulate matter emissions (PE) shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	PE shall not exceed 40 pounds/hour (lbs/hr).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-061 Plt1, DC-079 Plt1, DC-088 Plt1 and DC-089 Plt1

d. The rolling, 12-month limitation is a federally enforceable restriction on the potential to emit established for the purpose of establishing a net decrease within the contemporaneous period for PTI 03-17353.

c) Operational Restrictions

(1) The maximum annual number of castings poured shall not exceed 1.1 million, for the Mold 3 manufacturing line (ML3), which includes emissions units P141, P142, P149, P154, P248 and P264, based upon a rolling, 12-month summation of the monthly number of castings poured.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-17353]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(5) The permittee shall collect and record the following information each month for ML3, which includes emissions units P141, P142, P149, P154, P248 and P264:

a. the production rate for each month, number of castings poured; and

b. the rolling, 12-month summation of the production rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(6) In addition to the above information, the permittee shall also record the following information each month for this emissions units:

a. the calculated emission rate for PM10, in tons [d)(3)a. x 1.569E-02 lb PM10/castings poured x 1/2000 pounds]; and

b. the annual PM10 emission rate, in tons, based upon, the 12-month summation of the monthly emission rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353; 40 CFR Part 64]

(2) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

a. the rolling, 12-month production rate limitation; and

b. the rolling, 12-month emission limitation for PM10.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 40 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

c. Emission Limitation:

The number of castings poured shall not exceed 1.1 million, per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(5).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

d. Emission Limitation:

PM10 shall not exceed 8.63 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(6).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

g) Miscellaneous Requirements

(1) None.

21. P167, CHARGE MAKE-UP -Plt2

Operations, Property and/or Equipment Description:

Cupola #6E & #6W (Plant 2W) - Charge Makeup

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 30 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-022A Plt2W

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions will be documented on the roof level to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 30 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

22. P173, ML1 MOLD COOLING

Operations, Property and/or Equipment Description:

ML1 (Plant 1) - Mold Cooling

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 50 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: 476 and 478

Dust collectors: DC080 Plt1, DC083 Plt1, DC086 Plt1, DC-88/89 Plt1, DC-090 Plt1 and DC-91/92 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 50 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

23. P174, ML1 S/O & CC

Operations, Property and/or Equipment Description:

ML1 (Plant 1) - Mold Shakeout and Casting Cooling

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 50 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: 008, 439, 500, 518A, 519A, 520A, 558A, 829 and 830

Dust collectors: DC037A Plt1, DC057A Plt1, DC058 Plt1, DC069A Plt1, DC071A Plt1 and DC072A Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 50 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

24. P180, ML1 SAND SYSTEM

Operations, Property and/or Equipment Description:

ML1 (Plant 1) - Mold Sand Mix System

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 50 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: 348

Dust collectors: DC034B Plt1, DC035A Plt1, DC036A Plt1, DC037A Plt1, DC038 Plt1 and DC-090 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 50 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

25. P188, CUPOLA - #4

Operations, Property and/or Equipment Description:

Cupola #4 (Plant 1) - Cupola and Iron Troughs

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 (PTI #03-277, issued 8/19/75)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A), 3745-17-11(B) and 3745-18-06(E).
b.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by the rule.
c.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity, as a three-minute average, except as provided by the rule. See b)(2)a.
d.	OAC rule 3745-17-11(B)	Stack PE shall not exceed 19 pounds per hour (lbs/hr).
e.	OAC rule 3745-17-08(B)	Reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. See b)(2)b. and b)(2)c.
f.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 645 lbs/hr. See b)(2)d.
g.	40 CFR, Part 63, Subpart EEEEE (40 CFR 63.7680-63.7765) [In accordance with 40 CFR	Comply with either: 0.006 gr/dscf (grains per dry standard cubic foot) of PM; or

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	63.7690(a)(2), this emissions unit is a cupola metal melting furnace at an existing iron and steel foundry subject to the emissions limitations and/or control measures specified in this section.]	0.10 pound of PM per ton (lb/ton) of metal charged; or 0.0005 gr/dscf of total metal hazardous air pollutant (HAP); or 0.008 pound of total metal HAP per ton (lb/ton) of metal charged. [40 CFR 63.7690(a)(2).] Volatile organic hazardous air pollutants (VOHAPs) from this emissions unit shall not exceed 20 parts per million by volume (ppmv) corrected to 10 percent oxygen. [40 CFR 63.7690(a)(8) and 63.7690(b)] See b)(2)e. and b)(2)f.
h.	40 CFR 63.1-15 (40 CFR 63.7760)	Table 1 to Subpart EEEEE of 40 CFR Part 63 – Applicability of General Provisions to Subpart EEEEE shows which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

a. The opacity limitation established pursuant to this rule is more stringent than the facility-wide opacity limitation established by 40 CFR Part 63, Subpart EEEEE.

b. During cupola furnace charging, a continuous draft shall be maintained through the charge opening during charging sufficient to minimize visible emissions of fugitive dust consistent with good engineering design.

c. During cupola furnace tapping, the tapping hood shall have a collection efficiency sufficient to minimize visible emissions of fugitive dust at the point of capture consistent with good engineering design.

d. The sulfur dioxide emissions generated by the cupola associated with this emissions unit are due solely to the combustion of natural gas, coal and coke. The combustion of natural gas, coal and coke generate minor amounts of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions unit's process weight rate, which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into this emissions unit, which are used for the process weight rate would be the iron being melted, limestone, coal and coke. Using the weight of these materials as the process weight rate in

the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation (645 lbs/hr) relative to the sulfur dioxide emissions generated from the combustion of the fuels used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

e. VOHAP gases generated during the operation of this emission units shall be combusted such that the 15-minute average combustion zone temperature does not fall below 1,300 degrees Fahrenheit. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.

f. This emissions unit and its associated air pollution control system(s) shall be maintained in accordance with the Operations, Maintenance, and Monitoring Plan required under 40 CFR Part 63, Subpart EEEEE in order to minimize air contaminant emissions.

c) Operational Restrictions

(1) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart EEEEE, including the following sections:

63.7690(b)(1)	capture and collection system
63.7690(b)(2)	wet scrubber pressure drop and flow rate
63.7690(b)(3)	temperature for oxidizer for cupola
63.7700(a)	scrap material usage
63.7710(a), (b)(1) through (5)	operation and maintenance (including bag leak detection system)
63.7720(c)	startup, shutdown, and malfunction plan
63.7733(a), (b), (e), and (f)	site specific operating limits for capture system

[Authority for term: OAC rule 3745-77-07(A)(1); 40 CFR Part 63, Subpart EEEEE]

(2) The certification or the scrap management plan requirements of 63.7700 shall be met. Use of scrap that may contain organic contaminants, plastics and HAP metals shall be minimized or eliminated. Accessible lead components and mercury switches shall be removed from any automotive bodies by suppliers.

[Authority for term: OAC rule 3745-77-07(A)(1); 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 63, Subpart EEEEE, including the following sections:

63.7740(a)	capture system – maintain a CPMS
63.7740(b)	bag leak detection system for baghouse
63.7740(d)	monitor combustion zone temperature for oxidizer on cupola
63.7741(a)	capture system – install, operate, and maintain CPMS

63.7741(b)	install, operate, and maintain bag leak detection system
63.7741(d)	install and maintain a CPMS to measure and record the combustion zone temperature zone temperature for the oxidizer
63.7741(f)	operate each CPMS per (f)(1) through (f)(3)
63.7742	monitor continuously except for monitoring malfunctions, associated repairs and required quality control
63.7743(b)	monitor and record capture system data
63.7743(c)	bag leak detection system – maintain records
63.7743(e)	record data for combustion zone temperature
63.7744(a)	maintain records of continuous compliance with certification requirements for scrap collection
63.7745(a)	records for continuous compliance for capture system and each control device
63.7745(b)	maintain current copy of operation and maintenance plans
63.7752(a) and (c)	required overall records that should be maintained

(2) The permittee shall perform weekly* checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

*Once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to 40 CFR Part 63, Subpart EEEEE, per the following sections:

63.7751(a)	semi-annual compliance report
63.7751(b)	content of compliance reports
63.7751(c)	startup, shutdown, malfunction report
63.7751(d)	Title V monitoring report allowance
63.7746(a)	submission of deviation reports

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit;

b. any corrective actions taken to minimize or eliminate the visible emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitations:</u>

0.006 gr/dscf (grains per dry standard cubic foot) of PM; or
0.10 pound of PM per ton (lb/ton) of metal charged; or
0.0005 gr/dscf of total metal hazardous air pollutant (HAP); or
0.008 pound of total metal HAP per ton (lb/ton) of metal charged.

<u>Applicable Compliance Method:</u>

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A for particulate emissions and 1 through 4 and 29 of 40 CFR Part 60, Appendix A for total metal HAPs.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

b. <u>Emission Limitation:</u>

VOHAPs from this emissions unit shall not exceed 20 ppmv corrected to 10 percent oxygen.

Applicable Compliance Method:

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 – 4 and 18 of 40 CFR Part 60, Appendix A. Alternatively, Methods 25 or 25A of 40 CFR Part 60, Appendix A can be used in accordance with 40 CFR Part 63, Subpart EEEEE.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

c. Emission Limitation:

PE shall not exceed 19 lbs/hr

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the hourly allowable PE based on the results of emission testing conducted for all the stacks associated with this emissions unit, except for the hot blast stack, in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1);OAC rule 3745-17-03(B)(10)]

d. Emission Limitation:

SO2 shall not exceed 645 lbs/hr.

Applicable Compliance Method:

If required, compliance with the lbs/hr limitation shall be determined based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR, Part 60, Appendix A.

* The only significant SO2 emissions are from the dwell chamber and recoup stack.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A)]

e. Emission Limitation:

For all stacks associated with this emissions unit, visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

f. Emission Limitation:

For all fugitive dust emissions associated with this emissions unit, visible PE shall not exceed 20% opacity, as a 3-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(3).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(3)]

(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 no less frequently than every 5 years (initial test performed on September 11, 2008). Visible emission observations of facility-wide opacity shall be performed in accordance with U.S. EPA Method 9 at least once every six months.

b. The emission testing shall be conducted to demonstrate compliance with the allowable particulate or metal HAPs, opacity (stack and fugitive) and VOHAPs emission limitations.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

i. For particulates, Methods 1 - 5 of 40 CFR Part 60, Appendix A;

ii. For total metal HAPs, Methods 1 through 4 and 29 of 40 CFR Part 60, Appendix A; and

iii. For VOHAPs, Methods 1 – 4 and 18 of 40 CFR Part 60, Appendix A. Alternatively, Methods 25 or 25A of 40 CFR Part 60, Appendix A can be used in accordance with 40 CFR Part 63, Subpart EEEEE

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Sampling shall occur only during times when the cupola is on blast. The minimum sample volume collected during each run shall be 60 dscf. The combustion temperature of the afterburner shall be monitored and recorded during each test run. The stack test shall be performed in accordance with the requirements established in 40 CFR 63.7732.

e. 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).

f. 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.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii), 40 CFR Part 63, Subpart EEEEE]

g) Miscellaneous Requirements

(1) None.

26. P189, FURN - #4 AJAX

Operations, Property and/or Equipment Description:

Ajax #4 (Plant 1) – Electric Induction Furnace

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 2.6pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-302, issued 12/19/75)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: 695

Dust collectors: DC-91/92 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 2.6 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

27. P190, FURN - #5 AJAX

Operations, Property and/or Equipment Description:

Ajax #5 (Plant 1) - Electric Induction Furnace

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 3.3pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-302, issued 12/19/75)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: 456

Dust collectors: DC-083 Plt1, DC-91/92 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 3.3 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

28. P202, FN7 S/O HEAD DUMP

Operations, Property and/or Equipment Description:

FN7 (Plant 1) - Shaker/Head Dump

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 7.5pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-302, issued 12/19/75)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-005B Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 7.5 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

29. P203, FN7 S/O HEAD SORT

Operations, Property and/or Equipment Description:

FN7 (Plant 1) - Shaker/Head Sort

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 24 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-302, issued 12/19/75)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC052 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 24 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

30. P207, SLURRY SYSTEM

Operations, Property and/or Equipment Description:

(Plant 1) - Mold Sand Slurry System

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 15 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-318, issued 12/19/75)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-044A Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 15 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

31. P209, CHARGE MAKE-UP - #4

Operations, Property and/or Equipment Description:

Cupola #4 (Plant 1) - Charge Makeup

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 13pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-322, issued 11/25/75)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-042 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 13 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

32. P210, DESULFURIZATION - 6E

Operations, Property and/or Equipment Description:

Cupola #6E (Plant 2W) - Desulfurization Station

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 16pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-322, issued (11/25/75)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A), 3745-18-06 and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-019A Plt2W

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 16 lbs/hr and 0.050 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

33. 216, ML6 SORT AREA

Operations, Property and/or Equipment Description:

ML6 (Plant 2W) - Casting Sort Area

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 34 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors:DC-15 Plt2W, DC-020 Plt2W

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 34 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

34. P235, FN4 Shaker - N 5 B/C

Operations, Property and/or Equipment Description:

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 7.1 pounds per hour (lbs/hr).
c.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).
d.	OAC rule 3745-31-05(A)(3) (PTI 03-463, issued 1/4/77)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: None

Dust collectors: DC-011B Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

PE shall not exceed 7.1 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

35. P248, ML3 S/O & CC

Operations, Property and/or Equipment Description:

ML3 (Plant 1) - Mold Shakeout and Casting Cooling

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (PTI 03-17353 issued June 10, 2008)	Particulate matter emissions less than or equal to 10 microns in size (PM10) shall not exceed 3.60 tons per year, based upon a rolling, 12-month summation of the monthly emissions. Volatile organic compound (VOC) emissions shall not exceed 8.40 tons per year, based upon a rolling, 12-month summation of the monthly emissions. See b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible particulate matter emissions (PE) shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	PE shall not exceed 8.3 pounds per hour (lbs/hr).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-067A Plt1, DC-087 Plt1, DC-088 Plt1 and DC-089 Plt1

d. The rolling, 12-month limitation is a federally enforceable restriction on the potential to emit established for the purpose of establishing a net decrease within the contemporaneous period for PTI 03-17353.

c) Operational Restrictions

(1) The maximum annual number of castings poured shall not exceed 1.1 million, for the Mold 3 manufacturing line (ML3), which includes emissions units P141, P142, P149, P154, P248 and P264, based upon a rolling, 12-month summation of the monthly number of castings poured.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-17353]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(5) The permittee shall collect and record the following information each month for ML3, which includes emissions units P141, P142, P149, P154, P248 and P264:

a. the production rate for each month, number of castings poured; and

b. the rolling, 12-month summation of the production rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(6) In addition to the above information, the permittee shall also record the following information each month for this emissions units:

a. the calculated emission rate for PM10, in tons [d)(3)a. x 6.547E-03 lb PM10/castings poured x 1/2000 pounds];

b. the calculated emission rate for VOC, in tons [d)(3)a. x 1.527E-02 lb of VOC/castings poured x 1/2000 pounds];

c. the annual PM10 emission rate, in tons, based upon, the 12-month summation of the monthly emission rates; and

d. the annual VOC emission rate, in tons, based upon, the 12-month summation of the monthly emission rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); 03-17353; 40 CFR Part 64]

(2) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

a. the rolling, 12-month production rate limitation; and

b. the rolling, 12-month emission limitation for PM10 and VOC.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 8.3 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

The number of castings poured shall not exceed 1.1 million, per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(5).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

d. Emission Limitation:

PM10 shall not exceed 3.60 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(5).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

e. Emission Limitation:

VOC shall not exceed 8.40 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(6).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

g) Miscellaneous Requirements

(1) None.

36. P253, FN5 BLAST CABINET #7

Operations, Property and/or Equipment Description:

FN5 (Plant 1) - No. 7 Blast Cabinet

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 12.3 pounds per hour(lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-656, issued 8/11/78)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-013A Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 12.3 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

37. P254, FN5 SHAKER - N 7 B/C

Operations, Property and/or Equipment Description:

FN5 (Plant 1) - Shaker N of #7 B/C

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 10.6 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-657, issued 9/25/78)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-013A Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 10.6 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

38. P255, FN5 GRINDER - N 7 BC

Operations, Property and/or Equipment Description:

FN5 (Plant 1) - Grinder N of #7 B/C

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 12.2 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-658, issued 9/25/78)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-011B Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 12.2 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

39. P256, FN5 BLAST CABINET #8

Operations, Property and/or Equipment Description:

FN5 (Plant 1) - No. 8 Blast Cabinet

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 6.8 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-659, issued 8/11/78)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-013A Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall submit annual reports that summarize the actual annual PE for this emissions unit. These reports shall be submitted to the Director (the Northwest District Office) by January 31 of each year and shall cover the previous calendar year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report that is due by April 15 of each year.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 6.8 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

40. P257, FN5 SHAKER - N 8 B/C

Operations, Property and/or Equipment Description:

FN5 (Plant 1) - Shaker N of #8 B/C

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 8.8 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-660, issued 8/11/78)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors:DC-048A Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 8.8 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

41. P264, ML3 IRON POUR

Operations, Property and/or Equipment Description:

ML3 (Plant 1) - RMIP and Rod Furnace

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (PTI 03-17353 issued June 10, 2008)	Particulate matter emissions less than or equal to 10 microns in size (PM10) shall not exceed 0.60 ton per year, based upon a rolling, 12-month summation of the monthly emissions. Volatile organic compound (VOC) emissions shall not exceed 1.25 tons per year, based upon a rolling, 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-17-07(A)	Visible particulate matter emissions (PE) shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	PE shall not exceed 46 pounds per hour (lbs/hr).
d.	40 CFR Part 63 Subpart EEEEE (40 CFR 63.7680 -63.7765) [In accordance with 40 CFR 63.7690(a)(5), this emissions unit is a pouring station at an existing iron and steel foundry subject to the emissions limitations and/or control measures specified in this section.]	Comply with either limit: 0.010 grain per dry standard cubic foot of PE; or 0.0080 gr/dscf of total metal hazardous air pollutants (HAP). [40 CFR 63.7690(a)(5)]
e.	40 CFR 63.1-15 (40 CFR 63.7760)	Table 1 to Subpart EEEEE of 40 CFR Part 63 – Applicability of General

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Provisions to Subpart EEEEE shows which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

a. The rolling, 12-month limitation is a federally enforceable restriction on the potential to emit established for the purpose of establishing a net decrease within the contemporaneous period for this Permit to Install.

c) Operational Restrictions

(1) The maximum annual number of castings poured shall not exceed 1.1 million, for the Mold 3 manufacturing line (ML3), which includes emissions units P141, P142, P149, P154, P248 and P264, based upon a rolling, 12-month summation of the number of castings poured.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-17353]

(2) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart EEEEE, including the following sections:

63.7710(a), (b)(1) and (b)(7)	operation and maintenance
63.7720(c)	startup, shutdown, and malfunction plan

[Authority for term: OAC rule 3745-77-07(A)(1); 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving these emissions units. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) The permittee shall collect and record the following information each month for ML3, which includes emissions units P141, P142, P149, P154, P248 and P264:

a. the production rate for each month, number of castings poured; and

b. the rolling, 12-month summation of the production rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(3) In addition to the above information, the permittee shall also record the following information each month for this emissions units:

a. the calculated emission rate for PM10, in tons [d)(2)a. x 1.088E-03 lb PM10/castings poured x 1/2000 pounds];

b. the calculated emission rate for VOC, in tons [d)(2)a. x 2.277E-03 lb of VOC/castings poured x 1/2000 pounds];

c. the annual PM10 emission rate, in tons, based upon, the 12-month summation of the monthly emission rates; and

d. the annual VOC emission rate, in tons, based upon, the 12-month summation of the monthly emission rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(4) The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 63, Subpart EEEEE, including the following sections:

63.7743(a)(5)	maintain either average PM or metal HAP mass loadings below limitations
63.7745(a)	records for continuous compliance for capture system and each control device
63.7745(b)	maintain current copy of operation and maintenance plans
63.7752(a) and (c)	required overall records that should be maintained

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(2) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

a. the rolling, 12-month production rate limitation; and

b. the rolling, 12-month emission limitation for PM10 and VOC.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

(3) The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to 40 CFR Part 63, Subpart EEEEE, per the following sections:

63.7746(a)	submission of deviation reports
63.7751(a)	semi-annual compliance report
63.7751(b)	content of compliance reports
63.7751(c)	startup, shutdown, malfunction report
63.7751(d)	Title V monitoring report allowance

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) 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 no less frequently than every five years after the initial compliance test (initial test performed on December 4, 2007). Testing for facility-wide fugitive opacity shall occur once every six months.

b. The emission testing shall be conducted to demonstrate compliance with the allowable PE or total metal HAPs and opacity (stack and fugitive) emission limitations.

c. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

i. for PE, Methods 1-5 of 40 CFR Part 60, Appendix A.

ii. for total metal HAPs, Methods 1-4 and 29 of 40 CFR Part 60, Appendix A.

iii. for opacity, Method 9 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO.

d. The test(s) shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA, NWDO. The minimum sample volume collected during each run shall be 60 dscf. The stack test shall be performed in accordance with the requirements established in 40 CFR Part 63.7732.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

A comprehensive written report of the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, NWDO within 60 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, NWDO.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

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

a. <u>Emission Limitations:</u>

Either PE shall not exceed 0.010 gr/dscf or;

Total metal HAP emissions shall not exceed 0.0080 gr/dscf.

<u>Applicable Compliance Method:</u>

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A for particulate

emissions and 1 through 4 and 29 of 40 CFR Part 60, Appendix A for total metal HAPs.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

b. Emission Limitation:

PE shall not exceed 46 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the results of emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-13(B)(10)]

c. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

d. Emission Limitation:

The number of castings poured shall not exceed 1.1 million, per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(3).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

e. Emission Limitation:

PM10 shall not exceed 0.60 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(4).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

f. Emission Limitation:

VOC shall not exceed 1.25 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(4).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-17353]

g) Miscellaneous Requirements

(1) None.

42. P265, FURN - #3 AJAX

Operations, Property and/or Equipment Description:

Ajax #3 (Plant 1) - Electric Induction Furnace

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 46 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-501, issued 3/15/77)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: 665, 781, 885 and 886

Dust collectors: none

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 46 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

43. P268, SAND BLAST BOOTH

Operations, Property and/or Equipment Description:

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 2.07 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI 03-542, issued 6/16/77)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).

(2) Additional terms and conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: None

Dust collectors: DC-017 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

PE shall not exceed 2.07 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

44. P271, ML1 IRON POUR

Operations, Property and/or Equipment Description:

ML1 (Plant 1) - RMIP and Rod Furnace

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI #03-572)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
b.	OAC rule 3745-17-07(A)	Visible PE from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	PE shall not exceed 7.3 pounds per hour (lbs/hr).
d.	40 CFR, Part 63, Subpart EEEEE (40 CFR 63.7680-63.7765) [In accordance with 40 CFR 63.7690(a)(5), this emissions unit includes a pouring station at an existing iron and steel foundry subject to the emissions limitations and/or control measures specified in this section.]	Comply with either: 0.010 gr/dscf (grains per dry standard cubic foot) of PM; or 0.0008 gr/dscf of total metal hazardous air pollutant (HAP). [40 CFR 63.7690(a)(5).] See b)(2)a.
e.	40 CFR 63.1-15 (40 CFR 63.7760)	Table 1 to Subpart EEEEE of 40 CFR Part 63 – Applicability of General Provisions to Subpart EEEEE shows which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional terms and conditions

a. The RMIP contained within this emissions unit and its associated air pollution control system(s) shall be maintained in accordance with the Operations, Maintenance, and Monitoring Plan required under 40 CFR Part 63, Subpart EEEEE in order to minimize air contaminant emissions.

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

c. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

d. Nothing in this permit shall preclude the permittee from routing emissions from the Rod Furnace contained within this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: 701

Dust collectors: DC-91/92 Plt1, DC-080 Plt1

c) Operational Restrictions

(1) The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, Subpart EEEEE for the RMIP, including the following sections:

63.7710(a), (b)(1) through (5)	operation and maintenance (including bag leak detection system)
63.7720(c)	startup, shutdown, and malfunction plan

[Authority for term: OAC rule 3745-77-07(A)(1); 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 63, Subpart EEEEE, for the RMIP, including the following sections:

63.7740(b)	bag leak detection system for baghouse
63.7740(c)	bag house inspections
63.7741(b)	install, operate, and maintain bag leak detection system
63.7741(f)	operate each CPMS per (f)(1) through (f)(3)
63.7742	monitor continuously except for monitoring malfunctions, associated repairs and required quality control
63.7743(a)(5)	maintain either average of PM, metal HAP or mass loadings below limitations
63.7743(c)	bag leak detection system – maintain records
63.7745(a)	records for continuous compliance for capture system and each control device
63.7745(b)	maintain current copy of operation and maintenance plans
63.7752(a) and (c)	required overall records that should be maintained

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

(2) The permittee shall perform checks according to the following frequencies, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit:

a. for uncontrolled stacks, once weekly* during normal operations ;

b. for wet dust collectors, once weekly* during normal operations; and

c. for dry dust collectors, once weekly* during normal operations.

*Once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) The permittee shall perform checks, pursuant to d)(1), when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to 40 CFR Part 63, Subpart EEEEE, per the following sections:

63.7746(a)	submission of deviation reports
63.7751(a)	semi-annual compliance report
63.7751(b)	content of compliance reports
63.7751(c)	startup, shutdown, malfunction report
63.7751(d)	Title V monitoring report allowance

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitations:</u>

0.010 gr/dscf of PM; or
0.0008 gr/dscf of total metal HAP

Applicable Compliance Method:

If required, compliance shall be determined through emission testing conducted in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A for particulate emissions or 1 through 4 and 29 of 40 CFR Part 60, Appendix A for total metal HAPs.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 63, Subpart EEEEE]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitations:

PE shall not exceed 7.3 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(2) and d)(3), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

(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 no less frequently than every 5 years (initial test performed on August 8, 2007). Visible emission observations of facility-wide opacity shall be performed in accordance with U.S. EPA Method 9 at least once every six months.

b. The emission testing shall be conducted to demonstrate compliance with the allowable particulate or total metal HAPs and opacity (stack and fugitive).

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

i. For particulates, Methods 1 - 5 of 40 CFR Part 60, Appendix A; and

ii. For total metal HAPs, Methods 1 through 4 and 29 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. The minimum sample volume collected during each run shall be 60 dscf. The stack test shall be performed in accordance with the requirements established in 40 CFR 63.7732.

e. 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).

f. 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.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(a)(ii), 40 CFR Part 63, Subpart EEEEE]

g) Miscellaneous Requirements

(1) None.

45. P273, ML1 MOLD FACILITIES

Operations, Property and/or Equipment Description:

ML1 (Plant 1) - Mold Facilities

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 28 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-572)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC056 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 28 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

46. P274, SAND DEL SYS

Operations, Property and/or Equipment Description:

(Plant 1) - Core Sand Delivery System

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	PE shall not exceed 16 pounds per hour (lbs/hr).
c.	OAC rule 3745-31-05(A)(3) (PTI #03-579, issued 9/28/77)	The requirements of this rule are equivalent to the requirements of OAC rules 3745-17-07(A) and 3745-17-11(B).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-059 Plt1, DC-101 Plt1

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(1) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitations:

PE shall not exceed 16 lbs/hr and 0.020 gr/dscf (if applicable).

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(10)]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

47. P320, CR5 OVEN - #3 CORE

Operations, Property and/or Equipment Description:

CR5 (Plant 1) - Core Wash Dry Oven - @ CB 68, 69-70

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 7.74 pounds per hour (lbs/hr) and 6.39 tons per year (tpy). PE shall not exceed 2.48 lbs/hr and 1.71 tpy. Carbon monoxide (CO) emissions shall not exceed 0.86 lb/hr and 1.41 tpy. Nitrogen oxide (NOx) emissions shall not exceed 1.02 lbs/hr and 1.68 tpy. See b)(2)b., b)(2)c. and b)(2)d.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (S02) emissions shall not exceed 169 lbs/hr. [See b)(2)e.]

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321,P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, NOx, CO and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates minor amounts of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions unit’s process weight rate, which is the basis for establishing the sulfur dioxide emission limitation. The only material introduced into this emission unit which would be used for the process weight rate would be the sand cores. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of fuel used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relative low amount of sulfur dioxide generated from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [(the value from d)(2)a.) x (Q + R)] + [(the value from d)(2)b.) x (S)] + [(the value from d)(1)a.) x (T)]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [(the value from d)(2)a.) x (U)] + [(the value from d)(2)b.) x (V)] + [(the value from d)(1)a.) x (W)]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in operations log. If visible emissions are observed, the permittee shall also not the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following compliance methods:

a. Emission Limitation:

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 7.74 lbs/hr and 6.39 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation shall also be demonstrated.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 2.48 lbs/hr and 1.71 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitation:

SO_2 emissions shall not exceed 169 lbs/hr.

Applicable Compliance Method:

Compliance with the hourly allowable SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1- 4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A)]

h. Emission Limitations:

NOx emissions shall not exceed 1.02 lbs/hr and 1.68 tpy.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

i. Emission Limitations:

CO emissions shall not exceed 0.86 lb/hr and 1.41 tons CO/yr.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly CO emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft].

The permittee may demonstrate compliance with the annual CO emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly CO limitation by testing in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

g) Miscellaneous Requirements

(1) None.

48. P321, CB CORE MACH #66-67

Operations, Property and/or Equipment Description:

CR5 (Plant 1) - Core Cold Box #66-67

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined Particulate emissions (PE) shall not exceed151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 5.95 pounds per hour (lbs/hr) and 5.48 tons per year (tpy). PE shall not exceed 1.25 lbs/hr and 1.13 tpy. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in

this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) shall be determined in accordance with the following compliance methods:

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. <u>Emission Limitation:</u>

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

CO emissions shall not exceed 5.95 lbs/hr and 5.48 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 1.25 lbs/hr and 1.13 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

49. P335, CR8 V COOLER #3FECO

Operations, Property and/or Equipment Description:

CR8 (Plant 1) - FECO Line #3 Vertical Core Cooler

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 14.77 lbs/hr and 12.20 tpy. PE shall not exceed 4.74 lbs/hr and 3.27 tpy. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389, P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be no control for this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) shall be determined in accordance with the following compliance methods:

a. Emission Limitation:

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 14.77 lbs/hr and 12.20 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 4.74 lbs/hr and 3.27 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

50. P336, CR8 V COOLER #4FECO

Operations, Property and/or Equipment Description:

CR8 (Plant 1) - FECO Line #4 Vertical Core Cooler

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 7.70 pounds per hour (lbs/hr) and 6.36 tons per year (tpy). PE shall not exceed 2.47 lbs/hr and 1.70 tpy. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389, P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be no control for this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) of the terms and conditions of this permit shall be determined in accordance with the following compliance methods:

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. <u>Emission Limitation:</u>

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. <u>Emission Limitation:</u>

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 7.70 lbs/hr and 6.36 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 2.47 lbs/hr and 1.70 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

51. P349, FURN - 130 TON

Operations, Property and/or Equipment Description:

130 Ton Furnace (Plant 2W) - Electric Induction Furnace

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI P0108482 issued August 10, 2011)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf) and 33.03 tons per year (tpy).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: M-002-1, M-002A

Dust collectors: none

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108482]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108482]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

PE shall not exceed 0.020 gr/dscf.

<u>Applicable Compliance Method:</u>

If required, the permittee shall demonstrate compliance with the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108482]

b. <u>Emission Limitation:</u>

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

<u>Applicable Compliance Method:</u>

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 33.03 tpy.

Applicable Compliance Method:

The tpy represents the potential to emit (PTE) for this emissions unit. Therefore, provided compliance is shown with the 0.020 gr/dscf, compliance with the annual limitation shall also be demonstrated.

The PTE was determined by the following equation:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108482]

g) Miscellaneous Requirements

(1) None.

52. P358, CB CORE MACH #69-70

Operations, Property and/or Equipment Description:

CR5 (Plant 1) - Core Cold Box #69-70

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined Particulate emissions (PE) shall not exceed 151.56 tons rolling 12-month period, for all the emissions units identified in b)(2)a., combined OC emissions shall not exceed 7.93 pounds per hour (lbs/hr) and 7.30 tons per year (tpy). [see b)(2)c.)]. PE shall not exceed 6.02 lbs/hr and4.18 tpy [see b)(2)c.].
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in

this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) shall be determined in accordance with the following compliance methods:

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

b. <u>Emission Limitation:</u>

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 7.93 lbs/hr and 7.30 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 6.02 lbs/hr and 4.18 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand and 0.000153 lb OC/lb sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

53. P360, FN4 GRINDER V6 BLOCK

Operations, Property and/or Equipment Description:

FN4 (Plant 1) - Grinder V6 Blk NW of #5 B/C

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI 03-7169 issued August 17, 2004)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 2.07 pounds per hour (lbs/hr) and 9.07 tons per year (tpy).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-011B Plt1

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week.

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitations:</u>

PE shall not exceed 2.07 lbs/hr and 0.020 gr/dscf (if applicable).

<u>Applicable Compliance Method:</u>

The permittee may demonstrate compliance with the hourly PE limitation based on the following formula:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

Based on the monitoring and record keeping requirements specified in d)(1) and d)(2), it will be assumed that this emissions unit is in compliance with the applicable particulate emission limitations if there are no visible emissions from the stack(s) associated with this emissions unit.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation and/or the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-07169]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 9.07 tpy.

Applicable Compliance Method:

The annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-07169]

g) Miscellaneous Requirements

(1) None.

54. P363, SAND DEL SYS #75

Operations, Property and/or Equipment Description:

(Plant 1) - Sand Del Sys Pneu#75

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI P0108483 issued August 10, 2011)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf) and 2.98 tons per year (tpy).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-076A Plt1, DC-077A Plt1

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

PE shall not exceed 0.020 gr/dscf.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108483]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 2.98 tpy.

Applicable Compliance Method:

The tpy represents the potential to emit (PTE) for this emissions unit. Therefore, provided compliance is shown with the 0.020 gr/dscf, compliance with the annual limitation shall also be demonstrated.

The PTE was determined by the following equation:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108483]

g) Miscellaneous Requirements

(1) None.

55. P364, SAND DEL SYS #100

Operations, Property and/or Equipment Description:

(Plant 1) - Sand Del Sys Pneu#100

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI P0108483 issued August 10, 2011)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf) and 6.61 tons per year (tpy).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC078 Plt1, DC-100E Plt1, DC-074A Plt1

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

PE shall not exceed 0.020 gr/dscf.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108483]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 6.61 tpy.

Applicable Compliance Method:

The tpy represents the potential to emit (PTE) for this emissions unit. Therefore, provided compliance is shown with the 0.020 gr/dscf, compliance with the annual limitation shall also be demonstrated.

The PTE was determined by the following equation:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108483]

g) Miscellaneous Requirements

(1) None.

56. P365, SAND DEL SYS #900A

Operations, Property and/or Equipment Description:

(Plant 1) - Sand Del Sys Pneu#900A

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI P0108483 issued August 10, 2011)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf) and 9.59 tons per year (tpy).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-078 Plt1

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

PE shall not exceed 0.020 gr/dscf.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108483]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 9.59 tpy.

Applicable Compliance Method:

The tpy represents the potential to emit (PTE) for this emissions unit. Therefore, provided compliance is shown with the 0.020 gr/dscf, compliance with the annual limitation shall also be demonstrated.

The PTE was determined by the following equation:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108483]

g) Miscellaneous Requirements

(1) None.

57. P369, CR5 CB CORE MACH #68

Operations, Property and/or Equipment Description:

CR5 (Plant 1) - Core Cold Box #68

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined OC emissions shall not exceed 4.02 pounds per hour (lbs/hr) and 3.70 tons per year (tpy). PE shall not exceed 3.05 lbs/hr and 2.12 tpy. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389, P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that

determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) shall be determined in accordance with the following compliance methods:

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 4.02 lbs/hr and 3.70 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand for the main stack.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand and 0.0000665 lb OC/lb sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 3.05 lbs/hr and 2.12 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

58. P380, FN2 BLAST CABINET 12

Operations, Property and/or Equipment Description:

FN2 (Plant 1) - No. 12 Blast Cabinet

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI P0108480 issued August 10, 2011)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf) and 26.63 tons per year (tpy).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-081 Plt1

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions will be documented on the roof level to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

PE shall not exceed 0.020 gr/dscf.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108480]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 26.63 tpy.

Applicable Compliance Method:

The tpy represents the potential to emit (PTE) for this emissions unit. Therefore, provided compliance is shown with the 0.020 gr/dscf, compliance with the annual limitation shall also be demonstrated.

The PTE was determined by the following equation:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108480]

g) Miscellaneous Requirements

(1) None.

59. P381, FN2 GRINDER HD 12 BC

Operations, Property and/or Equipment Description:

FN2 (Plant 1) - Gen III Head Grinder

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI P0108480 issued August 10, 2011)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf) and 16.60 tons per year (tpy).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-081 Plt1

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

PE shall not exceed 0.020 gr/dscf.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108480]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 16.60 tpy.

Applicable Compliance Method:

The tpy represents the potential to emit (PTE) for this emissions unit. Therefore, provided compliance is shown with the 0.020 gr/dscf, compliance with the annual limitation shall also be demonstrated.

The PTE was determined by the following equation:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108480]

g) Miscellaneous Requirements

(1) None.

60. P382, FN2 SHAKER N 12 B/C

Operations, Property and/or Equipment Description:

FN2 (Plant 1) - Gen III Head Shaker

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI #P0108480 issued August 10, 2011)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf) and 53.74 tons per year (tpy).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors:DC-008 Plt1 and DC-013 Plt1

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

PE shall not exceed 0.020 gr/dscf.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108480]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 53.74 tpy.

Applicable Compliance Method:

The tpy represents the potential to emit (PTE) for this emissions unit. Therefore, provided compliance is shown with the 0.020 gr/dscf, compliance with the annual limitation shall also be demonstrated.

The PTE was determined by the following equation:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108480]

g) Miscellaneous Requirements

(1) None.

61. P387, CB CORE MACH #93-95

Operations, Property and/or Equipment Description:

CR5 (Plant 1) - Core Cold Box #93, 94, 95

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined PE shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined OC emissions shall not exceed 8.03 pounds per hour (lbs/hr) and 7.40 tons per year (tpy). PE shall not exceed 6.10 lbs/hr and 4.24 tpy. See b(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that

determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons OC per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 8.03 lbs/hr and 7.40 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 6.10 lbs/hr and 4.24 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

62. P388, HB CORE MACH 100-101

Operations, Property and/or Equipment Description:

CR9 (Plant 1) - Core Hot Box #100-101

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined OC emissions shall not exceed 60.89 pounds per hour(lbs/hr) and 52.36 tons per year(tpy) (includes conveyor emissions). PE shall not exceed 7.18 lbs/hr and 4.54 tpy. Nitrogen oxide (NOx) emissions shall not exceed 0.43 lb/hr and 1.06 tpy. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 99 lbs/hr [See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, CO, NOx and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates a minor amount of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions units' process weight rates, which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into this emissions unit, which are used for the process weight rate would be the catalyst, sand, resin and release agent. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of fuel used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relative low amount of sulfur dioxide generated from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 60.89 lb/hr and 52.36 tpy (includes conveyor emissions).

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.005125 lb OC/lb sand (sum of the emission factors of 0.004932 and 0.000193 for the hot box core and conveyor, respectively).

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.001763 ton OC/ton of sand (sum of the emission factors of 0.001347 ton OC/ton of sand and 0.000416 ton OC/ton of sand for the hot box core and hot box conveyor, respectively).

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 7.18 lbs/hr and 4.54 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000604 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000153 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitation:

NOx emissions shall not exceed 0.43 lb/hr and 1.06 tpy.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

h. Emission Limitation:

SO2 emissions shall not exceed 99 lbs/hr.

Applicable Compliance Method:

Compliance with the hourly SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A)]

g) Miscellaneous Requirements

(1) None.

63. P389, HB CORE MACH 102-103

Operations, Property and/or Equipment Description:

CR9 (Plant 1) - Hot Box Core #102-103

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0106014, issued November 24, 2010)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a. OC emissions shall not exceed 23.10 pounds per hour (lbs/hr) and 34.75tons per year (tpy) (includes conveyor emissions) PE shall not exceed 2.72 lbs/hr and3.02tpy. See b)(2)b. and b(2)c.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 52 lbs/hr. [See b)(2)d.]

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P213, P297, P298, P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389, P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. "Best Available Technology" (BAT) has been determined to be the use of natural gas in this emissions unit.

c. For the purposes of federal enforceability emission limitations on OC effectively restrict emissions of volatile organic compounds (VOC).

d. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates a minor amount of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions units' process weight rates, which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into this emissions unit, which are used for the process weight rate would be the catalyst, sand, resin and release agent. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of fuel used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relative low amount of sulfur dioxide generated from the process.

c) Operational Restrictions

(1) The annual sand processed for the Plant 1core room operations [i.e. all the emissions units listed in b)(2)a.] shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of sand throughput.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations [i.e. all the emissions units listed in b)(2)a.]:

a. the total sand processed, in tons; and

b. the sand processed, in tons, based on a rolling, 12-month summation of the sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a.:

a. the quantity of sand processed in the hot box core machines [i.e. the amount of d)(1)a. used in the hot box core machines], in tons;

b. the quantity of sand processed in the cold box core machines [i.e. the amount of d)(1)a. used in the cold box core machines], in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = {d)(2)a.}{Q + R} + {d)(2)b.}{S} + {d)(1)a.}{T}

where:

TOCE = total organic compound emissions, in tons

Q = OC emission factor, in ton OC/ton sand processed *(0.001347 ton OC/ton sand), for hot box core machine operations

R = OC emission factor, in ton OC/ton sand processed *(0.000416 ton OC/ton sand), for hot box conveyors

S = OC emission factor, in ton OC/ton sand processed * (0.000313 ton OC/ton sand), for cold box core machine operations

T = OC emission factor for OC, in ton OC/ton sand processed* (0.000148 ton OC/ton sand), for core oven operations

*These emissions factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in this Permit to Install are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA 25A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [d)(2)a.)(U)] + ((2)b.)(V) + ((1)a.)(W)

where:

TPE = total particulate emissions, in tons

U =PE emission factor, in ton PE/ton sand processed* (0.000153 ton PE/ton sand), for hot box core machine operations

V = PE emission factor, in ton PE/ton sand processed*(0.0000643 ton PE/ton sand), for cold box core machine operations

W = PE emission factor, in ton PE/ton sand processed*(0.0000396 ton PE/ton sand), for core oven operations

*These emissions factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE emission factors reflected in this Permit to Install are derived from various emission test runs for the hot and cold box core machines, and core dip drying ovens. These tests were conducted using USEPA method 5 for PE.

e. the annual OC emission rate, in tons, based upon the rolling, 12-month summation of monthly emission rates.

f. the annual PE emission rate, in tons, based upon the rolling 12-month summation of monthly emission rates.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to minimize or eliminate the visible emissions.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports, which identify all exceedances of the following:

a. the rolling, 12-month sand throughput restriction; and

b. the rolling, 12-month emission limitations for PE and OC.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack(s) serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations/usage restrictions of this permit shall be determined in accordance with the following compliance methods:

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

b. <u>Emission Limitation:</u>

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

d. Emission Limitations:

OC emissions shall not exceed 23.10 lbs/hr and 34.75 tpy.

Applicable Compliance Method:

The hourly and annual emission limitations represents the emissions unit's maximum emission rates* based on maximum sand throughput rates. Therefore, it is not necessary to develop record keeping and/or reporting requirements. If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4, and either 18, 25 or 25A of 40 CFR Part 60, Appendix A.

*The maximum hourly emission rate is calculated by multiplying the maximum hourly sand usage rate of 4500 lbs/hr by an emission factor of 0.005125 lb OC/lb sand (sum of hot box core emission factor, 0.004932 and conveyor emission factor, 0.000193). The maximum annual emission limitation is calculated by multiplying the maximum annual sand usage rate of 19,710 tons/yr by an emission factor of 0.001763 ton OC/ton of sand (sum of hot box core emission factor, 0.001347 and hot box conveyor emission factor, 0.000416).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

e. Emission Limitations:

PE shall not exceed 2.72 lbs/hr and 3.02 tpy.

Applicable Compliance Method:

The hourly and annual emission limitations represents the emissions unit's maximum emission rates* based on maximum sand throughput rates. Therefore, it is not necessary to develop record keeping and/or reporting requirements. If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

*The maximum hourly emission rate is calculated by multiplying the maximum hourly sand usage rate of 4500 lbs/hr by an emission factor of 0.000604 lbs PE/lb sand. The maximum annual emission limitation is calculated by multiplying the maximum annual sand usage rate of 19,710 tons/yr by an emission rate of 0.000153 ton PE/ton of sand.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

f. Emission Limitation:

Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106014]

g. Emission Limitation:

SO2 emissions shall not exceed 52 lbs/hr.

Applicable Compliance Method:

Compliance with the hourly SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule3745-77-07(C)(1); OAC rule 3745-18-04(A)]

g) Miscellaneous Requirements

(1) None.

64. P436, CB CORE MACH 122

Operations, Property and/or Equipment Description:

(Plant 1) - Core Cold Box #122

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined OC emissions shall not exceed 1.84 pounds per hour (lbs/hr) and 1.69 tons per year (tpy). PE shall not exceed 0.38 lb/hr and 0.35 tpy. Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity, as a 6-minute average, except as provided by rule. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	The visible PE established by this rule is less stringent than the visible PE established pursuant to OAC rule 3745-31-05(A)(3).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, 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 the 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 catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

k. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 1.84 lbs/hr and 1.69 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand .

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 0.38 lb/hr and 0.35 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand and 0.000153 lb OC/lb sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the visible PE limitation in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

g) Miscellaneous Requirements

(1) None.

65. P449, CR3 OVEN - #10 CORE

Operations, Property and/or Equipment Description:

CR3 (Plant 1) - Core Dip Drying Oven (X5-3)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 3.69 pounds per hour (lbs/hr) and 3.05 tons per year (tpy). PE shall not exceed 1.18 lbs/hr and 0.82 tpy. Nitrogen oxide (NOx) emissions shall not exceed 0.49 lb/hr and 0.80 tpy. See b)(2)b., b)(2)c., and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 103 lbs/hr [See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, NOx and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates a minor amount of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions units' process weight rates, which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into this emissions unit, which are used for the process weight rate would be sand cores. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of fuel used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relative low amount of sulfur dioxide generated from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 3.69 lbs/hr and 3.05 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 1.18 lbs/hr and 0.82 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitations:

NOx emissions shall not exceed 0.49 lb/hr and 0.80 tpy.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

h. Emission Limitation:

SO2 emissions shall not exceed 103 lbs/hr.

Applicable Compliance Method:

Compliance with the hourly SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule3745-77-07(C)(1); OAC rule 3745-18-04(A)]

g) Miscellaneous Requirements

(1) None.

66. P450, CR1 OVEN - #11 CORE

Operations, Property and/or Equipment Description:

CR1 (Plant 1) - Core Dip Drying Oven (X5-5)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 7.65 pounds per hour (lbs/hr) and 6.32 tons per year (tpy). PE shall not exceed 2.45 lbs/hr and 1.69 tpy. Carbon monoxide (CO) emissions shall not exceed 0.85 lb/hr and 1.39 tpy. Nitrogen oxide (NOx) emissions shall not exceed 1.01 lbs/hr and 1.66 tpy. See b)(2)b., b)(2)c., and b)(2)d.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 168 lbs/hr [See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, NOx, CO and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates a minor amount of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions units' process weight rates, which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into this emissions unit, which are used for the process weight rate would be sand cores. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of fuel used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relative low amount of sulfur dioxide generated from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 7.65 lbs/hr and 6.32 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 2.45 lbs/hr and 1.69 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitations:

NOx emissions shall not exceed 1.01 lbs/hr and 1.66 tpy.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

h. Emission Limitations:

CO emissions shall not exceed 0.85 lb/hr and 1.39 tpy.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly CO emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft].

The permittee may demonstrate compliance with the annual CO emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly CO limitation by testing in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

i. Emission Limitation:

SO2 emissions shall not exceed 168 lbs/hr.

Applicable Compliance Method:

Compliance with the hourly SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule3745-77-07(C)(1); OAC rule 3745-18-04(A)]

g) Miscellaneous Requirements

(1) None.

67. P451, CR1 OVEN - #12 CORE

Operations, Property and/or Equipment Description:

CR1 (Plant 1) - Core Dip Drying

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate 151.56 tons particulate emissions (PE) per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 6.33 pounds per hour (lbs/hr) and 5.23 tons per year (tpy). PE shall not exceed 2.03 lbs/hr and 1.40 tpy. Carbon monoxide (CO) shall not exceed 0.70 lb/hr and 1.15 tpy. Nitrogen oxide (NOx) emissions shall not exceed 0.84 lb/hr and 1.37 tpy. See b)(2)b., b)(2)c., and b)(2)d.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
f.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 148 lbs/hr [See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, NOx, CO and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates a minor amount of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions units' process weight rates, which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into this emissions unit, which are used for the process weight rate would be sand cores. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of fuel used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relative low amount of sulfur dioxide generated from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 6.33 lbs/hr and 5.23 tpy.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 2.03 lbs/hr and 1.40 tpy.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitations:

NOx emissions shall not exceed 0.84 lb/hr and 1.37 tpy.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

h. Emission Limitations:

CO emissions shall not exceed 0.70 lb/hr and 1.15 tpy.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly CO emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft].

The permittee may demonstrate compliance with the annual CO emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly CO limitation by testing in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

i. Emission Limitation:

SO2 emissions shall not exceed 148 lbs/hr.

Applicable Compliance Method:

Compliance with the hourly SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule3745-77-07(C)(1); OAC rule 3745-18-04(A)]

g) Miscellaneous Requirements

(1) None.

68. P454, LINE 6 BLAST CABINET

Operations, Property and/or Equipment Description:

(Plant 2) - Line 6 Shot Blast Cleaning Cabinet

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI P0108484 issued August 10, 2011)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf) and 9.11 tons per year (tpy).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-035 Plt2W

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

PE shall not exceed 0.020 gr/dscf.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108484]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 9.11 tpy.

Applicable Compliance Method:

The tpy represents the potential to emit (PTE) for this emissions unit. Therefore, provided compliance is shown with the 0.020 gr/dscf, compliance with the annual limitation shall also be demonstrated.

The PTE was determined by the following equation:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108484]

g) Miscellaneous Requirements

(1) None.

69. P480, precision sand mold cooling and shakeout (pilot line)

Operations, Property and/or Equipment Description:

precision sand mold cooling and shakeout (pilot line)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) OAC rule 3745-31-10 through 20 (PTI P0104240 issued August 4, 2009)	Volatile organic compound (VOC) emissions shall not exceed 1.8 pounds (lbs) per casting and 19.12 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions.
b.	OAC rule 3745-31-05(D) (PTI P0104240 issued August 4, 2009)	Filterable particulate matter emissions less than or equal to 10 microns in size (PM10) shall not exceed 0.432 lb/casting and 4.59 tpy, based upon a rolling, 12-month summation of the monthly emissions. Particulate emissions (PE) shall not exceed 0.216 lb per casting and 2.29 tpy, based upon a rolling, 12-month summation of the monthly emissions. Visible PE shall not exceed 10% opacity as a six-minute average from any egress points serving this emissions unit.
c.	OAC rule 3745-17-11(B) OAC rule 3745-17-07(A)	The emission limitations specified by these rules are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-31-05(A)(3)(a)(ii)	See b)(2)c.
e.	OAC rule 3745-31-05(A)(3)(a)	See b)(2)e.

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that no control technologies for VOC were cost effective.

b. The rolling, 12-month emission limitation is a BACT limitation and a federally enforceable limitation established for the purpose of reducing the potential to emit for this emissions unit. The emission limitation is based upon the federally enforceable restriction on the number of castings processed on this line [See c)(1)].

c. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to filterable PM10 emissions from this air contaminant source since the potential to emit is less than ten tons per year taking into account the federally enforceable restriction on the number of castings processed by this emissions unit.

d. The “Best Available Technology (BAT)” requirements under OAC rule 3745-31-05(A)(3)(a) are not applicable to the particulate emissions emitted from this emissions unit. BAT is only applicable to emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard (NAAQS) has been adopted under the Clean Air Act. PE (also referred to as total suspended particulate or particulate matter) is an air contaminant that does not involve an established NAAQS.

e. The requirements of this rule also include compliance with OAC rule 3745-31-05(D) and OAC rules 3745-31-10 through 3745-31-20.

c) Operational Restrictions

(1) The maximum castings processed by this emissions unit shall not exceed 21,240, based upon a rolling, 12-month summation of the monthly castings processed.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the number of castings specified in the following table:

Month(s)	Maximum Allowable Cumulative of Castings Processed
1	1770
1-2	3540
1-3	5310
1-4	7080
1-5	8850
1-6	10,620

Month(s)	Maximum Allowable Cumulative of Castings Processed
1-7	12,390
1-8	14,160
1-9	15,930
1-10	17,700
1-11	19,470
1-12	21,240

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual aluminum usage restriction shall be based upon a rolling, 12-month summation of the monthly sand processed.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0104240]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for this emissions unit:

a. the number of castings processed;

b. for the first 12 months of operation following the issuance of this permit, the cumulative quantity of castings processed; and

c. after the first 12 months of operation following the issuance of this permit, the quantity of castings processed, based on a rolling, 12-month summation of the monthly quantity of castings processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0104240]

(2) The permittee shall perform weekly* checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. for the first 12 calendar months of operation following the issuance of this permit, the restriction on the maximum allowable cumulative of castings processed; and

b. after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month restriction on the quantity of castings processed.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0104240]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

The maximum annual quantity of castings processed shall not exceed 21,240 per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0104240]

b. Emission Limitations:

VOC emissions shall not exceed 1.8 pounds per casting and 19.12 tpy, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance with the pounds per casting limitation shall be demonstrated by multiplying a company-supplied emission factor of 24 lbs of VOC/ton of aluminum by the quantity of aluminum per casting (0.075 ton per casting).

If required, the permittee shall demonstrate compliance with the emission limitation of 1.8 lbs of VOC/casting based on the results of testing conducted in accordance with USEPA Methods 1-4 and 18, 25, or 25A, as applicable, of 40 CFR Part 60, Appendix A.

The annual limitation of 19.12 tons of VOC was established by multiplying the 1.8 lbs per casting limitation by the annual restriction of 21,240 castings processed per rolling 12-month period, and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0104240]

c. Emission Limitation:

Filterable PM10 emissions shall not exceed 0.432 pound per casting and 4.59 tpy, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance with the pounds per casting limitation shall be demonstrated by multiplying a company-supplied emission factor of 5.76 lb of filterable PM10/ton of aluminum by the quantity of aluminum per casting (0.075 ton per casting).

If required, the permittee shall demonstrate compliance with the emission limitation of 0.432 lb of filterable PM10/casting based on the results of testing conducted in accordance with USEPA Methods 201/201A of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office (NWDO).

The annual limitation of 4.59 tons of filterable PM10 was established by multiplying the 0.432 lb of filterable PM10 per casting limitation by the annual restriction of 21,240 castings processed per rolling 12-month period and dividing

by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0104240]

d. Emission Limitations:

PE shall not exceed 0.216 pound per casting and 2.29 tpy, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance with the pounds per casting limitation shall be demonstrated by multiplying a company supplied emission factor of 2.88 lb of PE/ton of aluminum by the quantity of aluminum per casting (0.075 ton per casting).

If required, the permittee shall demonstrate compliance with the emission limitation of 0.216 lb PE/casting based on the results of testing conducted in accordance with USEPA Methods 1-5 of 40 CFR Part 60, Appendix A.

The annual limitation of 2.29 tons of PE was established by multiplying the 0.216 lb of PE per casting limitation by the annual restriction of 21,240 castings processed per rolling 12-month period and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0104240]

e. Emission Limitation:

Visible PE shall not exceed 10% opacity, as a six-minute average from any egress points serving this emissions unit.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the “Appendix on Test Methods” in 40 CFR Part 60 “Standards of Performance for New Stationary Sources”.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0104240]

g) Miscellaneous Requirements

(1) None.

70. Emissions Unit Group -Cold Box core machines group 1: P370, P371, P403, P404, P405, P430,

EU ID	Operations, Property and/or Equipment Description
P370	COLD BOX CORE MACHINE NO.92
P371	COLD BOX CORE MACHINE NO.91
P403	COLD BOX CORE MACHINE NO.116 (LORAMENDI CELL NO.8)
P404	COLD BOX CORE MACHINE NO.117 (LORAMENDI CELL NO.8)
P405	COLD BOX CORE MACHINE NO.118 (LORAMENDI CELL NO.8)
P430	COLD BOX CORE MACHINE NO.119 (LORAMENDI CELL NO.8)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 5.36 pounds per hour (lbs/hr) and 4.93 tons per year (tpy). PE shall not exceed 1.12 lbs/hr and 1.01 tpy. See b)(2)b., b)(2)c. and b)(2)d.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 5.36 lbs/hr and 4.93 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 1.12 lbs/hr and 1.01 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1); PTI P0109485]

g) Miscellaneous Requirements

(1) None.

71. Emissions Unit Group -Cold box core machines group 2: P372, P374, P375,

EU ID	Operations, Property and/or Equipment Description
P372	COLD BOX CORE MACHINE NO.85
P374	COLD BOX CORE MACHINE 87
P375	COLD BOX CORE MACHINE 88

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 7.42 pounds per hour (lbs/hr) and 6.83 tons per year (tpy). PE shall not exceed 5.63 lbs/hr and 3.91 tpy. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20%

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) shall be determined in accordance with the following compliance methods:

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 7.42 lbs/hr and 6.83 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 5.63 lbs/hr and 3.91 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

72. Emissions Unit Group -Cold box core machines group 3: P394, P395, P397, P398,

EU ID	Operations, Property and/or Equipment Description
P394	COLD BOX CORE MACHINE NO.104/105/106 (LORAMENDI CELL NO. 4)
P395	COLD BOX CORE MACHINE NO.107/108/109 (LORAMENDI CELL NO. 5)
P397	COLD BOX CORE MACHINE NO.110/111/112 (LORAMENDI CELL NO.6)
P398	COLD BOX CORE MACHINE NO.113/114/115 (LORAMENDI CELL NO.7)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 10.20 pounds per hour (lbs/hr) and 9.39 tons per year (tpy). PE shall not exceed 2.14 lbs/hr and 1.93 tpy. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20%

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 51.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 10.20 lbs/hr and 9.39 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 2.14 lbs/hr and 1.93 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

73. Emissions Unit Group -Cold box core machines group 4: P434, P435,

EU ID	Operations, Property and/or Equipment Description
P434	COLD BOX CORE MACHINE NO.120
P435	COLD BOX CORE MACHINE NO.121

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 2.75 pounds per hour (lbs/hr) and 2.54 tons per year (tpy). PE shall not exceed 0.58 lb/hr and 0.52 tpy. Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity, as a 6-minute average, except as provided by rule. See b)(2)b. and b)(2)c.
b.	OAC rule 3745-17-07(A)	The visible PE established by this rule is less stringent than the visible PE

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 2.75 lbs/hr and 2.54 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 0.58 lb/hr and 0.52 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

74. Emissions Unit Group -Cold box core machine group 5: P442, P443, P444, P445, P446,

EU ID	Operations, Property and/or Equipment Description
P442	COLD BOX CORE MACHINE NO.55
P443	COLD BOX CORE MACHINE NO.56
P444	COLD BOX CORE MACHINE NO.57
P445	COLD BOX CORE MACHINE NO.58
P446	COLD BOX CORE MACHINE NO.59

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 3.83 pounds per hour (lbs/hr) and 3.52 tons per year (tpy). PE shall not exceed 0.80 lb/hr and 0.72 tpy. See b)(2)b., b)(2)c. and b)(2)d.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 3.83 lbs/hr and 3.52 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitations:

PE shall not exceed 0.80 lb/hr and 0.72 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

75. Emissions Unit Group -Cold box core machines group 6: P379, P401,

EU ID	Operations, Property and/or Equipment Description
P379	COLD BOX CORE MACHINE NO.89
P401	COLD BOX CORE MACHINE NO.90

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI P0109485 issued March 21, 2012)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 6.12 pounds per hour (lbs/hr) and 5.63 tons per year (tpy. PE shall not exceed 1.28 lbs/hr and 1.16 tpy. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of a catalyst gas scrubber designed for the control of catalyst gas odors on cold box core machines.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109485]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of permit application #03-14001. The OC emission factors reflected in this permit are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(3) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(4) Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, 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(s) the investigation was conducted;

d. the names 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that

determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action; and

f. the names of the personnel who performed the work.

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

The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons;

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively;

c. each period of time (start time and date, and end time and date)when the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;

d. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;

e. each incident of deviation described in “c” or “d” (above) where a prompt investigation was not conducted;

f. each incident of deviation described in “c” or “d” where prompt corrective action, that would bring the liquid flow rate,and/or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

g. each incident of deviation described in “c” or “d” 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.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons OC per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

c. Emission Limitation:

PE shall not exceed 151.56 tons PE per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

d. Emission Limitations:

OC emissions shall not exceed 6.12 lbs/hr and 5.63 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.00085 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000313 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

e. Emission Limitation:

PE shall not exceed 1.28 lbs/hr and 1.16 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000178 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000643 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109485]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

76. Emissions Unit Group -Hot box core machines group 1: P323, P324, P325, P353, P354, P355, P356,

EU ID	Operations, Property and/or Equipment Description
P323	HOT BOX CORE MACHINE NO.71/72 (TWO STATION MACHINE)
P324	HOT BOX CORE MACHINE NO. 73/74 (TWO STATION MACHINE)
P325	HOT BOX CORE MACHINE 75/76 (TWO STATION MACHINE)
P353	HOT BOX CORE MACHINE NO.77/78 (TWO STATION MACHINE)
P354	HOT BOX CORE MACHINE NO.79/80 (TWO STATION MACHINE)
P355	HOT BOX CORE MACHINE NO.81/82 (TWO STATION MACHINE)
P356	HOT BOX CORE MACHINE NO.83/84 (TWO STATION MACHINE)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 73.80 pounds per hour (lbs/hr) and 63.47 tons per year (tpy) (includes conveyor emissions). <u>From each emissions unit individually:</u>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		PE shall not exceed 8.70 lbs/hr and 5.51 tpy. Carbon monoxide (CO) emissions shall not exceed 0.43 lb/hr and 1.08 tpy. Nitrogen oxide (NOx) emissions shall not exceed 0.52 lb/hr and 1.29 tpy. See b)(2)b. and b)(2)c.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 113 lbs/hrfrom each emissions unit individually[See b)(2)d.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates a minor amount of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions units' process weight rates, which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into this emissions unit, which are used for the process weight rate would be the catalyst, sand, resin and release agent. Using the weight of this material as the process

weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of fuel used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relative low amount of sulfur dioxide generated from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 73.80 lbs/hr and 63.47 tpy (includes conveyor emissions) from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.005125 lb OC/lb sand (sum of the emission factors of 0.004932 and 0.000193 for the hot box core and conveyor, respectively).

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.001763 ton OC/ton of sand (sum of the emission factors of 0.001347 ton OC/ton of sand and 0.000416 ton OC/ton of sand for the hot box core and hot box conveyor, respectively).

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 8.70 lbs/hr and 5.51 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000604 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000153 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitation:

SO2 emissions shall not exceed 113 lbs/hr from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly allowable SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1- 4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A)]

h. Emission Limitations:

CO emissions shall not exceed 0.43 lb/hr and 1.08 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly CO emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft].

The permittee may demonstrate compliance with the annual CO emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly CO limitation by testing in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

i. Emission Limitations:

NOx emissions shall not exceed 0.52 lb/hr and 1.29 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

g) Miscellaneous Requirements

(1) None.

77. Emissions Unit Group -Hot box core machines group 2: P383, P384, P385, P386,

EU ID	Operations, Property and/or Equipment Description
P383	HOT BOX CORE MACHINE NO.96
P384	HOT BOX CORE MACHINE NO.97
P385	HOT BOX CORE MACHINE NO.98
P386	HOT BOX CORE MACHINE NO.99

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, for all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons rolling 12-month period, for all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 30.44 pounds per hour (lbs/hr) and 26.18 tons per year (tpy) (includes conveyor emissions). PE shall not exceed 3.59 lbs/hr and 2.27 tpy. See b)(2)b., b)(2)c. and b)(2)d.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation established by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 62.2 lbs/hrfrom each emissions unit individually[See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, CO, NOx and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates negligible amounts of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions unit's process weight determination which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into this emissions unit which are used in the process weight determination would be the catalyst, sand, resin and release agent. Using the weight of these materials as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) will yield a high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of the fuels used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U** = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V** = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W** = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A, 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

**These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5, 40 CFR, Part 60, Appendix A for PE.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 30.44 lbs/hr and 26.18 tpy (includes conveyor emissions) from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.005125 lb OC/lb sand (sum of the emission factors of 0.004932 and 0.000193 for the hot box core and conveyor, respectively).

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.001763 ton OC/ton of sand (sum of the emission factors of 0.001347 ton OC/ton of sand and 0.000416 ton OC/ton of sand for the hot box core and hot box conveyor, respectively).

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 3.59 lbs/hr and 2.27 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000604 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000153 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitation:

SO2 emissions shall not exceed 62.2 lbs/hr from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly allowable SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1- 4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A)]

g) Miscellaneous Requirements

(1) None.

78. Emissions Unit Group -Core ovens group 1: P329, P330, P337, P338, P406, P448,

EU ID	Operations, Property and/or Equipment Description
P329	CORE OVEN FECO LINE NO. 1
P330	CORE OVEN FECO LINE NO.2
P337	PASTE DRY OVEN FECO LINE NO.1
P338	PASTE DRY OVEN FECO LINE NO.2
P406	CORE OVEN NO.8
P448	CORE OVEN NO.9

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 7.38 pounds per hour (lbs/hr) and 6.10 tons per year (tpy). PE shall not exceed 2.37 lbs/hr and 1.63 tpy. Carbon monoxide (CO) emissions shall

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		not exceed 0.82 lb/hr and 1.34 tpy. Nitrogen oxide (NOx) emissions shall not exceed 0.98 lb/hr and 1.60 tpy. See b)(2)b., b)(2)c., and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing these emissions units shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 164 lbs/hr from each emissions unit individually [See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, NOx, CO and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates minor amounts of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions unit's process weight rate, which is the basis for establishing the sulfur dioxide emission limitation. The only material introduced into this emissions unit, which would be used for the process weight rate would be the sand cores. Using the weight of this material as the process weight rate in the

equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of the fuel used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 7.38 lbs/hr and 6.10 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 2.37 lbs/hr and 1.63 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1); PTI 03-14001]

g. Emission Limitation:

SO2 emissions shall not exceed 164 lbs/hr from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly allowable SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1- 4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A); PTI 03-14001]

h. Emission Limitations:

NOx emissions shall not exceed 0.98 lb/hr and 1.60 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

i. Emission Limitations:

CO emissions shall not exceed 0.82 lb/hr and 1.34 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly CO emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft].

The permittee may demonstrate compliance with the annual CO emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly CO limitation by testing in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

g) Miscellaneous Requirements

(1) None.

79. Emissions Unit Group -core ovens group 2: P331, P339,

EU ID	Operations, Property and/or Equipment Description
P331	CORE OVEN FECO LINE NO.3
P339	PASTE DRY OVEN FECO LINE NO.3

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 14.77 pounds per hour (lbs/hr) and 12.20 tons per year (tpy). PE shall not exceed 4.74 lbs/hr and 3.27 tpy. Carbon monoxide (CO) emissions shall not exceed 1.64 lbs /hr and 2.69 tpy. Nitrogen oxide (NOx) emissions shall not exceed 1.96 lbs/hr and 3.20 tpy.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing these emissions units shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 261 lbs/hrfrom each emissions unit individually[See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, NOx, CO and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates minor amounts of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions unit's process weight rate, which is the basis for establishing the sulfur dioxide emission limitation. The only material introduced into this emissions unit, which would be used for the process weight rate would be the sand cores. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of the fuel used in this emissions unit. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high allowable

emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1,024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 14.77 lbs/hr and 12.20 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 4.74 lbs/hr and 3.27 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving these emissions units shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1); PTI 03-14001]

g. Emission Limitation:

SO2 emissions shall not exceed 261 lbs/hr from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly allowable SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1- 4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A)(1); PTI 03-14001]

h. Emission Limitations:

NOx emissions shall not exceed 1.96 lbs/hr and 3.20 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

i. Emission Limitations:

CO emissions shall not exceed 1.64 lbs/hr and 2.69 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly CO emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft].

The permittee may demonstrate compliance with the annual CO emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly CO limitation by testing in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

g) Miscellaneous Requirements

(1) None.

80. Emissions Unit Group -core ovens group 3: P332, P340,

EU ID	Operations, Property and/or Equipment Description
P332	CORE OVEN FECO LINE NO.4
P340	PASTE DRY OVEN FECO LINE NO.4

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 7.70 pounds per hour (lbs/hr) and 6.36 tons per year (tpy). PE shall not exceed 2.47 lbs/hr and 1.70 tpy. Carbon monoxide (CO) emissions shall not exceed 0.86 lb/hr and 1.40 tpy. Nitrogen oxide (NOx) emissions shall not exceed 1.02 lbs/hr and 1.67 tpy.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 168 lbs/hr from each emissions unit individually [See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in this emissions unit.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, NOx, CO and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by these emissions units are due solely to the combustion of natural gas. The combustion of natural gas generates minor amounts of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions unit's process weight rate, which is the basis for establishing the sulfur dioxide emission limitation. The only material introduced into this emissions unit, which would be used for the process weight rate would be the sand cores. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of the fuel used in these emissions units. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to the high

allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the processes.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 7.70 lbs/hr and 6.36 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 2.47 lbs/hr and 1.70 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1); PTI 03-14001]

g. Emission Limitation:

SO2 emissions shall not exceed 168 lbs/hr from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly allowable SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1- 4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A)(1); PTI 03-14001]

h. Emission Limitations:

NOx emissions shall not exceed 1.02 lbs/hr and 1.67 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

i. Emission Limitations:

CO emissions shall not exceed 0.86 lb/hr and 1.40 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly CO emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft].

The permittee may demonstrate compliance with the annual CO emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly CO limitation by testing in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

g) Miscellaneous Requirements

(1) None.

81. Emissions Unit Group -Ovens P390 and P402: P390, P402,

EU ID	Operations, Property and/or Equipment Description
P390	core oven 6
P402	CORE OVEN NO.7

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 4.22 pounds per hour (lbs/hr) and 3.49 tons per year (tpy). <u>From each emissions unit individually:</u> PE shall not exceed 1.35 lbs/hr and 0.93 tpy. Carbon monoxide (CO) emissions shall not exceed 0.47 lb/hr and 0.77 tpy. Nitrogen oxide (NOx) emissions shall not

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		exceed 0.56 lb/hr and 0.91 tpy. See b)(2)b., b)(2)c. and b)(2)d.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing these emissions units shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 113 lbs/hr from each emissions unit individually [See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in these emissions units .

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, NOx, CO and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by this emissions unit are due solely to the combustion of natural gas. The combustion of natural gas generates a minor amount of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions units' process weight rates, which is the basis for establishing the sulfur dioxide emission limitation. The only materials introduced into these emissions units, which are used for the process weight rate would be the sand cores. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of fuel used in these emissions units. Therefore, compliance with the

OAC Chapter 3745-18 requirements will be assumed due to the high allowable emission limitation and the relative low amount of sulfur dioxide generated from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack(s) serving these emissions units; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 4.22 lbs/hr and 3.49 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 1.35 lbs/hr and 0.93 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving these emissions units shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitations:

NOx emissions shall not exceed 0.56 lb/hr and 0.91 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

h. Emission Limitations:

CO emissions shall not exceed 0.47 lb/hr and 0.77 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly CO emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft].

The permittee may demonstrate compliance with the annual CO emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly CO limitation by testing in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

i. Emission Limitation:

SO2 emissions shall not exceed 113 lbs/hr from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A)]

g) Miscellaneous Requirements

(1) None.

82. Emissions Unit Group -Ovens P396 and P399: P396, P399,

EU ID	Operations, Property and/or Equipment Description
P396	CORE OVEN, LORAMENDI CELL NO. 4/5
P399	CORE OVEN, LORAMENDI CELL NO.6/7

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. OC emissions shall not exceed 7.03 pounds per hour (lbs/hr) and 5.81 tons per year (tpy). <u>From each emissions unit individually:</u> PE shall not exceed 2.26 lbs/hr and 1.55 tpy. Carbon monoxide (CO) emissions shall not exceed 0.78 lb/hr and 1.28 tpy. Nitrogen oxide (NOx) emissions shall not

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		exceed 0.93 lb/hr and 1.52 tpy.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing these emissions units shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-18-06(E)	Sulfur dioxide (SO2) emissions shall not exceed 159 lbs/hr from each emissions unit individually [See b)(2)e.].

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450 and P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to be the use of natural gas as fuel in these emissions units.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

d. The hourly and annual PE, NOx, CO and OC emission limitations were established for PTI purposes to reflect the emissions unit's potentials to emit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

e. The sulfur dioxide emissions generated by these emissions units are due solely to the combustion of natural gas. The combustion of natural gas generates a minor amount of sulfur dioxide emissions. The natural gas is specifically exempted from the emissions units' process weight rates, which is the basis for establishing the sulfur dioxide emission limitations. The only materials introduced into these emissions units, which are used for the process weight rate would be sand cores. Using the weight of this material as the process weight rate in the equation specified in OAC rule 3745-18-06(E)(2) yields a very high allowable emission limitation relative to the sulfur dioxide emissions generated from the combustion of fuel used in these emissions units. Therefore, compliance with the OAC Chapter 3745-18 requirements will be assumed due to

the high allowable emission limitation and the relative low amount of sulfur dioxide generated from the process.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack(s) serving these emissions units; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 7.03 lbs/hr and 5.81 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 2.26 lbs/hr and 1.55 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving these emissions units shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g. Emission Limitations:

NOx emissions shall not exceed 0.93 lb/hr and 1.52 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly NOx emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft].

The permittee may demonstrate compliance with the annual NOx emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [100 lbs NOx/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly NOx limitation by testing in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

h. Emission Limitations:

CO emissions shall not exceed 0.78 lb/hr and 1.28 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly CO emission limitation above by multiplying the maximum hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft].

The permittee may demonstrate compliance with the annual CO emission limitation above by multiplying the maximum annual gas burning capacity of the emissions unit (mm cu. ft/year) by the AP-42, Chapter 1.4-1 (revised 7/98) emission factor for natural gas combustion [84 lbs CO/mm cu. ft], and then dividing by 2000.

If required, the permittee shall demonstrate compliance with the hourly CO limitation by testing in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

i. Emission Limitation:

SO2 emissions shall not exceed 159 lbs/hr from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly SO2 limitation shall be assumed due to the high allowable emission limitation and the relatively low amount of sulfur dioxide emitted from the process.

If required, the permittee shall demonstrate compliance with the hourly SO2 emission limitation by testing in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-18-04(A)]

g) Miscellaneous Requirements

(1) None.

83. Emissions Unit Group

EU ID	Operations, Property and/or Equipment Description
P407	LF Cell #1 (Plant 2) – Bead Pre-expander
P408	LF Cell #2 (Plant 2) – Bead Pre-expander

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (PTI #03-16133, issued 7/01/2004)	Volatile organic compound (VOC) emissions shall not exceed 46.0 tons per rolling, 12-month period from emissions units P407 and P408 combined. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3) (PTI #03-16133, issued 7/01/2004)	VOC emissions shall not exceed 12.0 lbs/hr from each emissions unit individually. See b)(2)b.

(2) Additional Terms and Conditions

a. The permittee has requested federally enforceable restrictions to limit the potentials to emit for emissions units P407 and P408 by limiting the polystyrene bead usage. The annual VOC emissions for emissions units P407 and P408, combined, shall not exceed 46.0 tons/rolling, 12-month period.

b. The 12.0 lbs VOC/hr emission limitation was established for PTI purposes to reflect the potential to emit for these emissions units. Therefore, it is not necessary to develop any additional monitoring, record keeping and/or reporting requirements to ensure compliance with this emission limitation.

c) Operational Restrictions

(1) The raw expandable polystyrene beads used in this emissions unit shall not exceed a total VOC content of 7.0 percent, by weight, based on a monthly, weighted average.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-16133]

(2) The maximum annual polystyrene bead throughput for emissions units P407 and P408, shall not exceed 1,839,600 lbs, combined per rolling 12-month period.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-16133]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall calculate and maintain monthly records of the following information for emissions units P407 and P408, combined:

a. the company identification for each lot* of polystyrene beads processed;

b. the VOC content of the polystyrene beads, in weight percent, for each batch processed;

c. the amount of polystyrene beads processed, in pounds, for each batch processed;

d. the total amount of VOC input, in pounds, for all the polystyrene beads processed [summation of d)(1)b. x d)(1)c. for all batches];

e. the total amount of polystyrene beads processed, in pounds [summation of d)(1)c. for all batches];

f. the monthly, weighted average VOC content, in weight percent, for the all the polystyrene beads processed, calculated as follows:

Cvoc(avg) = [(total VOC input, from d)(1)d.)/(total polystyrene beads processed, from d)(1)e.)] x 100

where:

Cvoc = the monthly, weighted average VOC content, in wt%

g. the rolling, 12-month polystyrene beads processed rate;

h. the calculated VOC emission rate, in tons [the value from d)(1)d., divided by 2000 lbs/ton]; and

i. the rolling, 12-month VOC emission rate, in tons.

*The VOC content is determined for each lot with many batches of polystyrene beads being processed from a lot. All batches from the same lot are, therefore, assumed to have the same VOC content.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-16133]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month polystyrene beads processed rate of 1,839,600 pounds (for emissions units P407 and P408, combined);

b. all exceedances of the rolling, 12-month VOC emission limitation of 46.0 tons (for emissions units P407 and P408, combined); and

c. all exceedances of the weighted monthly average VOC content of the polystyrene beads of 7 percent, by weight.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-16133]

(2) The permittee shall submit annual reports that summarize the actual annual VOC emissions for this emissions unit and for emissions units P407 and P408, combined, for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for emissions units P407 and P408, combined, in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-16133]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

VOC emissions shall not exceed 46.0 tons per rolling, 12-month period from emissions unit P407 and P408, combined.

<u>Applicable Compliance Method:</u>

Compliance with the rolling, 12-month VOC emission limitation shall be determined based on the record keeping requirements specified in d)(1) of the terms and conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-16133]

b. Emission Limitation:

VOC emissions shall not exceed 12.0 lbs/hr from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the hourly allowable VOC emission limitation shall be based on the results of emission testing conducted in accordance with USEPA Methods 1 - 4 and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-16133]

g) Miscellaneous Requirements

(1) None.

84. Emissions Unit Group – Lost foam castlines 1 and 2: P411 and P412

EU ID	Operations, Property and/or Equipment Description
P411	LF Cell #1 (Plant 2) – Castline 1
P412	LF Cell #2 (Plant 2) – Castline 2

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) d)(11), d)(12) and d)(13).

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0103623 issued January 9, 2009)	Control requirements See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0103623 issued January 9, 2009)	<u>From emissions units P411 and P412 combined:</u> Duct Burner emissions: Nitrogen oxide (NOx) emissions shall not exceed 13.61 tons per rolling 12-month periodbased on natural gas usage restrictions. Regenerative Catalytic Oxidizer (RCO) emissions: Nitrogen oxide (NOx) emissions shall not exceed 6.93 tons per rolling 12-month period based on natural gas usage restrictions.
c.	OAC rule 3745-31-05(A) (PTI P0103623 issued January 9, 2009)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-10 through 20 and OAC rule 3745-17-07(A). <u>From each emissions unit individually:</u> Use of a baghouse

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		NOx emissions shall not exceed 2.27 lbs per hour (lbs/hr) and 7.15 tons per year (tpy). Carbon monoxide (CO) emissions shall not exceed 2.10 lbs/hr and 6.62 tons CO/yr. Volatile organic compounds (VOC) emissions shall not exceed 2.35 lbs/hr and 7.40 tpy (process emissions). Particulate matter emissions (PE) shall not exceed 1.20 lbs/hr and 3.78 tpy (process emissions). See b)(2)c.
d.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-17-07(A)	Visible PE shall not exceed 20% opacity as a six-minute average, except as provided by rule.
f.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(6) through d)(9) and e)(2).

(2) Additional Terms and Conditions

a. The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NOx emissions.

i. use of duct burner equipped with low NOx burners and designed to emit NOx at a rate of 80 lb/MMcf of natural gas burned.

ii. use of RCO equipped with low NOx burners and designed to emit NOx at a rate of 110 lb/MMcf of natural gas burned.

b. In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NOx, the permittee has requested federally enforceable restrictions to limit the potential to emit from these emissions units by limiting natural gas usage.

i. Combined annual NOx emissions from the duct burners on emissions units P411 and P412 shall not exceed 13.61 tons/yr, based upon a rolling, 12-month restriction of natural gas usage [see c)(1)].

ii. Combined annual NOx emissions from the RCO on emissions units P411 and P412 shall not exceed 6.93 tons/yr, based upon a rolling, 12-month restriction of natural gas usage [see c)(2)].

c. The PE limitations are inclusive of and assumed to be PM10.

c) Operational Restrictions

(1) The maximum annual natural gas usage on the duct burners for emissions units P411 and P412 shall not exceed 340.2 MMcf/yr,combined, based upon a rolling, 12-month summation of natural gas usage.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0103623]

(2) The maximum annual natural gas usage on the RCO for emissions units P411 and P412 shall not exceed 126 MMcf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0103623]

(3) The temperature of the catalyst bed, in the RCO shall not be less than 650 degrees Fahrenheit when the emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0103623]

(4) To ensure proper operation of the emissions units, the permittee shall employ a “interlock system” that only allows operation of the emissions units when the catalytic bed temperature in the RCO is in compliance with the operational restriction in c)(3). The “interlock system” shall only allow operation of the emissions units when the monitoring devices associated with the operational restriction in c)(3) are operational (i.e. temperature monitor failure will shutdown the operation).

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0103623]

(5) The maximum annual hours of operation for these emissions units shall not exceed 6300 hours.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0103623]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the following information for emissions units P411 and P412, combined:

a. the quantity of natural gas combusted in all duct burners, in MMcf; and

b. the annual natural gas usage in the duct burners, based on a rolling, 12-month summation of the monthly natural gas usage.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(2) In addition to the above information, the permittee shall also record the following information each month for emissions units P411 and P412, combined:

a. the calculated NOx emission rate, in tons per month, for all the duct burners; and

b. the annual NOx emission rate, from all the duct burners, based on a rolling, 12-month summation of the monthly NOx emissions.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(3) The permittee shall maintain monthly records of the following information for emissions units P411 and P412, combined:

a. the quantity of natural gas combusted in all RCO's, in MMcf; and

b. the annual natural gas usage in the RCO's, based on a rolling, 12-month summation of the monthly natural gas usage.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(4) In addition to the above information, the permittee shall also record the following information each month for emissions units P411 and P412, combined:

a. the calculated NOx emission rate, in tons per month, for all the RCO's; and

b. the annual NOx emission rate, from all the RCO's, based on a rolling, 12-month summation of the monthly NOx emissions.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(5) The permittee shall maintain monthly records that document any time periods when the "interlock system" associated with the RCO failed to operate in accordance with the requirements in c)(4) of this permit. The "interlock system" shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(6) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving these emissions units. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(7) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(8) The CAM plan for these emissions units have been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling these emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(2) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(9) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(10) The permittee shall maintain monthly records of the operating hours for this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(11) The Permit to Install for this permit action as evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the Permit to Install application. The Ohio EPA's “Review of New Sources of Air Toxic Emissions” policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the

Permit to Install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

a. Pollutant: hexane
TLV (mg/m3): 176
Maximum Hourly Emission Rate (lbs/hr): 0.083
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 60
MAGLC (ug/m3): 4,190

b. Pollutant: styrene
TLV (mg/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 0.21
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 65
MAGLC (ug/m3): 2,024

[Authority for term: PTI P0103623]

(12) Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value 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 pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

[Authority for term: PTI P0103623]

(13) If the permittee determines that the "Air Toxic Policy" 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(VV)(1)(a)(ii), and a modification of the existing Permit to Install will not be required. If the change(s) is (are) defined as a modification under other provisions of

the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final Permit to Install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

[Authority for term: PTI P0103623]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. For the duct burners:

i. the annual natural gas usage restrictions; and

ii. the emission limitation per rolling 12-month period.

b. For the RCO's

i. the annual natural gas usage restrictions;

ii. the emission limitation per rolling 12-month period, and

iii. any time periods the "interlock system" associated with the RCOs did not operate in compliance with the requirements specified in c)(4).

The deviation (excursion) reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623; 40 CFR Part 64]

(3) The permittee shall submit annual reports which identify exceedances of the annual hours of operation restriction, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

NOx emissions shall not exceed 13.61 tons per rolling 12-month period from the duct burner for emissions units P411 and P412, combined

<u>Applicable Compliance Method:</u>

Compliance with the rolling 12-month emission limitation shall be demonstrated by the record keeping requirements specified in d)(2).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

b. <u>Emission Limitations:</u>

NOx emissions shall not exceed 6.93 tons per rolling 12-month period from the RCO for emissions units P411 and P412, combined

<u>Applicable Compliance Method:</u>

Compliance with the rolling 12-month emission limitation shall be demonstrated by the record keeping requirements specified in d)(4).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

c. <u>Emission Limitations:</u>

NOx emissions shall not exceed 2.27 lbs/hr and 7.15 tpy from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly emission limitation was demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A. Ongoing compliance shall be demonstrated through emission testing in accordance with Ohio EPA, Office of Air Pollution Control, Division of Engineering, Engineering Guide #16.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 6300 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation and the annual operating schedule, monitoring term d)(10), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

d. Emission Limitations:

CO emissions shall not exceed 2.1 lbs/hr and 6.62 tpy from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly emission limitation was demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 10 of 40 CFR Part 60, Appendix A. Ongoing compliance shall be demonstrated through emission testing in accordance with Ohio EPA, Office of Air Pollution Control, Division of Engineering, Engineering Guide #16.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 6300 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation and the annual operating schedule, monitoring term d)(10), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

e. Emission Limitations:

VOC emissions shall not exceed 2.35 lbs/hr and 7.40 tpy from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly emission limitation was demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18 of 40 CFR Part 60, Appendix A. Ongoing compliance shall be demonstrated through emission testing in accordance with Ohio EPA, Office of Air Pollution Control, Division of Engineering, Engineering Guide #16.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 6300 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation and the annual operating schedule, monitoring term d)(10), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

f. Emission Limitations:

PE shall not exceed 1.2 lbs/hr and 3.78 tpy from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly emission limitation was demonstrated based on the results of emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A. Ongoing compliance shall be demonstrated through emission testing in accordance with Ohio EPA, Office of Air Pollution Control, Division of Engineering, Engineering Guide #16.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 6300 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation and the annual operating schedule, monitoring term d)(10), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

g. Emission Limitation:

VE shall not exceed 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1); PTI P0103623]

g) Miscellaneous Requirements

(1) None.

85. Emissions Unit Group – Lost foam sand reclaim furnaces: P419 and P420

EU ID	Operations, Property and/or Equipment Description
P419	Sand Reclaim Furnace – Cell #1
P420	Sand Reclaim furnace – Cell #2

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) d)(9), d)(10), and d)(11).

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0103623 issued January 9, 2009)	Control requirements See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0103623 issued January 9, 2009)	<u>From emissions unit P419 and P420 combined:</u> Nitrogen oxide (NOx) emissions shall not exceed 6.3 tons per rolling 12-month period based on natural gas usage restrictions.
c.	OAC rule 3745-31-05(A) (PTI P0103623 issued January 9, 2009)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-10 through 20 and OAC rule 3745-17-07(A). Use of baghouse and VOC destruction associated with minimum furnace temperature. <u>From each emissions unit individually:</u> NOx emissions shall not exceed 0.6 lb~~s~~ per hour (lbs/hr) and 1.89tons per year (tpy). Carbon monoxide (CO) emissions shall not exceed 0.5 lb~~s~~/hr and 1.56 tons CO/yr Volatile organic compounds (VOC)

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		emissions shall not exceed 0.41 lb/hr and 1.29 tpy (process emissions). Particulate emissions shall not exceed 1.08 lbs/hr and 3.40tpy (process emissions). See b)(2)d.
d.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-17-07(A)	Visible PE shall not exceed 20% opacity as a six-minute average, except as provided by rule.
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(2) through d)(5) and e)(2).

(2) Additional Terms and Conditions

a. The permittee shall employ best available control technology (BACT) on this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for control of NOx emissions:

i. Furnace equipped with low NOx burners and designed to emit NOx at a rate of 100 lbs/MMcf of natural gas burned.

b. In order to comply with Prevention of Significant Deterioration (PSD) Significant Impact Increment requirement for NOx, the permittee has requested federally enforceable restrictions to limit the potential to emit from these emissions units by limiting natural gas usage.

i. Combined annual NOx emissions from emissions units P419 and P420 shall not exceed 6.3 tons/yr based upon a rolling, 12-month summation of natural gas usage [see c)(4)].

c. The 0.41 lb VOC/hr and 1.08 lbs PE/hr emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop recordkeeping and/or reporting requirements to ensure compliance with these limitations.

d. The PE limitations are inclusive of and assumed to be PM10.

c) Operational Restrictions

(1) The permittee shall maintain the sand reclaim furnace at a minimum temperature of 1000 degrees Fahrenheit while in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0103623]

(2) To ensure proper operation of the emissions unit, the permittee shall employ an "interlock system" that only allows operation of the emissions unit when the minimum temperature is in compliance with the operational restriction in c)(1). The "interlock system" shall only allow operation of the emissions unit when the monitoring devices associated with the operational restriction in c)(1) are operational (i.e. temperature monitor failure will shutdown the emissions units operation).

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0103623]

(3) The maximum annual natural gas usage for emissions units P419 and P420 shall not exceed 126 MMcf/yr, combined, based upon a rolling, 12-month summation of natural gas usage.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0103623]

(4) The maximum annual hours of operation for this emissions unit shall not exceed 6300 hours.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0103623]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records that document any time periods when the "interlock system" failed to operate in accordance with the requirements in c)(2) of this permit. The "interlock system" shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving these emissions units. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) The CAM plan for these emissions units have been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling these emissions units is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(2) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(5) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(6) The permittee shall maintain monthly records of the following information for emissions units P419 and P420, combined:

a. the quantity of natural gas combusted, in MMcf; and

b. the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(7) In addition to the above information, the permittee shall also record the following information each month for emissions units P419 and P420, combined:

a. the calculated NOx emission rate, in tons per month; and

b. the annual NOx emission rate, based on a rolling, 12-month summation of the monthly NOx emissions.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(8) The permittee shall maintain monthly records of the operating hours for this emissions unit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(9) The Permit to Install for this permit action as evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the Permit to Install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the Permit to Install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

a. Pollutant: hexane
TLV (mg/m3): 176
Maximum Hourly Emission Rate (lbs/hr): 0.083
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 60
MAGLC (ug/m3): 4,190

b. Pollutant: styrene
TLV (mg/m3): 85
Maximum Hourly Emission Rate (lbs/hr): 0.21
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 65
MAGLC (ug/m3): 2,024

[Authority for term: PTI P0103623]

(10) Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value 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 pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

[Authority for term: PTI P0103623]

(11) If the permittee determines that the "Air Toxic Policy" 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(VV)(1)(a)(ii), and a modification of the existing Permit to Install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final Permit to Install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

[Authority for term: PTI P0103623]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. the annual natural gas usage restrictions;

b. the emission limitation per rolling 12-month period; and

c. any time period the "interlock system" did not operate in accordance with the requirements specified in c)(2).

The deviation (excursion) reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack(s) serving these emissions units; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623; 40 CFR Part 64]

(3) The permittee shall submit annual reports which identify exceedances of the annual hours of operationrestriction, as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

NOx emissions shall not exceed 6.3 tons per rolling 12-month period from emissions unit P419 and P420 combined.

<u>Applicable Compliance Method:</u>

Compliance with the rolling 12-month emission limitation shall be demonstrated by the recordkeeping requirements specified in d)(4).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

b. <u>Emission Limitations:</u>

NOx emissions shall not exceed 0.6 lb/hr and 1.89 tpy from each emissions unit individually.

<u>Applicable Compliance Method:</u>

Compliance with the hourly emission limitation was demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A. Ongoing compliance shall be demonstrated through emission testing in accordance with Ohio EPA, Office of Air Pollution Control, Division of Engineering, Engineering Guide #16.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 6300 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation and the annual operating schedule, monitoring term d)(5), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

c. Emission Limitations:

CO emissions shall not exceed 0.5 lb/hr and 1.56 tpy from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly emission limitation was demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 10 of 40 CFR Part 60, Appendix A. Ongoing compliance shall be demonstrated through emission testing in accordance with Ohio EPA, Office of Air Pollution Control, Division of Engineering, Engineering Guide #16.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 6300 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation and the annual operating schedule, monitoring term d)(5), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

d. Emission Limitations:

VOC emissions shall not exceed 0.41 lb/hr and 1.29 tpy from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly emission limitation was demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18 of 40 CFR Part 60, Appendix A. Ongoing compliance shall be demonstrated through emission testing in accordance with Ohio EPA, Office of Air Pollution Control, Division of Engineering, Engineering Guide #16.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 6300 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation and the annual operating schedule, monitoring term d)(5), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

e. Emission Limitations:

PE shall not exceed 1.08 lbs/hr and 3.40 tpy from each emissions unit individually.

Applicable Compliance Method:

Compliance with the hourly emission limitation was demonstrated based on the results of emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A. Ongoing compliance shall be demonstrated through emission testing in accordance with Ohio EPA, Office of Air Pollution Control, Division of Engineering, Engineering Guide #16.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 6300 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation and the annual operating schedule, monitoring term d)(5), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0103623]

f. Emission Limitation:

VE shall not exceed 20% opacity as a 6-minute average, except as provided by rule

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03; PTI P0103623]

g) Miscellaneous Requirements

(1) None.

86. Emissions Unit Group -FN4 blast cabinets: P461, P462,

EU ID	Operations, Property and/or Equipment Description
P461	FN 4 east manipulator blast cabinet
P462	FN4 west manipulator blast cabinet

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-16320 issued June 24, 2005)	<u>From each emissions unit individually:</u> Particulate emissions (PE) shall not exceed1.89 pounds per hour (lbs/hr) and 8.3 tons per year (tpy). See b)(2)a.
b.	OAC rule 3745-17-07(A)	Visible PE shall not exceed 20% opacity as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. The PE limitations are inclusive of and assumed to be particulate matter less than 10 microns (PM_{10}).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving these emissions units. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions will be documented on the roof level to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for these emissions units have been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling these emissions units is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions units and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions,

modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack serving these emissions units; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-16320; 40 CFR Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitations:</u>

PE shall not exceed 1.89 lbs/hr and 8.3 tpy from each emissions unit individually.

<u>Applicable Compliance Method:</u>

The hourly emission limitation was developed by multiplying the hourly process rate of 21 ton/hr by the emission factor of 3.0 lbs PE/ton (manufacturer supplied emission factor) of metal processed and applying an overall control efficiency of 97% for use of wet collector.

The ton/yr limitation was established by multiplying the lb/hr limit by the maximum operating schedule of the 8760 hr/yr and ton/2000 lbs. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be demonstrated with the annual limitation.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-16320]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a six-minute average, except a provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-16320]

g) Miscellaneous Requirements

(1) None.

87. Emissions Unit Group –precision sand melt furnaces: P424, P427

EU ID	Operations, Property and/or Equipment Description
P424	9.6 mmBtu/hr natural gas fired precision sand melt furnaces (melt furnace #1)
P427	9.6 mmBtu/hr natural gas fired precision sand melt furnaces (melt furnace #2)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	40 CFR Part 52.21 OAC rules 3745-31-10 through 3745-31-20	See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0109486 issued February 21, 2012)	Nitrogen oxide (NOx) emissions shall not exceed 9.18 tons per rolling, 12-month period (from the combustion of natural gas) from emissions units P423, P424, P426 and P427 combined. See b)(2)d. and b)(2)g.
c.	OAC rule 3745-31-05(A)(3) (PTI P0109486 issued February 21, 2012)	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52.21, OAC rules 3745-31-10 through 3745-31-20 and 3745-17-07(A). <u>From each emissions unit individually:</u> NOx emissions shall not exceed 0.82 pounds per hour (lb/hr) and 3.59 tons per year (tpy). Carbon monoxide (CO) emissions shall not exceed 0.81 lb/hr and 3.55 tpy. Particulate emissions (PE) shall not exceed 24.45 lbs/day and 4.46 tpy (from holding, fluxing, & drossing). Hydrogen fluoride (HF) emissions shall

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		not exceed 2.5 lbs per day and 0.5 tpy See b)(2)e., b)(2)f. and c)(1).
d.	OAC rule 3745-17-11(B)	See b)(2)b.
e.	OAC rule 3745-17-07(A)	See b)(2)c.

(2) Additional Terms and Conditions

a. The permittee shall employ best available control technology (BACT) for this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for the control of NOx emissions:

i. a furnace equipped with low NOx burners and designed to emit NOx at a rate of not more than 85 lbs/mm cu. ft of natural gas burned.

b. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), this emissions unit is exempt from the requirements of OAC rule 3745-17-11(B)(2).

c. This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.

d. In order to comply with the Prevention of Significant Deterioration (PSD) and Significant Impact Increment requirements for NOx, the annual NOx emissions for emissions units P423, P424, P426 and P427 combined, shall not exceed 9.18 tons/rolling, 12-month period.

e. The 0.82 lb NOx/hr, 0.81 lb CO/hr, 24.45 lbs PE/day and 2.5 lbs HF/hr emission limitations were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop any additional monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

f. The PE limitations are inclusive of and assumed to be PM10.

g. The rolling, 12-month NOx emission limitations specified in section b)(2)b. above was calculated based on the natural gas usage restriction rate (for emissions units P423, P424, P426 and P427 combined) specified in c)(1) of this permit.

c) Operational Restrictions

(1) The maximum annual natural gas usage rate, for emissions units P423, P424, P426 and P427, combined, shall not exceed 216 mm cu. ft/rolling, 12-month period based upon the summation of the monthly natural gas usage rates.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109486]

(2) The permittee shall burn only natural gas in these emissions units.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0109486]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the following information for emissions units P423, P424, P426 and P427 combined:

a. the quantity of natural gas combusted, in MMcf; and,

b. the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

(2) In addition to the above information, the permittee shall also record the following information each month for emissions units P423, P424, P426 and P427 combined:

a. the calculated NOx emission rate, in tons per month; and

b. the annual NOx emission rate, based on a rolling, 12-month summation of the monthly NOx emissions.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month natural gas usage rates for emissions units P423, P424, P426 and P427 combined; and

b. all exceedances of the rolling, 12-month emission limitation for NOx.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

(2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in these emissions units. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

NOx emissions shall not exceed 9.18 tons per rolling, 12-month period, for emissions units P423, P424, P426 and P427, combined.

Applicable Compliance Method:

Compliance with the rolling, 12-month NOx emission limitation above shall be demonstrated by multiplying the rolling, 12-month natural gas usage rate (the value from d)(1)c. by the BACT emission limitation of 85 lbs NOx/mm cu. ft, and then dividing by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

b. Emission Limitations:

NOx emissions shall not exceed 0.82 lb/hr, 85 lbs NOx/mm cu. ft. and 3.59 tpy from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the hourly NOx emission limitation and the lbs NOx/mm cu. ft emission limitation shall be determined through emission testing conducted in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hours/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

c. Emission Limitations:

CO emissions shall not exceed 0.81 lb/hr and 3.55 tpy from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the hourly CO emission limitation shall be determined through emission testing conducted in accordance with Methods 1-4 and 10 of 40 CFR Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hours/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

d. Emission Limitations:

HF emissions shall not exceed 2.5 lbs/day and 0.5 tpy from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the daily HF emission limitation shall be determined through emission testing conducted in accordance with Methods 1-4 and 26 of 40 CFR Part 60, Appendix A.

The annual emission limitation was developed by multiplying the daily emission limitation by the maximum operating schedule of 365 days/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the daily emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

e. Emission Limitations:

PE shall not exceed 24.45 lbs/day and 4.46 tpy from each emissions unit individually.

Applicable Compliance Method:

The daily PE limitation was established as follows:

i. holding: multiply a maximum of 0.875 lb PE/hr by a maximum of 22 hrs/day) [19.25 lbs PE/day];

ii. fluxing: multiply a maximum of 1.545 lbs PE/hr by a maximum of 1 hr/day) [1.545 lbs PE/day];

iii. drossing: multiply a maximum of 3.655 lbs PE/hr by a maximum of 1 hr/day) [3.655 lbs PE/day]; and

iv. sum f)(1)e.i. + f)(1)e.ii. + f)(1)e.iii.

If required, compliance with the daily allowable PE limitation shall be determined through emission testing conducted in accordance with Methods 1-5 of 40 CFR, Part 60, Appendix A. The tested hourly result shall then be multiplied by the maximum daily number of hours of operation.

The annual emission limitation was developed by multiplying the daily emission limitation by the maximum operating schedule of 365 days/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the daily emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0109486]

g) Miscellaneous Requirements

(1) None.

88. Emissions Unit Group –vertical coolers: P333, P334,

EU ID	Operations, Property and/or Equipment Description
P333	CR8 (Plant 1) - FECO Line #1 Vertical Core Cooler
P334	CR8 (Plant 1) - FECO Line #2 Vertical Core Cooler

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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) (PTI 03-14001 issued February 12, 2004)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-18-06(E). Organic compound (OC) emissions shall not exceed 1207.90 tons of per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. Particulate emissions (PE) shall not exceed 151.56 tons per rolling 12-month period, from all the emissions units identified in b)(2)a., combined. <u>From each emissions unit individually:</u> OC emissions shall not exceed 7.38 pounds per hour (lbs/hr) and 6.10 tons/year (tpy). PE shall not exceed 2.37 lbs/hr and 1.63 tpy. See b)(2)b. and b)(2)c.
b.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing these emissions units shall not exceed 20% opacity as a 6-minute average,

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		except as provided by rule.
c.	OAC rule 3745-17-11(B)	The PE limitation established by this rule is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The total PE and OC emission limitations shall apply to the following emissions units, combined: P320, P321, P323, P324, P325, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P353, P354, P355, P356, P358, P369, P370, P371, P372, P374, P375, P379, P383, P384, P385, P386, P387, P388, P389,P390, P394, P395, P396, P397, P398, P399, P401, P402, P403, P404, P405, P406, P430, P434, P435, P436, P442, P443, P444, P445, P446, P448, P449, P450, P451. These emissions units comprise the Plant 1 core room operations.

b. Best available technology (BAT) has been determined to no control for these emissions units.

c. For the purposes of federal enforceability, all OC emissions shall be considered to be volatile organic compounds (VOC) emissions.

c) Operational Restrictions

(1) The annual quantity of sand processed for Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined) shall not exceed 1,024,555 tons, based upon a rolling, 12-month summation of the monthly rates of sand throughput.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-14001]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following each month for the Plant 1 core room operations (i.e., all the emissions units listed in b)(2)a., combined):

a. the total quantity of sand processed, in tons; and

b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly rates of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) In addition to the above information, the permittee shall also record the following information each month for all the emissions units listed in b)(2)a., combined:

a. the quantity of sand processed in the hot box core machines (i.e., the amount from d)(1)a. used in the hot box core machines), in tons;

b. the quantity of sand processed in the cold box core machines (i.e., the amount from d)(1)a. used in the cold box core machines), in tons;

c. the calculated emission rate for OC, in tons, determined by the following equation:

TOCE = [{d)(2)a.} x {Q + R}] + [{d)(2)b.} x {S}] + [{d)(1)a.} x {T}]

where:

TOCE = total organic compound emissions, in tons

Q* = OC emission factor, 0.001347 ton OC/ton sand processed (for hot box core machine operations)

R* = OC emission factor, 0.000416 ton OC/ton sand processed (for hot box conveyors)

S* = OC emission factor, 0.000313 ton OC/ton sand processed (for cold box core machine operations)

T* = OC emission factor for OC, 0.000148 ton OC/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The OC emission factors reflected in Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Method 25A of 40 CFR, Part 60, Appendix A, calibrated to propane, for OC emissions.

d. the calculated emission rate for PE, in tons, determined by the following equation:

TPE = [{d)(2)a.} x {U}] + [{d)(2)b.} x {V}] + [{d)(1)a.} x {W}]

where:

TPE = total PE, in tons

U* = PE emission factor, 0.000153 ton PE/ton sand processed (for hot box core machine operations)

V* = PE emission factor, 0.0000643 ton PE/ton sand processed (for cold box core machine operations)

W* = PE emission factor, 0.0000396 ton PE/ton sand processed (for core oven operations)

*These emission factors were contained in the BAT document submitted and approved in 2002 as part of the permit application. The PE factors reflected in

Permit to Install no. 03-14001 are derived from various emission test runs for the hot and cold box core machines and core dip drying ovens. These tests were conducted using USEPA Methods 1 - 5 of 40 CFR, Part 60, Appendix A for PE.

e. the rolling, 12-month OC emission rate, in tons; and

f. the rolling, 12-month PE rate, in tons.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(3) The permittee shall perform weekly* checks, when the Plant 1 core room is in operation and when the weather conditions allow, for any visible particulate emissions, excluding water vapor, from the stacks serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack(s) observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

* once during each normal operating calendar week

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month sand throughput restriction of 1, 024,555 tons; and

b. all exceedances of the rolling, 12-month emission limitations for PE and OC of 151.56 tons and 1207.90 tons, respectively.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

(2) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack(s) serving these emissions units; and

b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) shall be determined in accordance with the following compliance methods:

a. Emission Limitation:

1,024,555 tons of sand per rolling 12-month period

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

b. Emission Limitation:

OC emissions shall not exceed 1,207.90 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

c. Emission Limitation:

PE shall not exceed 151.56 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

d. Emission Limitations:

OC emissions shall not exceed 7.38 lbs/hr and 6.10 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000293 lb OC/lb sand.

The annual OC emission limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.000148 ton OC/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation by testing in accordance with Methods 1-4, and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

e. Emission Limitations:

PE shall not exceed 2.37 lbs/hr and 1.63 tpy from each emissions unit individually.

Applicable Compliance Method:

The hourly PE limitation was established by multiplying the maximum hourly sand usage rate (lbs/hr) by an emission factor of 0.000094 lb PE/lb sand.

The annual PE limitation was established by multiplying the maximum annual sand usage rate (tons/yr) by an emission factor of 0.0000396 ton PE/ton of sand.

If required, the permittee shall demonstrate compliance with the hourly PE limitation by testing in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-14001]

f. Emission Limitation:

Visible PE from the stack(s) serving these emissions units shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be demonstrated in accordance with OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.

89. Emissions Unit Group –Sand system: P391, P392

EU ID	Operations, Property and/or Equipment Description
P391	Sand system: HB 100-101
P392	Sand system: HB 102-103

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(A)	Visible particulate emissions (PE) from the stacks associated with this source shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3) (PTI P0108481 issued August 10, 2011)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). PE shall not exceed 0.020 grains per dry standard cubic foot (gr/dscf) and 2.63 tons per year (tpy) from each emissions unit individually.
d.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from the following dust collectors (listed in Table 2 of the Consent Order) shall be limited to 0.020 grain per dry standard cubic foot (dscf) of exhaust gases:

Plant 1 dust collectors:

DC-005B, DC-011B, DC-013A, DC-016, DC-034B, DC-035A, DC-044A, DC057A, DC064A, DC065A, DC067A, DC069A, DC071A, DC072A, DC079, DC080, DC081, DC083, DC086, DC087, DC088, and DC-089

Plant 2 dust collectors:

DC008A, DC-009A, DC-011A, DC-013A, DC-014A, DC-022A, DC027, DC-029, and DC-030

b. Pursuant to Consent Order No. 98 CV 33718, dated July 10, 1998, and as modified on September 8, 2004, the outlet concentration of PE from Plant 2 dust collectors DC-010A and DC-019A shall be limited to 0.050 grain per dry standard cubic foot (dscf) of exhaust gases.

c. Nothing in this permit shall preclude the permittee from routing emissions from this emissions unit to other dust collectors or stacks, or to route emissions from other emissions units to the dust collectors and stacks associated with this emissions unit. As of the effective date of this permit, the following stacks and dust collectors are associated with this emissions unit:

Uncontrolled stacks: none

Dust collectors: DC-084 Plt1

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

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving these emissions units. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for these emissions units have been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling these emissions units is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible particulate emissions were observed from the stack(s) serving these emissions units; and

b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

PE shall not exceed 0.020 gr/dscf.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the grain loading limitation by testing in accordance with USEPA Methods 1-5 of 40 CFR, Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108481]

b. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

c. Emission Limitation:

PE shall not exceed 2.63 tpy.

Applicable Compliance Method:

The tpy represents the potential to emit (PTE) for this emissions unit. Therefore, provided compliance is shown with the 0.020 gr/dscf, compliance with the annual limitation shall also be demonstrated.

The PTE was determined by the following equation:

E= summation of (Fi x Ci* x 60 min/hr x 1 lb/7000 gr from each stack)

Where:

E= the PE rate in lbs/hr from the emissions unit;

Fi= the flow rate from this emissions unit for each stack that this emissions unit is vented to, in dscf; and

Ci= the outlet concentration of PE from each stack that this emissions unit is vented to, in gr/dscf.

*Previous stack testing at the plant has shown that the stacks that had no visible emissions during the test, had outlet grain loadings of less than 0.020 gr/dscf.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0108481]

g) Miscellaneous Requirements

(1) None.

90. Emissions Unit Group –lost foam holding and receiving furnaces: P423, P426,

EU ID	Operations, Property and/or Equipment Description
P423	Receiving furnace #1
P426	Holding furnace #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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	40 CFR Part 52.21 OAC rules 3745-31-10 through 3745-31-20	See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI 03-13364 issued January 6, 2004)	Nitrogen oxide (NOx) emissions shall not exceed 9.18 tons per rolling, 12-month period (from the combustion of natural gas) from emissions units P423, P424, P426 and P427 combined. See b)(2)d. and b)(2)g.
c.	OAC rule 3745-31-05(A)(3) (PTI 03-13364 issued January 6, 2004)	The requirements of this rule also include compliance with the requirements of 40 CFR Part 52.21, OAC rules 3745-31-10 through 3745-31-20 and 3745-17-07(A). <u>From each emissions unit individually:</u> NOx emissions shall not exceed 0.82 pounds per hour (lb/hr) and 3.59 tons per year (tpy). Carbon monoxide (CO) emissions shall not exceed 0.81 lb/hr and 3.55 tpy. Particulate emissions (PE) shall not exceed 24.45 lbs/day and 4.46 tpy (from holding, fluxing, & drossing). Hydrogen fluoride (HF) emissions shall

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		not exceed 2.5 lbs per day and 0.5 tpy See b)(2)e., b)(2)f. and c)(1).
d.	OAC rule 3745-17-11(B)	See b)(2)b.
e.	OAC rule 3745-17-07(A)	See b)(2)c.

(2) Additional Terms and Conditions

a. The permittee shall employ best available control technology (BACT) for this emissions unit. BACT has been determined to be the use of a control system meeting the following requirements for the control of NOx emissions:

i. a furnace equipped with low NOx burners and designed to emit NOx at a rate of not more than 85 lbs/mm cu. ft of natural gas burned.

b. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(ii), this emissions unit is exempt from the requirements of OAC rule 3745-17-11(B)(2).

c. This emissions unit is exempt from the visible PE limitations specified in OAC rule 3745-17-07(A) pursuant to OAC rule 3745-17-07(A)(3)(h) because OAC rule 3745-17-11 is not applicable.

d. In order to comply with the Prevention of Significant Deterioration (PSD) and Significant Impact Increment requirements for NOx, the annual NOx emissions for emissions units P423, P424, P426 and P427 combined, shall not exceed 9.18 tons/rolling, 12-month period.

e. The 0.82 lb NOx/hr, 0.81 lb CO/hr, 24.45 lbs PE/day and 2.5 lbs HF/hr emission limitations were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop any additional monitoring, record keeping and/or reporting requirements to ensure compliance with these emission limitations.

f. The PE limitations are inclusive of and assumed to be PM10.

g. The rolling, 12-month NOx emission limitations specified in section b)(2)b. above was calculated based on the natural gas usage restriction rate (for emissions units P423, P424, P426 and P427, combined) specified in c)(1) of this permit.

c) Operational Restrictions

(1) The maximum annual natural gas usage rate, for emissions units P423, P424, P426 and P427, combined shall not exceed 216 mm cu. ft/rolling, 12-month period based upon the summation of the monthly natural gas usage rates.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI 03-13364]

(2) The permittee shall burn only natural gas in these emissions units.

[Authority for term: OAC rule 3745-77-07(A)(1)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the following information for emissions units P423, P424, P426 and P427:

a. the quantity of natural gas combusted, in MMcf; and,

b. the annual natural gas usage, based on a rolling, 12-month summation of the monthly natural gas usage.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-13364]

(2) In addition to the above information, the permittee shall also record the following information each month for emissions units P423, P424, P426 and P427:

a. the calculated NOx emission rate, in tons per month; and

b. the annual NOx emission rate, based on a rolling, 12-month summation of the monthly NOx emissions.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-13364]

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

[Authority for term: OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all exceedances of the rolling, 12-month natural gas usage rates for emissions units P423, P424, P426 and P427, combined; and

b. all exceedances of the rolling, 12-month emission limitation for NOx.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-13364]

(2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in these emissions units. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1)]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

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

a. Emission Limitation:

NOx emissions shall not exceed 9.18 tons per rolling, 12-month period, for emissions units P423, P424, P426 and P427 combined.

Applicable Compliance Method:

Compliance with the rolling, 12-month NOx emission limitation above shall be demonstrated by multiplying the rolling, 12-month natural gas usage rate (the value from d)(1)c. by the BACT emission limitation of 85 lbs NOx/mm cu. ft, and then dividing by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-13364]

b. Emission Limitations:

NOx emissions shall not exceed 0.82 lb/hr, 85 lbs NOx/mm cu. ft. and 3.59 tpy from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the hourly NOx emission limitation and the lbs NOx/mm cu. ft emission limitation shall be determined through emission testing conducted in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hours/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-13364]

c. Emission Limitations:

CO emissions shall not exceed 0.81 lb/hr and 3.55 tpy from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the hourly CO emission limitation shall be determined through emission testing conducted in accordance with Methods 1-4 and 10 of 40 CFR Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8760 hours/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-13364]

d. Emission Limitations:

HF emissions shall not exceed 2.5 lbs/day and 0.5 tpy from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the daily HF emission limitation shall be determined through emission testing conducted in accordance with Methods 1-4 and 26 of 40 CFR Part 60, Appendix A.

The annual emission limitation was developed by multiplying the daily emission limitation by the maximum operating schedule of 365 days/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the daily emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-13364]

e. Emission Limitations:

PE shall not exceed 24.45 lbs/day and 4.46 tpy from each emissions unit individually.

Applicable Compliance Method:

The daily PE limitation was established as follows:

i. holding: multiply a maximum of 0.875 lb PE/hr by a maximum of 22 hrs/day) [19.25 lbs PE/day];

ii. fluxing: multiply a maximum of 1.545 lbs PE/hr by a maximum of 1 hr/day) [1.545 lbs PE/day];

iii. drossing: multiply a maximum of 3.655 lbs PE/hr by a maximum of 1 hr/day) [3.655 lbs PE/day]; and

iv. sum f)(1)e.i. + f)(1)e.ii. + f)(1)e.iii.

If required, compliance with the daily allowable PE limitation shall be determined through emission testing conducted in accordance with Methods 1-5 of 40 CFR, Part 60, Appendix A. The tested hourly result shall then be multiplied by the maximum daily number of hours of operation.

The annual emission limitation was developed by multiplying the daily emission limitation by the maximum operating schedule of 365 days/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the daily emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI 03-13364]

g) Miscellaneous Requirements

(1) None.

91. Emissions Unit Group -PSand Attrition Mills: P478,P546,P547,P548,

EU ID	Operations, Property and/or Equipment Description
P478	Precision Sand Mod #1 Pan Conveyor, Attrition Mill, and Waste Sand Conveyor
P546	Precision Sand Mod #2 Pan Conveyor, Attrition Mill, and Waste Sand Conveyor
P547	Precision Sand Mod #3 Pan Conveyor, Attrition Mill, and Waste Sand Conveyor
P548	Precision Sand Mod #4 Pan Conveyor, Attrition Mill, and Waste Sand Conveyor

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. and b)(2)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 0.08 pound per ton (lb/ton) of aluminum and 4.59 tons per year(tpy), based upon a rolling, 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Particulate emissions (PE) shall not exceed 0.04 lb/ton of aluminum and 2.29 tpy, based upon a rolling, 12-month summation of the monthly emissions. Particulate matter less than or equal to 10 microns in size (PM_{10}) shall not exceed 0.08 lb/ton and 4.59 tpy, based upon a rolling, 12-month summation of the monthly emissions. Visible PE shall not exceed 10% opacity, as a six-minute average.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)b. and b)(2)e.
c.	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B)	The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-31-05(A)(3), as effective 11/31/01	See b)(2)c.
e.	OAC rule 3745-31-05(A)(3, as effective 12/01/06	See b)(2)d.
f.	OAC rule 3745-114-01 ORC 3704.03(F)	See B.2. – Facility-wide Terms and Conditions
g.	40 CFR, Part 64 – Compliance Assurance Monitoring (CAM)	See d)(2) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that no control technologies for VOC were cost effective.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting the potentials to emit (PTE) for PE and PM_{10}. The PTE is being restricted such that the emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) “significant threshold” applicability level of 25 (for PE) and 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

i. PM_{10} emissions shall not exceed 0.08 lb/ton and 4.59 tpy, based upon a rolling, 12-month summation of the monthly emissions; and

ii. PE shall not exceed 0.04 lb/ton of aluminum and 2.29 tpy, based upon a rolling, 12-month summation of the monthly emissions.

c. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has

not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the VOC and PM_{10} emissions from this air contaminant source since the controlled potential to emit (PTE) is less each than 10 tons per year taking into consideration federally enforceable requirements established under OAC rule 3745-31-05(D). BAT requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, are not applicable to the particulate emissions emitted from this emissions unit. BAT is only applicable to emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard (NAAQS) has been adopted under the Clean Air Act. Particulate emissions (also referred to as total suspended particulate or particulate matter) is an air contaminant that does not involve an established NAAQS.

e. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

c) Operational Restrictions

(1) The maximum annual sand usage for each individual emissions unit shall not exceed 114,696 tons, based upon a rolling, 12-month summation of the monthly quantities of sand used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the sand usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	114,696

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual sand usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of sand processed.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the baghouses at all times when these emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units, individually:

a. the amount of sand processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of sand processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of sand processed.

*The amount of sand processed through this emissions unit is equivalent to the amount of sand received in emissions units P906, P907, P908 and P909, combined. The monitoring and record keeping associated with the sand processed in emissions units P906, P907, P908 and P909 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622 and 40 CFR, Part 64]

(3) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) The CAM plan for this emissions unit has been developed for particulate emissions. The CAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and daily visible emission checks. When the daily and/or weekly visible emission checks show operation outside its normal or usual manner of operation, the permittee shall take corrective actions to restore operation of the emissions unit and/or its control equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions, and shall comply with the reporting requirements specified in e)(2) below. The emissions unit and control equipment shall be operated in accordance with the approved CAM Plan, or any approved revision of the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(5) If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance, the permittee shall promptly notify the appropriate Ohio EPA District Office or local air agency, and if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, re-establishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(6) The permittee shall maintain records documenting any time periods when these emissions unit were in operation and the baghouses were not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum allowable cumulative sand usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month sand usage restriction.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stacks serving these emissions units and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 64; PTI P0106622]

(3) The permittee shall submit deviation (excursion) reports that identify any time periods when these emissions units were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A); PTI P0106622]

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modulesin accordance with the following requirements:

a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module1 (emissions units P478), Psand module 2 (emissions units P546), Psand module 3 (emissions units P547) or Psand module 4 (emissions units P548), will be operated, whichever comes first. The permittee shall test a minimum of one module per year.

b. The emission testing shall be conducted to demonstrate compliance with the following:

i. for VOC - 0.08 lb/ton of sand.

c. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

i. For total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO.

d. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

e. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) Compliance with the emission limitations specified in b)(1) of the terms and conditions of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

The maximum annual sand usage shall not exceed 114,696 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

VOC emissions shall not exceed 0.08 lb/ton of sand and 4.59 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

Compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of sand emission limitation by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual sand throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

PE shall not exceed 0.04 lb/ton and 2.29 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of sand emission limitation by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission

limitation and the annual sand throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitations:

PM_{10} shall not exceed 0.08 lb/ton and 4.59 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 201/201A and 202, 40 CFR Part 51, Appendix M. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of sand emission limitation by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual sand throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitation:

Visible PE from the baghouse stacks shall not exceed 10% opacity.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

92. Emissions Unit Group -PSand CL Blast Cabinets: P479, P549, P510, P511,

EU ID	Operations, Property and/or Equipment Description
P479	Precision Sand Mod #1 Cylinder Liner Blast Cabinet
P549	Precision Sand Mod #2 Cylinder Liner Blast Cabinet
P510	Precision Sand Mod #3 Cylinder Liner Blast Cabinet
P511	Precision Sand Mod #4 Cylinder Liner Blast Cabinet

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)c. and b)(2)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Particulate matter less than or equal to 10 microns in size (PM_{10}) shall not exceed 0.010 pound per ton of aluminum and 0.13 ton per year, based upon a rolling, 12-month summation of the monthly emissions. Visible particulate emissions (PE) shall not exceed 10% opacity, as a six-minute average. See b)(2)a., b)(2)d. and b)(2)e.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)b.
c.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)c.
d.	OAC rule 3745-17-07(A)(1) OAC rule 3745-17-11(B)	The emission limitations specified by these rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).

(2) Additional Terms and Conditions

a. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting the potential to emit (PTE) for PM_{10}. The PTE is being restricted such that the emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

i. PM_{10} emissions shall not exceed 0.010 pound per ton of aluminum and 0.13 tpy, based upon a rolling, 12-month summation of the monthly emissions.

b. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the PM_{10} emissions from this air contaminant source since the controlled potential to emit (PTE) is less than 10 tons per year taking into consideration federally enforceable requirements established under OAC rule 3745-31-05(D).

d. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

e. All PE is in the form of PM_{10}.

c) Operational Restrictions

(1) The permittee shall operate the baghouses at all times when these emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The maximum annual aluminum usage for each individual emissions unit shall not exceed 26,762 tons, based upon a rolling, 12-month summation of the monthly quantities of aluminum used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the aluminum usage levels specified in the following table for these emissions units, individually:

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1	2,680
1-2	5,360
1-3	8,040
1-4	10,720
1-5	13,400
1-6	16,080
1-7	18,760
1-8	21,440
1-9	24,120
1-10	25,013
1-11	25,907
1-12	26,762

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual aluminum usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of aluminum poured in emissions units F008, F009, F010, F011 and F012.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units individually:

a. the amount of aluminum processed*, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of aluminum processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of aluminum processed.

*The amount of aluminum processed through these emissions units are equivalent to the amount of aluminum poured in emissions units F008, F009, F010, F011 and F012. The monitoring and record keeping associated with the aluminum processed in emissions units F008, F009, F010, F011 and F012 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving these emissions units. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall maintain records documenting any time periods when these emissions units were in operation and the baghouses were not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum allowable cumulative aluminum usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month aluminum usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stacks serving these emissions units and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions units were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) of the terms and conditions of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

The amount of aluminum poured shall not exceed 26,762 tons per rolling, 12-month period for these emissions units, individually.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

PM_{10} emission shall not exceed 0.010 lb/ton and 0.13 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of sand emission limitation by the annual aluminum restriction of 26,762 tons, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitation:

Visible PE from the baghouse stacks shall not exceed 10% opacity.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

93. Emissions Unit Group -PSand Casting Cooling Tunnel: P474, P512, P513, P514,

EU ID	Operations, Property and/or Equipment Description
P474	Precision Sand Mod #1 Casting Cooling Tunnel
P512	Precision Sand Mod #2 Casting Cooling Tunnel
P513	Precision Sand Mod #3 Casting Cooling Tunnel
P514	Precision Sand Mod #4 Casting Cooling Tunnel

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. and b)(2)e.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 0.75 pound per ton (lb/ton) of aluminum and 10.04 tons per year(tpy), based upon a rolling, 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Particulate emissions (PE) shall not exceed 0.09 lb/ton of aluminum and 1.20 tpy, based upon a rolling, 12-month summation of the monthly emissions. Particulate matter emissions less than or equal to 10 microns in size (PM_{10}) shall not exceed 0.17 lb/ton and 2.27 tpy, based upon a rolling, 12-month summation of the monthly emissions. Visible PE shall not exceed 10% opacity, as a six-minute average.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)b. and b)(2)e.
c.	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B)	The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)c.
e.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)d.

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that no control technologies for VOC were cost effective.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PE and PM_{10}. The PTE is being restricted such that the emission increase for PE and PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) “significant threshold” applicability level of 25 tpy (for PE) and 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

i. PM_{10} emissions shall not exceed 0.17 lb/ton and 2.27 tpy, based upon a rolling, 12-month summation of the monthly emissions; and

ii. PE shall not exceed 0.09 lb/ton of aluminum and 1.20 tpy, based upon a rolling, 12-month summation of the monthly emissions.

c. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the

December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the PE and PM_{10} emissions from this air contaminant source since the controlled potential to emit (PTE) for $PM1_0$ is less than 10 tons per year taking into consideration federally enforceable requirements established under OAC rule 3745-31-05(D). BAT requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, are not applicable to the particulate emissions emitted from this emissions unit. BAT is only applicable to emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard (NAAQS) has been adopted under the Clean Air Act. Particulate emissions (also referred to as total suspended particulate or particulate matter) is an air contaminant that does not involve an established NAAQS.

e. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

c) Operational Restrictions

(1) The maximum annual aluminum usage for this emissions unit shall not exceed 26,762 tons, based upon a rolling, 12-month summation of the monthly quantities of aluminum used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the aluminum usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1	2,680
1-2	5,360
1-3	8,040
1-4	10,720
1-5	13,400
1-6	16,080
1-7	18,760
1-8	21,440

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1-9	24,120
1-10	25,013
1-11	25,907
1-12	26,762

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual aluminum usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of aluminum poured in emissions units F008, F009, F010, F011 and F012.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the baghouses at all times when these emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units, individually:

a. the amount of aluminum processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of aluminum processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of aluminum processed.

*The amount of aluminum processed through this emissions unit is equivalent to the amount of aluminum poured in emissions units F008, F009, F010, F011 and F012, . The monitoring and record keeping associated with the aluminum processed in emissions units F008, F009, F010, F011 and F012 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall maintain records documenting any time periods when these emissions units were in operation and the baghouses were not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum allowable cumulative aluminum usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month aluminum usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stacks serving these emissions units and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit deviation (excursion) reports that identify any time periods when these emissions units were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modules in accordance with the following requirements:

a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module1 (emissions units P474), Psand module 2 (emissions units P512), Psand module 3 (emissions units P513) or Psand module 4 (emissions units P514), will be operated, whichever comes first. The permittee shall test a minimum of one module per year.

b. The emission testing shall be conducted to demonstrate compliance with the following:

i. for VOC - 0.75 lb/ton of aluminum.

c. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

i. For total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO.

d. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

e. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) Compliance with the emission limitations specified in b)(1) of the terms and conditions of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

The maximum annual aluminum usage shall not exceed 26,762 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

VOC emissions shall not exceed 0.75 lb/ton of aluminum and 10.04 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

Compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-4, 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

PE shall not exceed 0.09 lb/ton and 1.20 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitations:

PM_{10} shall not exceed 0.17 lb/ton and 2.27 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 201/201A and 202, 40 CFR Part 51, Appendix M. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitation:

Visible PE from the baghouse stacks shall not exceed 10% opacity.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

94. Emissions Unit Group -PSand Final Shot Blast: P476, P515, P516, P517,

EU ID	Operations, Property and/or Equipment Description
P476	Precision Sand Mod #1 Final Shot Blast Cabinet
P515	Precision Sand Mod #2 Final Shot Blast Cabinet
P516	Precision Sand Mod #3 Final Shot Blast Cabinet
P517	Precision Sand Mod #4 Final Shot Blast Cabinet

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)c. and b)(2)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Particulate matter less than or equal to 10 microns in size (PM_{10}) shall not exceed 0.020 pound per ton of aluminum and 0.27 ton per year, based upon a rolling, 12-month summation of the monthly emissions. Visible particulate emissions (PE) shall not exceed 10% opacity, as a six-minute average. See b)(2)a., b)(2)d. and b)(2)e.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)b.
c.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)c.
d.	OAC rule 3745-17-07(A)(1) OAC rule 3745-17-11(B)	The emission limitations specified by these rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).

(2) Additional Terms and Conditions

a. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PM_{10}. The PTE is being restricted such that the emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

i. PM_{10} shall not exceed 0.020 pound per ton of aluminum and 0.27 ton per year, based upon a rolling, 12-month summation of the monthly emissions.

b. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the PM_{10} emissions from this air contaminant source since the controlled potential to emit (PTE) is less than 10 tons per year taking into consideration federally enforceable requirements established under OAC rule 3745-31-05(D).

d. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

e. All PE is in the form of PM_{10}.

c) Operational Restrictions

(1) The permittee shall operate the baghouses at all times when these emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The maximum annual aluminum usage for these emissions units individually shall not exceed 26,762 tons, based upon a rolling, 12-month summation of the monthly quantities of aluminum used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the aluminum usage levels specified in the following table for these emissions units, individually:

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1	2,680
1-2	5,360
1-3	8,040
1-4	10,720
1-5	13,400
1-6	16,080
1-7	18,760
1-8	21,440
1-9	24,120
1-10	25,013
1-11	25,907
1-12	26,762

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual aluminum usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of aluminum poured in emissions units F008, F009, F010, F011 and F012.

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units individually:

a. the amount of aluminum processed*, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of aluminum processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of aluminum processed.

*The amount of aluminum processed through these emissions units are equivalent to the amount of aluminum poured in emissions units F008, F009, F010, F011 and F012. The monitoring and record keeping associated with the aluminum processed in emissions units F008, F009, F010, F011 and F012 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall maintain records documenting any time periods when these emissions units were in operation and the baghouses were not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum allowable cumulative aluminum usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month aluminum usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stacks serving these emissions units and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions units were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) of the terms and conditions of this permit shall be determined in accordance with the following method(s):

a. <u>Emission Limitation:</u>

The amount of aluminum poured shall not exceed 26,762 tons per rolling, 12-month period for these emissions units, individually.

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. <u>Emission Limitations:</u>

PM_{10} emission shall not exceed 0.020 lb/ton and 0.27 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

<u>Applicable Compliance Method:</u>

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitation:

Visible PE from the baghouse stacks shall not exceed 10% opacity.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

95. Emissions Unit Group -PSand Finishing: P475, P541, P542, P543,

EU ID	Operations, Property and/or Equipment Description
P475	Precision Sand Mod #1 DeFlash, DeCore, DeGate Operations
P541	Precision Sand Mod #2 DeFlash, DeCore, DeGate Operations
P542	Precision Sand Mod #3 DeFlash, DeCore, DeGate Operations
P543	Precision Sand Mod #4 DeFlash, DeCore, DeGate Operations

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. and b)(2)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 0.377 pound per ton (lb/ton) of aluminum and 5.04 tons per year(tpy), based upon a rolling, 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Particulate matter emissions less than or equal to 10 microns in size (PM_{10}) shall not exceed 0.031 lb/ton and 0.41 tpy, based upon a rolling, 12-month summation of the monthly emissions. Visible PE shall not exceed 10% opacity, as a six-minute average. See b)(2)b., b)(2)e., and b)(2)f.
c.	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B)	The emission limitations specified by these rules are less stringent than the

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		emission limitations established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)c.
e.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)d.

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that no control technologies for VOC were cost effective.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PM_{10}. The PTE is being restricted such that the emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

i. PM_{10} emissions shall not exceed 0.031 lb/ton and 0.41 tpy, based upon a rolling, 12-month summation of the monthly emissions

c. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the VOC and PM_{10} emissions from this air contaminant source since the controlled potential to emit (PTE) is each less than 10 tons per year taking into consideration federally enforceable requirements established under OAC rule 3745-31-05(D).

e. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

f. All PE is in the form of PM_{10}.

c) Operational Restrictions

(1) The maximum annual aluminum usage for this emissions unit shall not exceed 26,762 tons, based upon a rolling, 12-month summation of the monthly quantities of aluminum used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the aluminum usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1	2,680
1-2	5,360
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1-6	16,080
1-7	18,760
1-8	21,440
1-9	24,120
1-10	25,013
1-11	25,907
1-12	26,762

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual aluminum usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of aluminum poured in emissions units F008, F009, F010, F011 and F012.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the baghouses at all times when these emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units, individually:

a. the amount of aluminum processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of aluminum processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of aluminum processed.

*The amount of aluminum processed through this emissions unit is equivalent to the amount of aluminum poured in emissions units F008, F009, F010, F011 and F012, . The monitoring and record keeping associated with the aluminum processed in emissions units F008, F009, F010, F011 and F012 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving these emissions units. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall maintain records documenting any time periods when these emissions unit were in operation and the baghouses were not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum allowable cumulative aluminum usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month aluminum usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stacks serving these emissions units and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit deviation (excursion) reports that identify any time periods when these emissions units were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A]

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modules in accordance with the following requirements:

a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module1 (emissions units P475), Psand module 2 (emissions units P541), Psand module 3 (emissions units P542) or Psand module 4 (emissions units P543), will be operated, whichever comes first. The permittee shall test a minimum of one module per year.

b. The emission testing shall be conducted to demonstrate compliance with the following:

i. for VOC - 0.377 lb/ton of aluminum.

c. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

i. For total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO.

d. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

e. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) Compliance with the emission limitations specified in b)(1) of the terms and conditions of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

The maximum annual aluminum usage shall not exceed 26,762 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

VOC emissions shall not exceed 0.377 lb/ton of aluminum and 5.04 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

Compliance with the lb/ton emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4, 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

PM_{10} shall not exceed 0.031 lb/ton and 0.41 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202, 40 CFR Part 51, Appendix M. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with

the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitation:

Visible PE from the baghouse stacks shall not exceed 10% opacity.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

96. Emissions Unit Group -PSand Mod#1 Core Machines: P464, P465, P466, P467, P468, P469,

EU ID	Operations, Property and/or Equipment Description
P464	Precision Sand Mod #1 Core Machine #1
P465	Precision Sand Mod #1 Core Machine #2
P466	Precision Sand Mod #1 Core Machine #3
P467	Precision Sand Mod #1 Core Machine #4
P468	Precision Sand Mod #1 Core Machine #5
P469	Precision Sand Mod #1 Core Machine #6

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. and b)(2)e.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	Volatile organic compound emissions (VOC) from emissions units P464, P465, P466, P467, P468 and P469, combined, shall not exceed 51.61 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. <u>Receiving hopper and sand mixer (Stacks PSand3-1 and PSand4-1)</u> VOC emissions shall not exceed 0.10 pound per ton of sand processed. <u>Core making (Stack PSandScr1)</u> VOC emissions shall not exceed 0.60 pound per ton of sand processed. <u>Maintenance (metal cleaning of core machine - Stack PSandScr1):</u> VOC emissions shall not exceed 0.20 pound per ton of sand processed. Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		summation of the monthly emissions. Sulfur dioxide (SO_2) emissions from emissions units P464, P465, P466, P467, P468 and P469, combined, shall not exceed 9.18 tpy, based upon a rolling, 12-month summation of the monthly emissions. <u>Core making (Stack PSandScr1)</u> SO_2 emissions shall not exceed 0.16 pound per ton of sand processed. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	Particulate matter less than or equal to 10 microns in size (PM_{10}) from emissions units P464, P465, P466, P467, P468 and P469, combined, shall not exceed 2.67 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. <u>Receiving hopper and sand mixer (Stacks PSand3-1 and PSand4-1)</u> PM_{10} shall not exceed 0.0182 lb/ton of sand processed. <u>Core making (Stack PSandScr1)</u> PM_{10} shall not exceed 0.028 lb/ton of sand processed. Visible PE from the stacks serving this emissions unit shall not exceed 10% opacity, as a six-minute average. See b)(2)b., b)(2)c. and b)(2)f.
c.	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B) OAC rule 3745-18-06(E)	The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d.
e.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)e.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
f.	OAC rule 3745-114-01 ORC 3704.03(F)	See B.2 – Facility-Wide Terms and Conditions.

(2) Additional Terms and Conditions

a. The permittee shall employ best available control technology (BACT) on this emissions unit for VOC and SO_2. BACT has been determined to be the use of the following:

i. sand mixing - no control technologies were cost effective.

ii. core making - a packed tower wet scrubber. The wet scrubber shall achieve the following control efficiencies:

(a) dimethyl isopropyl amine (DMIPA) as catalyst: 99% for the DMIPA; and

(b) SO_2 as catalyst: 99.0% for SO_2.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting the potential to emit (PTE) for PM_{10}. The PTE is being restricted such that the emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

i. PM_{10} emissions shall not exceed:

(a) 0.0182 lb/ton of sand (receiving hopper and sand mixer),

(b) 0.028 lb/ton of sand (core making); and

(c) 2.67 tpy, based upon a rolling, 12-month summation of the monthly emissions.

c. All emissions of particulate matter are PM_{10}.

d. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for

NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of VOC and SO_2 from this air contaminant source since the potential to emit for each is each less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed and the use of a wet scrubber.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of PM_{10} from this air contaminant source since the potential to emit is less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed, the use of a baghouse and cyclone.

f. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

c) Operational Restrictions

(1) The maximum annual sand processed in emission units P464 through P469, combined, shall not exceed 114,696 tons, based upon a rolling, 12-month summation of sand processed.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the sand processing levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	114,696

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual sand restriction shall be, based upon a rolling, 12-month summation of the monthly sand processed.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the baghouse at all times when this emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for emissions units P464, through P469, combined:

a. the quantity of sand processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of sand processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly sand processed.

*The amount of sand processed through this emissions unit is equivalent to the amount of sand received in emissions units P906, P907, P908 and P909. The monitoring and record keeping associated with the sand received in emissions unit P906 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

d. The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

e. The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate

compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall perform weekly* checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse and from the cyclone serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) The permittee shall collect and record the following information on a monthly basis for the metal cleaner applied in this emissions unit:

a. the name and identification of each metal cleaner employed;

b. the VOC content of each metal cleaner, in pounds per gallon;

c. the number of gallons of each metal cleaner employed;

d. the total VOC emission rate from all metal cleaners, i.e., the summation of the products of “d)(5)b.” times “d)(5)c.” for all metal cleaners employed, in pounds; and

e. the pound per ton of VOC emissions from all metal cleaners employed [d)(5)d. divided by d)(1)a.].

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the restriction on the maximum allowable cumulative quantity of sand processed; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month restriction on the quantity of sand processed.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit deviation (excursion) reports that identify the following:

a. any time periods when the emissions unit was in operation and the baghouse(s) was not operating;

b. any exceedance of the 0.20 lb VOC/ton of sand emission limitation for the metal cleaner.

Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the wet scrubber during the operation of the emissions unit(s):

a. each period of time (start time and date, and end time and date) when the liquid flow rate or the liquid pH was outside of the appropriate range or limit specified by the manufacturer and outside of the acceptable range for each parameter following any required compliance demonstration;

b. an identification of each incident of deviation described in (3)a. where a prompt investigation was not conducted;

c. an identification of each incident of deviation described in (3)a. where prompt corrective action, that would bring the liquid flow rate or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in (3)a. 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.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the baghouse and from the cyclone serving this emissions unit and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modules in accordance with the following requirements:

a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module1 (emissions units P464, P465, P466, P467, P468, P469) or Psand module 2 (emissions units P524, P527, P530, P533, P538) or Psand module 3 (emissions units P525, P528, P531, P534, P536, P539) or Psand module 4 (emissions units P526, P529, P532, P535, P537, P540), will be operated, whichever comes first The permittee shall test a minimum of one module per year.

b. The emission testing shall be conducted to demonstrate compliance with the following emission limitations involving DMIPA as the catalyst:

i. 0.60 lb of VOC per ton of sand, for core making.

c. When the emission unit first utilizes SO_2 as the catalyst for purposes other than research and development, the permittee shall conduct testing within 60 days after the initial use of SO_2 to demonstrate compliance with the following emission limitations when utilizing SO_2 as the catalyst:

i. 0.16 lb of SO_2 per ton of sand, for core making; and

ii. The control efficiency for SO_2.

d. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

i. for total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions.

ii. for SO_2, Methods 1-4 and 6 of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 6 of 40 CFR Part 60, Appendix A for determining SO_2 mass emissions.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO. The test method(s) which must be employed to demonstrate compliance with the control efficiencies are specified below.

e. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

f. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

g. During emission testing, the permittee shall also record the following information:

i. the pH range for the scrubbing liquid;

ii. the scrubber water flow rate, in gallons/minute; and

iii. the catalyst and resin used to make the cores.

h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The maximum annual amount of sand processed for P464, P465, P466, P467, P468 and P469, combined, shall not exceed 114,696 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

0.60 lb of VOC per ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

0.10 lb of VOC per ton of sand (hopper and mixing)

Applicable Compliance Method:

The lb/ton emission limitation was established based on the Casting Emission Reduction Program (CERP) report #1409-123-EQ (Technikon), published 12/09/02, revised 5/06.

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitation:

0.20 lb of VOC per ton of sand (metal cleaning).

Applicable Compliance Method:

The lb/ton emission limitation was established based on the use of five 55 gallon drums of metal cleaner per month with a VOC content of 8.1 lbs per gallon with 85% captured by the scrubber [scrubber does not provide control during metal cleaning] and the use of 114,696 tons per year of sand. Compliance shall be demonstrated based on the record keeping requirements specified in d)(5).

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitations:

PM_{10} emissions shall not exceed 0.0182 lb/ton of sand (hopper and mixing)

PM_{10} emissions shall not exceed 0.028 lb/ton of sand (core making)

Applicable Compliance Method:

If required, compliance with the company-established emission factors shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

f. Emission Limitation:

VOC emissions from emission units P464, P465, P466, P467, P468 and P469, combined, shall not exceed 51.61 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by adding the VOC emissions from the hopper and mixing, core making, and metal cleaning. VOC emissions from the hopper and mixing, core making, and metal cleaning were established by multiplying the respective VOC emission limitations of 0.10 lb/ton, 0.60 lb/ton, and 0.20 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitations and the annual sand throughput, compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g. Emission Limitation:

Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factor of 0.035 lb of VOC per ton of sand by the annual sand restriction of 114,696 tons, and then dividing by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

h. Emission Limitation:

PM_{10} emissions P464, P465, P466, P467, P468 and P469, combined, shall not exceed 2.67 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by adding the PM_{10} emissions from the hopper/mixing, and core making. PM_{10} emissions from the hopper/mixing, and core making were established by multiplying the respective PM_{10} emission limitations of 0.0182 lb/ton and 0.028 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore, as long as compliance with the annual sand throughput restriction is demonstrated by the record keeping requirements specified in d)(1), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

i. Emission Limitation:

SO_2 emissions shall not exceed 9.18 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the lb/ton of sand emission limitation by the annual sand restriction of 114,696 tons, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual sand throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

j. Emission Limitation:

SO_2 shall not exceed 0.16 lb/ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

k. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources" or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

97. Emissions Unit Group -PSand Mod#3 Core Machines: P525, P528, P531, P534, P536, P539,

EU ID	Operations, Property and/or Equipment Description
P525	Precision Sand Mod #3 Core Machine #1
P528	Precision Sand Mod #3 Core Machine #2
P531	Precision Sand Mod #3 Core Machine #3
P534	Precision Sand Mod #3 Core Machine #4
P536	Precision Sand Mod #3 Core Machine #6
P539	Precision Sand Mod #3 Core Machine #5

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. and b)(2)e.

b) Applicable Emissions Limitations and/or Control Requirements

(2) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	Volatile organic compound emissions (VOC) from emissions units P525, P528, P531, P534, P536 and P539, combined, shall not exceed 51.61 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. <u>Receiving hopper and sand mixer (Stacks PSand3-3 and PSand4-3)</u> VOC emissions shall not exceed 0.10 pound per ton of sand processed. <u>Core making (Stack PSandScr3)</u> VOC emissions shall not exceed 0.60 pound per ton of sand processed. <u>Maintenance (metal cleaning of core machine - Stack PSandScr3):</u> VOC emissions shall not exceed 0.20 pound per ton of sand processed. Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		summation of the monthly emissions. Sulfur dioxide (SO_2) emissions from emissions unit P525, P528, P531, P534, P536 and P539, combined, shall not exceed 9.18 tpy, based upon a rolling, 12-month summation of the monthly emissions. <u>Core making (Stack PSandScr3)</u> SO_2 emissions shall not exceed 0.16 pound per ton of sand processed. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	Particulate matter less than or equal to 10 microns in size (PM_{10}) from emission units P525, P528, P531, P534, P536 and P539, combined, shall not exceed 2.67 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. <u>Receiving hopper and sand mixer (Stacks PSand3-3 and PSand4-3)</u> PM_{10} shall not exceed 0.0182 lb/ton of sand processed. <u>Core making (Stack PSandScr3)</u> PM_{10} shall not exceed 0.028 lb/ton of sand processed. Visible PE from the stacks serving this emissions unit shall not exceed 10% opacity, as a six-minute average. See b)(2)b., b)(2)c. and b)(2)f.
c.	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B) OAC rule 3745-18-06(E)	The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d.
e.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)e.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
f.	OAC rule 3745-114-01 ORC 3704.03(F)	See B.2 – Facility-Wide Terms and Conditions.

(3) Additional Terms and Conditions

a. The permittee shall employ best available control technology (BACT) on this emissions unit for VOC and SO_2. BACT has been determined to be the use of the following:

i. sand mixing - no control technologies were cost effective.

ii. core making - a packed tower wet scrubber. The wet scrubber shall achieve the following control efficiencies:

(a) dimethyl isopropyl amine (DMIPA) as catalyst: 99% for the DMIPA; and

(b) SO_2 as catalyst: 99.0% for SO_2.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PM_{10}. The PTE is being restricted such that the emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

i. PM_{10} emissions shall not exceed:

(a) 0.0182 lb/ton of sand (receiving hopper and sand mixer),

(b) 0.028 lb/ton of sand (core making); and

(c) 2.67 tpy, based upon a rolling, 12-month summation of the monthly emissions.

c. All emissions of particulate matter are PM_{10}.

d. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for

NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of VOC and SO_2 from this air contaminant source since the potential to emit for each is less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed and the use of a wet scrubber.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of PM_{10} from this air contaminant source since the potential to emit is less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed, the use of a baghouse and cyclone.

f. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

c) Operational Restrictions

(1) The maximum annual sand processed in emission units P525, P528, P531, P534, P536 and P539, combined, shall not exceed 114,696 tons, based upon a rolling, 12-month summation of sand processed.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the sand processing levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	114,696

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual sand restriction shall be, based upon a rolling, 12-month summation of the monthly sand processed.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the baghouse at all times when this emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for emissions units P525, P528, P531, P534, P536 and P539, combined:

a. the quantity of sand processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of sand processed, in tons; and

c. after the first 12 months of operationfollowing the issuance of PTI P0106622, the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly sand processed.

*The amount of sand processed through this emissions unit is equivalent to the amount of sand received in emissions units P906, P907, P908 and P909. The monitoring and record keeping associated with the sand received in emissions unit P906 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

d. The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

e. The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate

compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall perform weekly* checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse and from the cyclone serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) The permittee shall collect and record the following information on a monthly basis for the metal cleaner applied in this emissions unit:

a. the name and identification of each metal cleaner employed;

b. the VOC content of each metal cleaner, in pounds per gallon;

c. the number of gallons of each metal cleaner employed;

d. the total VOC emission rate from all metal cleaners, i.e., the summation of the products of “d)(5)b.” times “d)(5)c.” for all metal cleaners employed, in pounds; and

e. the pound per ton of VOC emissions from all metal cleaners employed [d)(5)d. divided d)(1)a].

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the restriction on the maximum allowable cumulative quantity of sand processed; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month restriction on the quantity of sand processed.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit deviation (excursion) reports that identify the following:

a. any time periods when the emissions unit was in operation and the baghouse(s) was not operating; and

b. any exceedance of the 0.20 lb VOC/ton of sand emission limitation for the metal cleaner.

Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the wet scrubber during the operation of the emissions unit(s):

a. each period of time (start time and date, and end time and date) when the liquid flow rate or the liquid pH was outside of the appropriate range or limit specified by the manufacturer and outside of the acceptable range for each parameter following any required compliance demonstration;

b. an identification of each incident of deviation described in (3)a. where a prompt investigation was not conducted;

c. an identification of each incident of deviation described in (3)a. where prompt corrective action, that would bring the liquid flow rate or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in (3)a. 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.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the baghouse and from the cyclone serving this emissions unit and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) The permittee shall submit annual reports to the appropriate Ohio EPA District Office or local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(6) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modules in accordance with the following requirements:

a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module1 (emissions units P464, P465, P466, P467, P468, P469) or Psand module 2 (emissions units P524, P527, P530, P533, P538) or Psand module 3 (emissions units P525, P528, P531, P534, P536, P539) or Psand module 4 (emissions units P526, P529, P532, P535, P537, P540), will be operated, whichever comes first. The permittee shall test a minimum of one module per year.

b. The emission testing shall be conducted to demonstrate compliance with the following emission limitations involving DMIPA as the catalyst:

i. 0.60 lb of VOC per ton of sand, for core making.

c. When the emission unit first utilizes SO_2 as the catalyst for purposes other than research and development, the permittee shall conduct testing within 60 days after the initial use of SO_2 to demonstrate compliance with the following emission limitations when utilizing SO_2 as the catalyst:

   i. 0.16 lb of SO_2 per ton of sand, for core making; and

   ii. The control efficiency for SO_2.

d. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

   i. for total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions.

   ii. for SO_2, Methods 1-4 and 6 of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 6 of 40 CFR Part 60, Appendix A for determining SO_2 mass emissions.

   Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO. The test method(s) which must be employed to demonstrate compliance with the control efficiencies are specified below.

e. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

f. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

g. During emission testing, the permittee shall also record the following information:

   i. the pH range for the scrubbing liquid;

   ii. the scrubber water flow rate, in gallons/minute; and

   iii. the catalyst and resin used to make the cores.

h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The maximum annual amount of sand processed for P525, P528, P531, P534, P536 and P539, combined, shall not exceed 114,696 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

0.60 lb of VOC per ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

0.10 lb of VOC per ton of sand (hopper and mixing)

Applicable Compliance Method:

The lb/ton emission limitation was established based on the Casting Emission Reduction Program (CERP) report #1409-123-EQ (Technikon), published 12/09/02, revised 5/06.

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitation:

0.20 lb of VOC per ton of sand (metal cleaning).

Applicable Compliance Method:

The lb/ton emission limitation was established based on the use of five 55 gallon drums of metal cleaner per month with a VOC content of 8.1 lbs per gallon with 85% captured by the scrubber [scrubber does not provide control during metal cleaning] and the use of 114,696 tons per year of sand. Compliance shall be demonstrated based on the record keeping requirements specified in d)(5).

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitations:

PM_{10} emissions shall not exceed 0.0182 lb/ton of sand (hopper and mixing)

PM_{10} emissions shall not exceed 0.028 lb/ton of sand (core making)

Applicable Compliance Method:

If required, compliance with the company-established emission factors shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

f. Emission Limitation:

VOC emissions from emission units P525, P528, P531, P534, P536 and P539, combined, shall not exceed 51.61 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by adding the VOC emissions from hopper and mixing, core making, and metal cleaning. VOC emission from hopper and mixing, core making, and metal cleaning were established by multiplying the respective VOC emission limitations of 0.10 lb/ton, 0.60 lb/ton, and 0.20 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitations and the annual sand throughput, compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g. Emission Limitation:

Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factors of 0.035 lb of VOC per ton of sand by the annual sand restriction of 114,696 tons, and then dividing by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

h. Emission Limitation:

PM_{10} emissions P525, P528, P531, P534, P536 and P539, combined, shall not exceed 2.67 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by adding the PM_{10} emissions from hopper/mixing, and core making. PM_{10} emissions from hopper/mixing, and core making were established by multiplying the respective PM_{10} emission limitations of 0.0182 lb/ton and 0.028 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore, as long as compliance with the annual sand throughput restriction is demonstrated by the record keeping requirements specified in d)(1), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

i. Emission Limitation:

SO_2 emissions shall not exceed 9.18 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the lb/ton of sand emission limitation by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual sand throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

j. Emission Limitation:

SO_2 shall not exceed 0.16 lb/ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

k. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources" or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

98. Emissions Unit Group -PSand Mod#4 Core Machines: P526, P529, P532, P535, P537, P540,

EU ID	Operations, Property and/or Equipment Description
P526	Precision Sand Mod #4 Core Machine #1
P529	Precision Sand Mod #4 Core Machine #2
P532	Precision Sand Mod #4 Core Machine #3
P535	Precision Sand Mod #4 Core Machine #4
P537	Precision Sand Mod #4 Core Machine #5
P540	Precision Sand Mod #4 Core Machine #6

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. and b)(2)e.

b) Applicable Emissions Limitations and/or Control Requirements

(4) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	Volatile organic compound emissions (VOC) from emissions units P526, P529, P532, P535, P537 and P540, combined, shall not exceed 51.61 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. <u>Receiving hopper and sand mixer (Stacks PSand3-4 and PSand4-4)</u> VOC emissions shall not exceed 0.10 pound per ton of sand processed. <u>Core making (Stack PSandScr4)</u> VOC emissions shall not exceed 0.60 pound per ton of sand processed. <u>Maintenance (metal cleaning of core machine - Stack PSandScr4):</u> VOC emissions shall not exceed 0.20 pound per ton of sand processed. Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		summation of the monthly emissions. Sulfur dioxide (SO_2) emissions from emissions unit P526, P529, P532, P535, P537 and P540, combined, shall not exceed 9.18 tpy, based upon a rolling, 12-month summation of the monthly emissions. <u>Core making (Stack PSandScr4)</u> SO_2 emissions shall not exceed 0.16 pound per ton of sand processed. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	Particulate matter less than or equal to 10 microns in size (PM_{10}) from emission units P526, P529, P532, P535, P537 and P540, combined, shall not exceed 2.67 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. <u>Receiving hopper and sand mixer (Stacks PSand3-4 and PSand4-4)</u> PM_{10} shall not exceed 0.0182 lb/ton of sand processed. <u>Core making (Stack PSandScr4)</u> PM_{10} shall not exceed 0.028 lb/ton of sand processed. Visible PE from the stacks serving this emissions unit shall not exceed 10% opacity, as a six-minute average. See b)(2)b. b)(2)c. and b)(2)f.
c.	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B) OAC rule 3745-18-06(E)	The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d.
e.	OAC rule 3745-31-05(A)(3) , as effective 12/01/06	See b)(2)e.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
f.	OAC rule 3745-114-01 ORC 3704.03(F)	See B.2 – Facility-Wide Terms and Conditions.

(5) Additional Terms and Conditions

a. The permittee shall employ best available control technology (BACT) on this emissions unit for VOC and SO_2. BACT has been determined to be the use of the following:

i. sand mixing - no control technologies were cost effective.

ii. core making - a packed tower wet scrubber. The wet scrubber shall achieve the following control efficiencies:

(a) dimethyl isopropyl amine (DMIPA) as catalyst: 99% for the DMIPA; and

(b) SO_2 as catalyst: 99.0% for SO_2.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PM_{10}. The PTE is being restricted such that the emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

i. PM_{10} emissions shall not exceed:

(a) 0.0182 lb/ton of sand (receiving hopper and sand mixer),

(b) 0.028 lb/ton of sand (core making); and

(c) 2.67 tpy, based upon a rolling, 12-month summation of the monthly emissions.

c. All emissions of particulate matter are PM_{10}.

d. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for

NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of VOC and SO_2 from this air contaminant source since the potential to emit for each is less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed and the use of a wet scrubber.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of PM_{10} from this air contaminant source since the potential to emit is less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed, the use of a baghouse and cyclone.

f. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

c) Operational Restrictions

(1) The maximum annual sand processed in emission units P526, P529, P532, P535, P537 and P540, combined, shall not exceed 114,696 tons, based upon a rolling, 12-month summation of sand processed.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622 the permittee shall not exceed the sand processing levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	114,696

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual sand restriction shall be, based upon a rolling, 12-month summation of the monthly sand processed.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the baghouse at all times when this emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for emissions units P526, P529, P532, P535, P537 and P540, combined:

a. the quantity of sand processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of sand processed, in tons; and

c. after the first 12 months operation following the issuance of PTI P0106622, the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly sand processed.

*The amount of sand processed through this emissions unit is equivalent to the amount of sand received in emissions units P906, P907, P908 and P909. The monitoring and record keeping associated with the sand received in emissions unit P906 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

d. The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

e. The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate

compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall perform weekly* checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse and from the cyclone serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) The permittee shall collect and record the following information on a monthly basis for the metal cleaner applied in this emissions unit:

a. the name and identification of each metal cleaner employed;

b. the VOC content of each metal cleaner, in pounds per gallon;

c. the number of gallons of each metal cleaner employed;

d. the total VOC emission rate from all metal cleaners, i.e., the summation of the products of “d)(5)b.” times “d)(5)c.” for all metal cleaners employed, in pounds; and

e. the pound per ton of VOC emissions from all metal cleaners employed [d)(5)d. divided by d)(1)a.].

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the restriction on the maximum allowable cumulative quantity of sand processed; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month restriction on the quantity of sand processed.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit deviation (excursion) reports that identify the following:

a. any time periods when the emissions unit was in operation and the baghouse(s) was not operating; and

b. any exceedance of the 0.20 lb VOC/ton of sand emission limitation for the metal cleaner.

Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the wet scrubber during the operation of the emissions unit(s):

a. each period of time (start time and date, and end time and date) when the liquid flow rate or the liquid pH was outside of the appropriate range or limit specified by the manufacturer and outside of the acceptable range for each parameter following any required compliance demonstration;

b. an identification of each incident of deviation described in (3)a. where a prompt investigation was not conducted;

c. an identification of each incident of deviation described in (3)a. where prompt corrective action, that would bring the liquid flow rate or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in (3)a. 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.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the baghouse and from the cyclone serving this emissions unit and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) The permittee shall submit annual reports to the appropriate Ohio EPA District Office or local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(6) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modules in accordance with the following requirements:

a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module1 (emissions units P464, P465, P466, P467, P468, P469) or Psand module 2 (emissions units P524, P527, P530, P533, P538) or Psand module 3 (emissions units P525, P528, P531, P534, P536, P539) or Psand module 4 (emissions units P526, P529, P532, P535, P537, P540), will be operated, whichever comes first. The permittee shall test a minimum of one module per year.

b. The emission testing shall be conducted to demonstrate compliance with the following emission limitations involving DMIPA as the catalyst:

i. 0.60 lb per ton of sand for VOC, for core making.

c. When the emission unit first utilizes SO_2 as the catalyst for purposes other than research and development, the permittee shall conduct testing within 60 days after the initial use of SO_2 to demonstrate compliance with the following emission limitations when utilizing SO_2 as the catalyst:

   i. 0.16 lb of SO_2 per ton of sand, for core making; and

   ii. The control efficiency for SO_2.

d. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

   i. for total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions.

   ii. for SO_2, Methods 1-4 and 6 of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 6 of 40 CFR Part 60, Appendix A for determining SO_2 mass emissions.

   Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO. The test method(s) which must be employed to demonstrate compliance with the control efficiencies are specified below.

e. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

f. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

g. During emission testing, the permittee shall also record the following information:

   i. the pH range for the scrubbing liquid;

   ii. the scrubber water flow rate, in gallons/minute; and

   iii. the catalyst and resin used to make the cores.

h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The maximum annual amount of sand processed for P526, P529, P532, P535, P537 and P540, combined, shall not exceed 114,696 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

0.60 lb of VOC per ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

0.10 lb of VOC per ton of sand (hopper and mixing)

Applicable Compliance Method:

The lb/ton emission limitation was established based on the Casting Emission Reduction Program (CERP) report #1409-123-EQ (Technikon), published 12/09/02, revised 5/06.

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitation:

0.20 lb of VOC per ton of sand (metal cleaning).

Applicable Compliance Method:

The lb/ton emission limitation was established based on the use of five 55 gallon drums of metal cleaner per month with a VOC content of 8.1 lbs per gallon with 85% captured by the scrubber [scrubber does not provide control during metal cleaning] and the use of 114,696 tons per year of sand. Compliance shall be demonstrated based on the record keeping requirements specified in d)(5).

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitations:

PM_{10} emissions shall not exceed 0.0182 lb/ton of sand (hopper and mixing)

PM_{10} emissions shall not exceed 0.028 lb/ton of sand (core making)

Applicable Compliance Method:

If required, compliance with the company-established emission factors shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

f. Emission Limitation:

VOC emissions from emission units P525, P528, P531, P534, P536 and P539, combined, shall not exceed 51.61 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by adding the VOC emissions from hopper and mixing, core making, and metal cleaning. VOC emission from hopper and mixing, core making, and metal cleaning were established by multiplying the respective VOC emission limitations of 0.10 lb/ton, 0.60 lb/ton, and 0.20 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitations and the annual sand throughput, compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g. Emission Limitation:

Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factors of 0.035 lb of VOC per ton of sand by the annual sand restriction of 114,696 tons, and then dividing by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

h. Emission Limitation:

PM_{10} emissions P526, P529, P532, P535, P537 and P540, combined, shall not exceed 2.67 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by adding the PM_{10} emissions from hopper/mixing, and core making. PM_{10} emissions from hopper/mixing, and core making were established by multiplying the respective PM_{10} emission limitations of 0.0182 lb/ton and 0.028 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore as long as compliance with the annual sand throughput restriction is demonstrated by the record keeping requirements specified in d)(1), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

i. Emission Limitation:

SO_2 emissions shall not exceed 9.18 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the lb/ton of sand emission limitation by the annual sand restriction of 114,696 tons, and then dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual sand throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

j. Emission Limitation:

SO_2 shall not exceed 0.16 lb/ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

k. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources" or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

99. Emissions Unit Group -PSand Mold Cooling: P472, P521, P522, P523,

EU ID	Operations, Property and/or Equipment Description
P472	Precision Sand Mod #1 Mold Cooling Line
P521	Precision Sand Mod #2 Mold Cooling Line
P522	Precision Sand Mod #3 Mold Cooling Line
P523	Precision Sand Mod #4 Mold Cooling Line

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)d., b)(1)e. and b)(2)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 0.25 pounds (lbs) per ton of aluminum and 3.35 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. Nitrogen oxides (NO_x) emissions shall not exceed 0.407 lb/ton of aluminum and 5.45 tpy, based upon a rolling 12-month summation of the monthly emissions. Sulfur dioxide (SO_2) emissions shall not exceed 0.001 lb/ton of aluminum and 0.013 tpy, based upon a rolling 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Particulate emissions (PE) shall not exceed 0.1 lb/ton of aluminum and 1.34 tpy, based upon a rolling, 12-month

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		summation of the monthly emissions. Particulate matter less than or equal to 10 microns in size (PM_{10}) shall not exceed 0.2 lb/ton of aluminum and 2.68 tpy, based upon a rolling 12-month summation of the monthly emissions. Visible PE shall not exceed 10% opacity, as a six-minute average. Carbon monoxide (CO) emissions shall not exceed 0.37 lb/ton of aluminum and 4.95 tpy, based upon a rolling 12-month summation of the monthly emission. See b)(2)b. and b)(2)e.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)c.
d.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)d.
e.	OAC rule 3745-114-01 ORC 3704.03(F)	See B.2 – Facility-Wide Terms and Conditions.
f.	40 CFR, Part 64 – Compliance Assurance Monitoring (CAM)	See d)(2) through d)(5) and e)(1).

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the permittee shall employ the following:

i. VOC emissions:

(a) A regenerative thermal oxidizer (RTO). The RTO shall meet a minimum control efficiency of 95% for VOC emissions.

ii. SO_2 and NO_x emissions:

(a) No control technologies are cost effective.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PE and PM_{10}. The PTE is being restricted such that emission increase for PE and PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 25 tpy (for PE)

and 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and an annual usage restriction:

i. PM_{10} emissions shall not exceed 0.20 lb per ton of aluminum and 2.68 tpy, based upon a rolling 12-month summation of the monthly emissions; and

ii. PE shall not exceed 0.1 lb/ton of aluminum and 1.34 tpy, based upon a rolling 12-month summation of the monthly emissions.

c. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by the U.S. EPA.

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

BAT requirements under OAC rule 374-31-05(A)(3)(a), as effective December 1, 2006, do not apply to VOC, SO_2, NO_x, CO, and PM_{10} emissions from this air contaminant source since the potential to emit for each is each less than ten tons per year taking into account the federally enforceable requirements established under OAC rule 3745-31-05(D). BAT requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, are not applicable to the particulate emissions emitted from this emissions unit. BAT is only applicable to emissions of an air contaminant or precursor of an air contaminant for which a national ambient air quality standard (NAAQS) has been adopted under the Clean Air Act. Particulate emissions (also referred to as total suspended particulate or particulate matter) is an air contaminant that does not involve an established NAAQS.

e. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size ($PM_{2.5}$) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of

demonstrating that PM_{10} is a reasonable surrogate for $PM_{2.5}$, all emissions of PM_{10} will be considered $PM_{2.5}$.

f. The permittee will be allowed a 180-day operational shakedown period during which VOC emissions from these emissions unit will not be required to meet the control requirements contained in b)(2)a. or the requirements contained in the following sections:

i. d)(3), d)(4) and e)(3).

During the shakedown period VOC emissions shall not exceed 25.4 lbs per day. The shakedown period begins on the day this emissions unit is operated under the provisions of this administrative modification and shall not exceed 180 days following the beginning of the shakedown period.

c) Operational Restrictions

(1) The maximum annual aluminum usage for these emissions units shall not exceed 26,762 tons, individually, based upon a rolling, 12-month summation of the monthly quantities of aluminum used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the aluminum usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1	2,680
1-2	5,360
1-3	8,040
1-4	10,720
1-5	13,400
1-6	16,080
1-7	18,760
1-8	21,440
1-9	24,120
1-10	25,013
1-11	25,907
1-12	26,762

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual aluminum usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of aluminum poured in emissions units F008, F009, F010, F011 and F012.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the baghouses at all times when these emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units, individually:

a. the amount of aluminum processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of aluminum processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of aluminum processed.

*The amount of aluminum processed through these emissions units is equivalent to the amount of aluminum poured in emissions units F008, F009, F010, F011 and F012. The monitoring and record keeping associated with the aluminum processed in emissions units F008, F009, F010, F011 and F012 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622 and 40 CFR, Part 64]

(3) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production

week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(5) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(6) The permittee shall properly install, operate, and maintain a continuous temperature monitors and recorder(s) that measure and record(s) the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation. The permittee shall record the combustion temperature on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual(s). The acceptable temperature setting shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted and the appropriate temperature range is established to demonstrate compliance. These records shall be maintained at the facility for a period of no less than three years.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(7) Whenever the monitored average combustion temperature within the thermal oxidizers deviate from the range/limit specified in 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/limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the temperature readings immediately after the corrective action was implemented; and

f. the name(s) of the personnel who performed the work.

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

The temperature range/limit 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 temperature range/limit based upon information obtained during future emission tests that demonstrate compliance with the allowable VOC emission rate for the controlled emissions unit(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative permit modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(8) The permittee shall maintain records documenting any time periods when these emissions units were in operation and the baghouses were not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(9) The permittee shall collect and record the following information each day during the shakedown period:

a. The amount of aluminum processed, in tons; and

b. The VOC emissions, in pounds per day, calculated by multiplying d)(6)a. by an emission factor of 5 lbs of VOC per ton of aluminum processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stacks serving these emissions units and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 64; PTI P0106622]

(2) The permittee shall submit deviation (excursion) reports that identify any time periods when these emissions units were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the thermal oxidizers during the operation of these emissions units:

a. Each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizers were outside of the range specified by the manufacturer and/or outside of the acceptable range following any required compliance demonstration;

b. Each period of time (start time and date, and end time and date) when the emissions units were in operation and the process emissions were not vented to the thermal oxidizers;

c. an identification of each incident of deviation described in “e)(3)a.” or “e)(3)b.” where prompt corrective action, that would bring the emissions units into compliance and/or the temperature within the thermal oxidizers into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in “e)(3)a.” or “e)(3)b.” where proper records were not maintained for the investigation and/or the corrective action(s).

If no deviations /excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum allowable cumulative aluminum usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month aluminum usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing of any daily record showing an exceedance of the 25.4 lbs VOC/day emission limitation required during the operational shakedown period. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days after the exceedance occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(6) 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.

[Authority for term: OAC rule 3745-15-0(A); PTI P0106622]

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modules in accordance with the following requirements:

a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module1 (emissions units P472), Psand module 2 (emissions units P521), Psand module 3 (emissions units P522) or Psand module 4 (emissions units P523), will be operated, whichever comes first. The permittee shall test a minimum of one module per year.

b. The emission testing shall be conducted to demonstrate compliance with the following:

i. for VOC - 0.25 lb/ton of aluminum;

ii. for NO_x – 0.407 lb/ton of aluminum;

iii. for CO – 0.37 lb/ton of aluminum;

iv. compliance with the control efficiency limitation for VOCs from the RTO controlling this emissions unit.

c. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

i. for total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions;

ii. for NO_x, Methods 1-4 and 7 of 40 CFR Part 60, Appendix A; and

iii. for CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO. The test method(s) which must be employed to demonstrate compliance with the control efficiencies are specified below.

d. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for VOC emissions .

e. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases."

f. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

g. During emission testing, the permittee shall also record the average combustion temperature within the thermal incinerator, in degrees Fahrenheit.

h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) Compliance with the emissions limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The maximum annual amount of aluminum processed shall not exceed 26,762 tons 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(2).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

VOC emissions shall not exceed 0.25 lb/ton of aluminum and 3.35 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

Compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton.

Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

PE shall not exceed 0.10 lb/ton of aluminum and 1.34 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the 0.10 lb PE/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual sand throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitations:

Filterable PM_{10} shall not exceed 0.20 lb/ton of aluminum and 2.68 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 201/201A of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the 0.20 lb filterable PM_{10}/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation will be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitations:

SO_2 emissions shall not exceed 0.001 lb/ton of aluminum and 0.013 tpy, based on a rolling 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director. The lb/ton was established based on the AP42 emission factor of 0.60 lb/mmscf and the maximum burner rate of 13.5 mmBtu/hr.

The annual emission limitation was established by multiplying the 0.001 lb SO_2/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore, as long as compliance with the annual aluminum throughput restriction is demonstrated by the record keeping requirements specified in d)(1), compliance with the annual limitation will be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

f. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources" or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g. Emission Limitations:

NO_x shall not exceed 0.407 lb/ton of aluminum and 5.45 tpy, based on a rolling, 12-month summation of the monthly emissionsfrom each emissions unit individually.

Applicable Compliance Method:

Compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the 0.407 lb NO_x/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

h. Emission Limitations:

CO shall not exceed 0.37 lb/ton of aluminum and 4.95 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

Compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-4 and 10 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the 0.37 lb CO/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period, and then dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

i. Emission Limitation:

The regenerative thermal oxidizer shall meet a minimum control efficiency of 95% for VOC emissions.

Applicable Compliance Method:

Compliance with the control efficiency requirements above shall be demonstrated based on the results of emission testing conducted in accordance with the methods outlined in f)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

j. Emission Limitation:

VOC emissions during the operational shakedown period shall not exceed 25.4 lbs per day from each emissions unit individually.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

100. Emissions Unit Group -PSand Mold Fill: F008, F010, F011, F012,

EU ID	Operations, Property and/or Equipment Description
F008	Precision Sand Mod #1 Mold Fill Pouring Station
F010	Precision Sand Mod #2 Mold Fill Pouring Station
F011	Precision Sand Mod #3 Mold Fill Pouring Station
F012	Precision Sand Mod #4 Mold Fill Pouring Station

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)f and b)(2)e.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 1.34 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Particulate emissions (PE) shall not exceed 0.13 tpy, based upon a rolling, 12-month summation of the monthly emissions. Particulate matter less than or equal to 10 microns in size (PM_{10}) shall not exceed 0.25 tpy, based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b. and b)(2)f.
c.	OAC rule 3745-17-08(B)(3)	See b)(2)c.
d.	OAC rule 3745-17-07(B)	Visible PE shall not exceed 20% opacity as a three-minute average, except as provided by rule.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-31-05(A)(3),as effective 11/30/01	See b)(2)d.
f.	OAC rule 3745-31-05(A)(3) , as effective 12/01/06	See b)(2)e.

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that no control technologies VOC were cost effective.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PE and PM_{10}. The PTE is being restricted such that emission increase for PE and PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 25 tpy (for PE) and 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

c. The permittee shall utilize reasonable available control measures (RACM) that are sufficient to minimize or eliminate visible emissions of fugitive dust. In accordance with the permittee's permit application, the permittee has committed to perform the following control measure to ensure compliance:

i. Building enclosure.

Nothing in this paragraph shall prohibit the permittee from employing other equally-effective control measures to ensure compliance.

d. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by the U.S. EPA.

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

BAT requirements under OAC rule 374-31-05(A)(3)(a), as effective December 1, 2006, do not apply to VOC, PE and PM_{10} emissions from this air contaminant source since the potential to emit for each is less than ten tons per year taking into account the federally enforceable requirements established under OAC rule 3745-31-05(D).

f. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size ($PM_{2.5}$) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for $PM_{2.5}$, all emissions of PM_{10} will be considered $PM_{2.5}$.

c) Operational Restrictions

(1) The maximum annual aluminum usage for these emissions units, individually, shall not exceed 26,762 tons, based upon a rolling, 12-month summation of the monthly quantities of aluminum used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the aluminum usage levels specified in the following table for emissions units F008, F010, F011 and F012, individually:

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1	2,680
1-2	5,360
1-3	8,040
1-4	10,720
1-5	13,400
1-6	16,080
1-7	18,760
1-8	21,440
1-9	24,120
1-10	25,013
1-11	25,907
1-12	26,762

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual aluminum usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of aluminum poured in emissions units F008, F010, F011 and F012, individually.

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units F008, F010, F011 and F012, individually:

a. the amount of aluminum processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of aluminum processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of aluminum processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) of the building containing these emissions units. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that identify:

a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) of the building containing these emissions units; and

b. any corrective actions taken to minimize or eliminate the visible emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum allowable cumulative aluminum usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month aluminum usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A); PTI P0106622]

f) Testing Requirements

(1) Compliance with the emissions limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. <u>Emission Limitation:</u>

The maximum annual amount of aluminum processed shall not exceed 26,762 tons 12-month period.

<u>Applicable Compliance Method:</u>

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. <u>Emission Limitation:</u>

VOC emissions shall not exceed 1.34 tpy, based upon a rolling, 12 month summation of the monthly emissions, for emissions units F008, F010, F011 and F012, individually.

<u>Applicable Compliance Method:</u>

The emission limitation was established by multiplying the company-supplied emission factor of 0.10 pounds per ton (lbs/ton) of aluminum by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. If required, testing to verify the accuracy of the emission factor shall be demonstrated based

on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitation:

PE shall not exceed 0.13 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factor of 0.0097 lb/ton of aluminum by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. If required, testing to verify the accuracy of the emission factor shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitation:

Filterable PM_{10} shall not exceed 0.25 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factor of 0.019 lb/ton of aluminum by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. If required, testing to verify the accuracy of the emission factor shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitation:

Visible PE from the egress points of the building containing this emissions unit shall not exceed 20% opacity, as a three-minute average.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources" or as such Appendix existed on July 1, 2002, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC

rule 3745-17-03. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

101. Emissions Unit Group -PSand Mold Shakeout: P473, P518, P519, P520,

EU ID	Operations, Property and/or Equipment Description
P473	Precision Sand Mod #1 Mold Shakeout with Duct Burner
P518	Precision Sand Mod #2 Mold Shakeout with Duct Burner
P519	Precision Sand Mod #3 Mold Shakeout with Duct Burner
P520	Precision Sand Mod #4 Mold Shakeout with Duct Burner

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)d. and b)(2)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	<u>For each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 0.95 pounds (lbs) per ton of aluminum and 12.71 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. Nitrogen oxide (NO_x) emissions shall not exceed 0.63 lb/ton of aluminum and 8.43 tpy, based upon a rolling 12-month summation of the monthly emissions. Sulfur dioxide (SO_2) emissions shall not exceed 0.002 lb/ton of aluminum and 0.030 tpy, based upon a rolling 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	<u>For each emissions unit individually:</u> Carbon monoxide (CO) emissions shall not exceed 0.57 lb/ton of aluminum and 7.63 tpy, based upon a rolling, 12-month

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		summation of the monthly emissions. Particulate emissions (PE) shall not exceed 0.17 lb/ton of aluminum and 2.27 tpy, based upon a rolling, 12-month summation of the monthly emissions. Particulate matter emissions less than or equal to 10 microns in size (PM_{10}) shall not exceed 0.35 lb/ton of aluminum and 4.68 tpy, based upon a rolling, 12-month summation of the monthly emissions. Visible PE shall not exceed 10% opacity, as a six-minute average. See b)(2)b. and b)(2)e.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)c.
d.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)d.
e.	OAC rule 3745-17-11(B) OAC rule 3745-17-07(A)	The emission limitations specified by these rules are less stringent than the emission limitations specified by OAC rule 3745-31-05(D).
f.	OAC rule 3745-18-06	These emissions units are exempt from the requirements of OAC rule 3745-18-06 pursuant to OAC rule 3745-18-06(A).
g.	40 CFR, Part 64 – Compliance Assurance Monitoring (CAM)	See d)(2) through d)(5) and e)(1).

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that the permittee shall employ the following:

i. VOC emissions:

(a) A regenerative thermal oxidizer (RTO). The RTO shall meet a minimum control efficiency of 95% for VOC emissions.

ii. SO_2 and NO_x emissions:

(a) No control technologies are cost effective.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PE and PM_{10}. The PTE is being restricted such that emission increase for PE and PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 25 tpy (for PE) and 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

   i. PM_{10} emissions shall not exceed 0.35 lb/ton of aluminum and 4.68 tpy, based upon a rolling, 12-month summation of the monthly emissions; and

   ii. PE shall not exceed 0.17 lb/ton of aluminum and 2.27 tpy, based upon a rolling, 12-month summation of the monthly emissions.

c. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

   On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

   It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by the U.S. EPA.

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

   BAT requirements under OAC rule 374-31-05(A)(3)(a), as effective December 1, 2006, do not apply to SO_2, NO_x, CO, PE and PM_{10} emissions from this air contaminant source since the potential to emit for each is less than ten tons per year taking into account the federally enforceable requirements established under OAC rule 3745-31-05(D).

e. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size ($PM_{2.5}$) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for $PM_{2.5}$, all emissions of PM_{10} will be considered $PM_{2.5}$.

f. The permittee will be allowed a 180-day operational shakedown period during which VOC emissions from this emissions unit will not be required to meet the control requirements contained in b)(2)a. or the requirements contained in the following sections:

i. d)(3), d)(4) and e)(3).

During the shakedown period VOC emissions shall not exceed 96 lbs per day. The shakedown period begins on the day this emissions unit is operated under the provisions of this administrative modification and shall not exceed 180 days following the beginning of the shakedown period.

c) Operational Restrictions

(1) The maximum annual aluminum usage for this emissions unit shall not exceed 26,762 tons, based upon a rolling, 12-month summation of the monthly quantities of aluminum used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the aluminum usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1	2,680
1-2	5,360
1-3	8,040
1-4	10,720
1-5	13,400
1-6	16,080
1-7	18,760
1-8	21,440
1-9	24,120
1-10	25,013
1-11	25,907
1-12	26,762

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual aluminum usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of aluminum poured in emissions units F008, F009, F010, F011 and F012.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the bag houses at all times when these emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units, individually:

a. the amount of aluminum processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of aluminum processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of aluminum processed.

*The amount of aluminum processed through this emissions unit is equivalent to the amount of aluminum poured in emissions units F008, F009, F010, F011 and F012. The monitoring and record keeping associated with the aluminum processed in emissions units F008, F009, F010, F011 and F012 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622 and 40 CFR, Part 64]

(3) The permittee shall perform a visible emissions check of the facility roof line each day from the <u>ground-level</u>, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(5) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(6) The permittee shall properly install, operate, and maintain a continuous temperature monitors and recorder(s) that measure and record(s) the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation. The permittee shall record the combustion temperature on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual(s). The acceptable temperature setting shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted and the appropriate temperature range is established to demonstrate compliance. These records shall be maintained at the facility for a period of no less than three years.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(7) The permittee shall properly install, operate, and maintain a continuous temperature monitors and recorder(s) that measure and record(s) the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation. The permittee shall record the combustion temperature on a continuous basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual(s). The acceptable temperature setting shall be based upon the manufacturer's specifications until such time as any required emission testing is conducted and the appropriate temperature range is established to demonstrate compliance. These records shall be maintained at the facility for a period of no less than three years.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(8) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range/limit specified in 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/limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the temperature readings immediately after the corrective action was implemented; and

f. the name(s) of the personnel who performed the work.

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

The temperature range/limit 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 temperature range/limit based upon information obtained during future emission tests that demonstrate compliance with the allowable VOC emission rate for the controlled emissions unit(s). In addition, approved revisions to the temperature range/limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative permit modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(9) The permittee shall maintain records documenting any time periods when the emissions unit was in operation and the baghouse was not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stack(s) serving this emissions unit and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); 40 CFR Part 64; PTI P0106622]

(2) The permittee shall submit deviation (excursion) reports that identify any time periods when the emissions unit was in operation and the baghouse was not operating. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the thermal oxidizer during the operation of this emissions unit(s):

a. Each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal; oxidizer was outside of the range specified by the manufacturer and/or outside of the acceptable range following any required compliance demonstration;

b. Each 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 thermal oxidizer;

c. an identification of each incident of deviation described in “a.” or “b.” where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in “a.” or “b.” where proper records were not maintained for the investigation and/or the corrective action(s).

If no deviations /excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of this permit, the maximum allowable monthly cumulative aluminum usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month aluminum usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) 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.

[Authority for term: OAC rule 3745-715-03(A); PTI P0106622]

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modules in accordance with the following requirements:

a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module1 (emissions units P473), Psand module 2 (emissions units P518), Psand module 3 (emissions units P519) or Psand module 4 (emissions units P520), will be operated, whichever comes first.

b. The emission testing shall be conducted to demonstrate compliance with the following:

i. for VOC - 0.95 lb/ton of aluminum;

ii. for NO_x – 0.63 lb/ton of aluminum;

iii. for CO – 0.57 lb/ton of aluminum; and

iv. compliance with the VOC control efficiency from the RTO controlling this emissions unit.

c. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

i. for total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions;

ii. for NO_x, Methods 1-4 and 7 of 40 CFR Part 60, Appendix A; and

iii. for CO, Methods 1-4 and 10 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO. The test method(s) which must be employed to demonstrate compliance with the control efficiencies are specified below.

d. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for VOC emissions .

e. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases."

f. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

g. During emission testing, the permittee shall also record the average combustion temperature within the thermal incinerator, in degrees Fahrenheit.

h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) Compliance with the emissions limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The maximum annual amount of aluminum processed shall not exceed 26,762 tons 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

VOC emissions shall not exceed 0.95 lb/ton of aluminum and 12.71 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

Compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation will be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

PE shall not exceed 0.17 lb/ton of aluminum and 2.27 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation will be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitations:

PM_{10} shall not exceed 0.35 lb/ton of aluminum and 4.68 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation will be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitations:

SO_2 emissions shall not exceed 0.002 lb/ton of aluminum and 0.030 tpy, based on a rolling 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director. The lb/ton was established based on the AP42 emission factor of 0.6 lb/mmscf and the maximum burner rate of 21.5 mmBtu/hr.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation will be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

f. Emission Limitations:

NO_x emissions shall not exceed 0.63 lb/ton of aluminum and 8.43 tpy, based on a rolling 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

Compliance with the lb/ton of aluminum emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation will be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g. Emission Limitations:

CO emissions shall not exceed 0.57 lb/ton of aluminum and 7.63 tpy, based on a rolling 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

Compliance with the lb/ton emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 10 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation will be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

h. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of

Performance for New Stationary Sources" or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

i. Emission Limitation:

The regenerative thermal oxidizer shall meet a minimum control efficiency of 95% for VOC emissions.

Applicable Compliance Method:

Compliance with the control efficiency requirements above shall be demonstrated based on the results of emission testing conducted in accordance with the methods outlined in f)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

102. Emissions Unit Group -PSand Receiving/Storage: P906, P907, P908, P909,

EU ID	Operations, Property and/or Equipment Description
P906	Precision Sand Mod #1 Receiving and Storage
P907	Precision Sand Mod #2 Receiving and Storage
P908	Precision Sand Mod #3 Receiving and Storage
P909	Precision Sand Mod #4 Receiving and Storage

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)f. and b)(2)e.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-17-07(B)	Visible fugitive particulate emissions (PE) shall not exceed 20% opacity, as a three-minute average, except as provided by rule.
b.	OAC rule 3745-17-08(B)(3)	The permittee shall utilize reasonable available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust. See b)(2)a.
c.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	<u>Stack emissions from each emissions unit individually:</u> Particulate matter less than or equal to 10 microns in size (PM_{10}) shall not exceed 3.43 tons per year (tpy) based upon a rolling, 12-month summation of the monthly emissions. <u>250-ton storage sand silo (Stack no. 2)</u> PM_{10} emissions shall not exceed 0.0455 pound (lb) per ton of sand processed, from each emissions unit individually. <u>2,70-ton sand storage bins (Stack no. 3)</u>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		PM_{10} emissions shall not exceed 0.0145 lb/ton of sand processed, from each emissions unit individually. Fugitive PM_{10} emissions shall not exceed 0.50 tpy, based upon a rolling 12-month summation of the monthly emissions. Visible PE from the stacks serving these emissions units shall not exceed 10% opacity, as a six-minute average. See b)(2)b. b)(2)c. and b)(2)f.
d.	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B)	The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(D).
e.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d.
f.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)e.
g.	40 CFR Part 64 – Compliance Assurance Monitoring (CAM)	See d)(2) through d)(5) and e)(2).

(2) Additional Terms and Conditions

a. Each emissions units includes the following material handling operations:

i. one exterior receiving hopper (exhausted to stack 2);

ii. one intermediate storage bin (exhausted to stack 3); and

iii. two storage bins (exhausted to stack 3).

These emissions units are partially abated with two dust collectors and the receiving station (fugitive emissions) are shared by emissions units P906, P907, P908 and P909.

b. All emissions of particulate matter are PM_{10}.

c. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PM_{10}. The PTE is being restricted such that emission increase for PM_{10} allowed for in permit action P0106622 will be below the Prevention of Significant Deterioration (PSD) “significant threshold” applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions

contained in c)(1) and c)(2), which require control equipment and process control:

i. Stack PM_{10} emissions shall not exceed 3.43 tons per year (tpy) based upon a rolling, 12-month summation of the monthly emissions.

d. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by the U.S. EPA.

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

BAT requirements under OAC rule 374-31-05(A)(3)(a), as effective December 1, 2006, do not apply to PM_{10} emissions from this air contaminant source since the potential to emit is less than ten tons per year taking into account the federally enforceable requirements established under OAC rule 3745-31-05(D).

f. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size ($PM_{2.5}$) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for $PM_{2.5}$, all emissions of PM_{10} will be considered $PM_{2.5}$.

c) Operational Restrictions

(1) The maximum annual sand usage for these emissions unit shall not exceed 114,696 tons, based upon a rolling, 12-month summation of the monthly quantities of sand used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the sand usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	114,696

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual sand usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of sand processed.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the baghouses at all times when these emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units, individually:

a. the amount of sand processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of and processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of sand processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when this emissions units is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(5) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(6) The permittee shall maintain records documenting any time periods when these emissions units were in operation and the baghouses were not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum allowable cumulative sand usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month sand usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stacks serving these emissions units and (b) describe the root cause and corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622; 40 CFR Part 64]

(3) The permittee shall submit deviation (excursion) reports that identify any time periods when these emissions units were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) of the terms and conditions of this permit shall be determined in accordance with the following method(s):

a. <u>Emission Limitation:</u>

The maximum annual sand usage shall not exceed 114,696 tons per rolling, 12-month period.

<u>Applicable Compliance Method:</u>

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

Stack PM_{10} emissions shall not exceed 0.0455 lb/ton of sand received from stack 2, 0.0145 lb/ton of sand received from stack 3, and 3.43 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitations shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative or equivalent methods can be used with the approval of the director.

The annual limitation was established by multiplying the company-supplied emission factors of 0.0455 and 0.0145 lbs of PM_{10} per ton of sand by the annual sand received of 114,696 tons. Compliance will be demonstrated provided compliance is shown with the annual sand received restriction and the emission factors of 0.0455 and 0.0145 lbs/ton of sand.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

Fugitive PM_{10} emissions shall not exceed 0.50 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factor of 0.0087 lb/ton of sand by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton. If required, testing to verify the accuracy of the emission factor shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitation:

Visible PE from the baghouse stack(s) shall not exceed 10% opacity

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitation:

Visible fugitive PE shall not exceed 20% opacity, as a three-minute average, except as provided by rule, from the unloading operation at the sand receiving station.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 2002, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

103. Emissions Unit Group -PSand Stack Melters: P544, P545,

EU ID	Operations, Property and/or Equipment Description
P544	Precision Sand Mod #3 Stack Melter #1
P545	Precision Sand Mod #4 Stack Melter #2

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)f. and b)(2)e.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 0.023 pound per ton of aluminum and 0.31 tons per year (tpy), based upon a rolling 12-month summation of the monthly emissions. Nitrogen oxides (NO_x) emissions shall not exceed 0.430 lb/ton of aluminum and 5.75 tpy, based upon a rolling 12-month summation of the monthly emissions. Sulfur dioxide (SO_2) emissions shall not exceed 0.003 lb per ton of aluminum and 0.04 tpy, based upon a rolling 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Particulate matter less than or equal to 10 microns in size (PM_{10}) shall not exceed 17.96 pounds (lbs) per day and 3.27 tpy (melting, fluxing and drossing). Carbon monoxide (CO) emissions shall

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		not exceed 0.361 lb/ton of aluminum and 4.83 tpy, based upon a rolling 12-month summation of the monthly emissions. See b)(2)b., b)(2)c. and b)(2)f.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% opacity, as a six-minute average.
d.	OAC rule 3745-17-11(B) OAC rule 3745-18-06(E)	The emission limitations specified by these rules are less stringent than the emission limitations established by OAC rule 3745-31-05(D).
e.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d.
f.	OAC rule 3745-31-05(A)(A)(3), as effective 12/01/06	See b)(2)e.

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control technology" (BACT), it has been determined that no control technologies for VOC, NO_x and SO_2 were cost effective.

b. All emissions of PE are PM_{10}.

c. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting the potential to emit (PTE) for PM_{10}. The PTE is being restricted such that emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1), which requires control equipment:

i. PM_{10} emissions shall not exceed 17.96 lbs/day and 3.27 tpy.

d. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves

the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the PM_{10} emissions from this air contaminant source since the potential to emit is less than ten tons per year, taking into account the use of a baghouse.

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the SO_2, VOC and NO_x emissions from this air contaminant source since the uncontrolled potential to emit for each is less than ten tons per year.

f. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

c) Operational Restrictions

(1) The permittee shall operate the baghouse at all times when this emissions unit is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The maximum annual aluminum melted in these emissions units, individually, shall not exceed 26,762 tons, based upon a rolling, 12-month summation of the monthly quantities of aluminum melted.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the aluminum usage levels specified in the following table for these emissions units, individually:

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1	2,680
1-2	5,360
1-3	8,040
1-4	10,720
1-5	13,400

Month(s)	Maximum Allowable Cumulative Aluminum Usage (tons)
1-6	16,080
1-7	18,760
1-8	21,440
1-9	24,120
1-10	25,013
1-11	25,907
1-12	26,762

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual aluminum usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of aluminum melted in these emissions units, individually.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units individually:

a. the amount of aluminum processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of aluminum processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of aluminum processed.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall perform weekly* checks when these emissions units are in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall maintain records documenting any time periods when these emissions unit were in operation and the baghouses were not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following, for these emissions units individually:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum allowable cumulative aluminum usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month aluminum usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stacks serving these emissions units and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit deviation (excursion) reports that identify any time periods when these emissions units were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) of the terms and conditions of this permit shall be determined in accordance with the following method(s):

a. <u>Emission Limitation:</u>

The amount of aluminum poured shall not exceed 26,762 tons per rolling, 12-month period for these emissions units, individually.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

VOC emissions shall not exceed 0.023 lb/ton of aluminum and 0.31 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with approval of the director. The lb/ton was established based on the AP42 emission factor of 5.5 lb/mmscf and the maximum burner rate of 13.125 mmBtu/hr.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period and dividing by 2000 lbs/ton. Therefore, as long as compliance with the lb/ton emission limitation and the annual aluminum throughput restriction is demonstrated, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

SO_2 emissions shall not exceed 0.003 lb/ton of aluminum and 0.04 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with approval of the director. The lb/ton was established based on AP42 emission factor of 0.6 lb/mmscf and the maximum burner rate of 13.125 mmBtu/hr.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period and dividing by 2000 lbs/ton. Therefore, as long as compliance with the lb/ton emission limitation and the annual

aluminum throughput restriction is demonstrated, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitations:

PM_{10} shall not exceed 17.96 lbs/day and 3.27 tpy, based on a rolling, 12-month summation of the daily emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/day emission limitation shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202, 40 CFR Part 51, Appendix M to verify the emission rates for melting (0.58 lb/hr), fluxing (1.545 lb/hr) and drossing (3.655 lb/hr). The lb/day represents the potential to emit for this emissions unit based on the additive maximum lb/hr of the following operations and the maximum duration of the operation: melting (0.58 lb PM_{10}/hr, 22 hours per day), fluxing (1.545 lbs/hr, 1 hour per day), drossing (3.655 lbs PM_{10}/day, 1 hour per day).

The tpy emission limitation was developed by multiplying the pound per day limitation by the maximum operating schedule of 365 days per year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the daily limitation, compliance shall also be demonstrated with the annual limitation.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitation:

Visible PE from the bag house stacks shall not exceed 10% opacity.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

f. Emission Limitations:

NO_x emissions shall not exceed 0.430 lb/ton of aluminum and 5.75 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-4 and 7 of 40 CFR Part 60, Appendix A or as amended. Alternative

or equivalent methods can be used with the approval of the director. The lb/ton was established based on AP42 emission factor of 100 lb/mmscf and the maximum burner rate of 13.125 mmBtu/hr.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g. Emission Limitations:

CO shall not exceed 0.361 lb/ton of aluminum and 4.83 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

If required, compliance with the lb/ton emission limitation shall be demonstrated based on the results of the emission testing conducted in accordance with Methods 1-4 and 10 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director. The lb/ton was established based on AP42 emission factor of 84 lb/mmscf and the maximum burner rate of 13.125 mmBtu/hr.

The annual emission limitation was established by multiplying the lb/ton of aluminum emission limitation by the annual aluminum throughput restriction of 26,762 tons per rolling, 12-month period and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual aluminum throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

104. Emissions Unit Group -PSand Storage/Assembly: P801, P802, P803, P804,

EU ID	Operations, Property and/or Equipment Description
P801	Precision Sand Mod #1 Core Storage and Assembly Area
P802	Precision Sand Mod #2 Core Storage and Assembly Area
P803	Precision Sand Mod #3 Core Storage and Assembly Area
P804	Precision Sand Mod #4 Core Storage and Assembly Area

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)d., b)(1)e. and b)(2)c.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 37.51 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. Sulfur dioxide (SO_2) emissions shall not exceed 3.27 tpy, based upon a rolling, 12-month summation of the monthly emissions. See b)(2)a.
b.	OAC rule 3745-18-06(E)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)b.
d.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)c.
e.	OAC rule 3745-114-01 ORC 3704.03(F)	See B.2 – Facility-Wide Terms and Conditions.

(2) Additional Terms and Conditions

a. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that no control technologies for VOC and SO_2 are cost effective.

b. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the SO_2 emissions from this air contaminant source taking into account the federally enforceable restriction on the amount of sand processed.

c) Operational Restrictions

(1) The maximum annual sand usage for these emissions units, individually, shall not exceed 114,696 tons, based upon a rolling, 12-month summation of the monthly quantities of sand used.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the sand usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	114,696

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual sand usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of sand processed.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for these emissions units, individually:

a. the amount of sand processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of and processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the rolling, 12-month summation of the monthly amount of sand processed.

*The amount of sand processed through this emissions unit is equivalent to the amount of sand received in emissions units P906, P907, P908 and P909. The monitoring and record keeping associated with the sand processed in emissions unit P906, P907, P908 and P909 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the maximum monthly allowable cumulative sand usage restriction; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month sand usage restriction.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations specified in b)(1) of the terms and conditions of this permit shall be determined in accordance with the following method(s):

a. Emission Limitation:

The maximum annual sand usage shall not exceed 114,696 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

VOC emissions shall not exceed 37.51 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the company-supplied emission factor of 0.654 lb of VOC/ton of sand emission limitation by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton.

If required, the permittee shall demonstrate compliance with the VOC emission factor by testing conducted in accordance with Methods 1-4, 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

SO_2 emissions shall not exceed 3.27 tpy, based on a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the company-supplied emission factor of 0.057 lb of SO_2 per ton of sand by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton.

If required, the permittee shall demonstrate compliance with the SO_2 emission factor by testing conducted in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

105. Emissions Unit Group -PSand Waste Sand Load-Out: F007, F013,

EU ID	Operations, Property and/or Equipment Description
F007	Precision Sand Mod #1 & #2 Waste Sand Load-out
F013	Precision Sand Mod #3 & #4 Waste Sand Load-out

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)f. and b)(2)g.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	Volatile organic compound (VOC) emissions shall not exceed 8.0 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually. See b)(2)a. and b)(2)b.
b.	OAC rule 3745-17-08(B)(3)	See b)(2)c.
c.	OAC rule 3745-17-07(B)	Visible particulate emissions (PE) shall not exceed 20% opacity, as a three-minute average.
d.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	<u>From each emissions unit individually:</u> Particulate matter less than or equal to 10 microns in size (PM_{10}) shall not exceed 1.40 tpy based upon a rolling, 12-month summation of the monthly emissions. PE shall not exceed 2.80 tpy based upon a rolling, 12-month summation of the monthly emissions. See b)(2)d. and b)(2)e.
e.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)f.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
f.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)g.

(2) Additional Terms and Conditions

a. This emissions unit includes the following material handling operations:

i. waste sand loading from attrition mill to hopper; and

ii. waste sand loading from hopper to truck.

b. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), it has been determined that no control technologies for VOC were cost effective.

c. The permittee shall utilize reasonable available control measures (RACM) that are sufficient to minimize or eliminate visible emissions of fugitive dust. In accordance with the permittee's permit application, the permittee has committed to perform the following control measure(s) to ensure compliance:

i. building enclosure; and

ii. minimizing the drop height between material transfer points .

Nothing in this paragraph shall prohibit the permittee from employing other equally-effective control measures to ensure compliance.

For the other emission points associated with this emissions unit, the permittee maintains that the inherent nature of the operation and material involved is such that compliance with all applicable requirements will be obtained without additional control measures. If at any time the inherent nature of the operation and material involved is not sufficient to meet the above applicable requirements, the permittee shall employ RACM to ensure compliance.

d. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

e. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PE and PM_{10}. The PTE is being restricted such that the emission increase for PE and PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 25 tpy (for PE) and 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and RACM required in b)(2)c.:

i. PM_{10} emissions shall not exceed 1.40 tpy based upon a rolling, 12-month summation of the monthly emissions; and

ii. PE shall not exceed 2.80 tpy based upon a rolling, 12-month summation of the monthly emissions.

f. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by the U.S. EPA.

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

BAT requirements under OAC rule 374-31-05(A)(3)(a), as effective December 1, 2006, do not apply to VOC, PE and PM_{10} emissions from this air contaminant source since the potential to emit for each is less than ten tons per year taking into account the federally enforceable requirements established under OAC rule 3745-31-05(D).

c) Operational Restrictions

(1) The maximum annual sand processed in these emissions units, individually, shall not exceed 114,696 tons, based upon a rolling, 12-month summation of the monthly sand processed.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the sand processing levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	114,696

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual sand restriction shall be based upon a rolling, 12-month summation of the monthly sand processed.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Recordkeeping Requirements

(2) The permittee shall collect and record the following information each information month for these emissions units:

a. the quantity of sand processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the cumulative quantity of sand processed, in tons; and

c. after the first 12 months operation following the issuance of PTI P0106622, the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly sand processed.

*The amount of sand processed through these emissions unit are equivalent to the amount of sand received in emissions units P906, P907, P908 and P909. The monitoring and record keeping associated with the sand received in emissions units P906, P907, P908 and P909 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall perform weekly* checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the egress observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the restriction on the maximum allowable cumulative quantity of sand processed; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month restriction on the quantity of sand processed.

These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous six-month periods.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) 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.

[Authority for term: OAC rule 3745-15-03(A); PTI P0106622]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The maximum annual amount of sand processed shall not exceed 114,696 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

VOC emissions shall not exceed 8.0 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

The annual emission limitation was established by multiplying a company-supplied emission factor of 0.035 lb VOC/ton, for both sand lead-out and landfill transport, by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period, by 2 (each load out serves two lines) and dividing by 2000 lbs/ton.

If required, the permittee shall demonstrate compliance with the VOC emission factor by testing in accordance with USEPA Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitation:

PM_{10} emissions shall not exceed 1.40 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the company-supplied emission factor of 0.0043 lb PE/ton (based on AP42, Table 11.19.1-1, 11-95), by 4 (sand handling, transfer and storage to the sand load-out station and to the landfill), by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period, applying 30% control for the building enclosure, by 2 (each load out serves two lines) and dividing by 2000 lbs/ton.

If required, the permittee shall demonstrate compliance with the filterable PM_{10} emission factor by testing conducted in accordance with USEPA Method 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitation:

PE emissions shall not exceed 2.80 tpy, based upon a rolling, 12-month summation of the monthly emissions from each emissions unit individually.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the company-supplied emission factor of 0.0087 lb PE/ton (based on AP42, Table 11.19.1-1, 11-95), by 4 (sand handling, transfer and storage to the sand load-out station and to the landfill), by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period, applying 30% control for the building enclosure, by 2 (each load out serves two lines) and dividing by 2000 lbs/ton.

If required, the permittee shall demonstrate compliance with the PE emission factor by testing in accordance with USEPA Methods 1-5 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a three-minute average.

Applicable Compliance Method:

If required, compliance shall be demonstrated using Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60, Appendix A (Standards of Performance for New Stationary Sources) as such Appendix existed on July 1, 2002, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03 or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

106. Emissions Unit Group -PSand Mod#2 Core Machines: P524, P527, P530, P533, P538,

EU ID	Operations, Property and/or Equipment Description
P524	Precision Sand Mod #2 Core Machine #1
P527	Precision Sand Mod #2 Core Machine #2
P530	Precision Sand Mod #2 Core Machine #3
P533	Precision Sand Mod #2 Core Machine #4
P538	Precision Sand Mod #2 Core Machine #5

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., and b)(2)e.

b) Applicable Emissions Limitations and/or Control Requirements

(6) The specific operations(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. 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 3745-31-10 through 20 (PTI P0106622 issued December 20, 2010)	Volatile organic compound emissions (VOC) from emissions units P524, P527, P530, P533 and P538, combined, shall not exceed 51.61 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. <u>Receiving hopper and sand mixer (Stacks PSand3-2 and PSand4-2)</u> VOC emissions shall not exceed 0.10 pound per ton of sand processed. <u>Core making (Stack PSandScr2)</u> VOC emissions shall not exceed 0.60 pound per ton of sand processed. <u>Maintenance (metal cleaning of core machine - Stack PSandScr2):</u> VOC emissions shall not exceed 0.20 pound per ton of sand processed. Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month summation of the monthly emissions.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Sulfur dioxide (SO_2) emissions from emissions unit P524, P527, P530, P533 and P538, combined, shall not exceed 9.18 tpy, based upon a rolling, 12-month summation of the monthly emissions. <u>Core making (Stack PSandScr2)</u> SO_2 emissions shall not exceed 0.16 pound per ton of sand processed. See b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI P0106622 issued December 20, 2010)	Particulate matter less than or equal to 10 microns in size (PM_{10}) from emission units P524, P527, P530, P533 and P538, combined, shall not exceed 2.67 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions. <u>Receiving hopper and sand mixer (Stacks PSand3-2 and PSand4-2)</u> PM_{10} shall not exceed 0.0182 lb/ton of sand processed. <u>Core making (Stack PSandScr2)</u> PM_{10} shall not exceed 0.028 lb/ton of sand processed. Visible PE from the stacks serving this emissions unit shall not exceed 10% opacity, as a six-minute average. See b)(2)b. b)(2)c. and b)(2)f.
c.	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B) OAC rule 3745-18-06(E)	The emission limitations specified by these rules are less stringent than the emissions limitations established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d.
e.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)e.
f.	OAC rule 3745-114-01 ORC 3704.03(F)	See B.2 – Facility-Wide Terms and Conditions.

(7) Additional Terms and Conditions

a. The permittee shall employ best available control technology (BACT) on this emissions unit for VOC and SO_2. BACT has been determined to be the use of the following:

i. sand mixing - no control technologies were cost effective.

ii. core making - a packed tower wet scrubber. The wet scrubber shall achieve the following control efficiencies:

(a) dimethyl isopropyl amine (DMIPA) as catalyst: 99% for the DMIPA; and

(b) SO_2 as catalyst: 99.0% for SO_2.

b. PTI P0106622 establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PM_{10}. The PTE is being restricted such that the emission increase for PM_{10} allowed for in this permit action (P0106622) will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM_{10}). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:

i. PM_{10} emissions shall not exceed:

(a) 0.0182 lb/ton of sand (receiving hopper and sand mixer),

(b) 0.028 lb/ton of sand (core making); and

(c) 2.67 tpy, based upon a rolling, 12-month summation of the monthly emissions.

c. All emissions of particulate matter are PM_{10}.

d. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of VOC and SO_2 from this air contaminant source since the potential to emit for each is less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed and the use of a wet scrubber.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of PM_{10} from this air contaminant source since the potential to emit is less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed, the use of a baghouse and cyclone.

f. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM2.5) are being implemented through the PM_{10} Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM_{10} is a reasonable surrogate for PM2.5, all emissions of PM_{10} will be considered PM2.5.

c) Operational Restrictions

(1) The maximum annual sand processed in emission units P524, P527, P530, P533 and P538, combined, shall not exceed 114,696 tons, based upon a rolling, 12-month summation of sand processed.

To ensure federal enforceability during the first 12 calendar months of operation following the issuance of PTI P0106622, the permittee shall not exceed the sand processing levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Sand Usage (tons)
1	10,000
1-2	20,000
1-3	30,000
1-4	40,000
1-5	50,000
1-6	60,000
1-7	70,000
1-8	80,000
1-9	90,000
1-10	100,000
1-11	110,000
1-12	114,696

After the first 12 calendar months of operation following the issuance of PTI P0106622, compliance with the annual sand restriction shall be, based upon a rolling, 12-month summation of the monthly sand processed.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

(2) The permittee shall operate the baghouse at all times when any of the emissions units is in operation.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0106622]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for emissions units P524, P527, P530, P533 and P538, combined:

a. the quantity of sand processed, in tons;

b. for the first 12 months of operation following the issuance of PTI P0106622, the monthly cumulative quantity of sand processed, in tons; and

c. after the first 12 months of operation following the issuance of PTI P0106622, the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly sand processed.

*The amount of sand processed through this emissions unit is equivalent to the amount of sand received in emissions units P906, P907, P908 and P909. The monitoring and record keeping associated with the sand received in emissions unit P906 can be used to fulfill the requirements in this section.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;

b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and

c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee

shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and 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 ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

d. The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO_2 catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

e. The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are 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 ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall maintain records documenting any time periods when any of the emissions units was in operation and the baghouse was not operating.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall perform weekly* checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse and from the cyclone serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) The permittee shall collect and record the following information on a monthly basis for the metal cleaner applied in this emissions unit:

a. the name and identification of each metal cleaner employed;

b. the VOC content of each metal cleaner, in pounds per gallon;

c. the number of gallons of each metal cleaner employed;

d. the total VOC emission rate from all metal cleaners, i.e., the summation of the products of “d)(5)b.” times “d)(5)c.” for all metal cleaners employed, in pounds; and

e. the pound per ton of VOC emissions from all metal cleaners employed [d)(5)d./d)(1)a].

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports, which identify all exceedances of the following:

a. for the first 12 calendar months of operation following the issuance of PTI P0106622, the restriction on the maximum allowable cumulative quantity of sand processed; and

b. after the first 12 calendar months of operation following the issuance of PTI P0106622, the rolling, 12-month restriction on the quantity of sand processed.

These quarterly deviation (excursion) reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) The permittee shall submit deviation (excursion) reports that identify the following:

a. any time periods when the emissions unit was in operation and the baghouse(s) was not operating; and

b. any exceedance of the 0.20 lb VOC/ton of sand emission limitation for the metal cleaner.

Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(3) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the wet scrubber during the operation of the emissions unit(s):

a. each period of time (start time and date, and end time and date) when the liquid flow rate or the liquid pH was outside of the appropriate range or limit specified by the manufacturer and outside of the acceptable range for each parameter following any required compliance demonstration;

b. an identification of each incident of deviation described in (3)a. where a prompt investigation was not conducted;

c. an identification of each incident of deviation described in (3)a. where prompt corrective action, that would bring the liquid flow rate or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and

d. an identification of each incident of deviation described in (3)a. 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.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(4) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the baghouse and from the cyclone serving this emissions unit and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These

reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(5) The permittee shall submit annual reports to the appropriate Ohio EPA District Office or local air agency, documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with ORC 3704.03(F) through the predicted 1-hour maximum ground-level concentration. If no changes to the emissions unit(s) or the exhaust stack have been made, then the report shall include a statement to this effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(6) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modules in accordance with the following requirements:

a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module1 (emissions units P464, P465, P466, P467, P468, P469) or Psand module 2 (emissions units P524, P527, P530, P533, P538) or Psand module 3 (emissions units P525, P528, P531, P534, P536, P539) or Psand module 4 (emissions units P526, P529, P532, P535, P537, P540), will be operated, whichever comes first. The permittee shall test a minimum of one module per year.

b. The emission testing shall be conducted to demonstrate compliance with the following emission limitations involving DMIPA as the catalyst:

i. 0.60 lb of VOC per ton of sand, for core making.

c. When the emission unit first utilizes SO_2 as the catalyst for purposes other than research and development, the permittee shall conduct testing within 60 days after the initial use of SO_2 to demonstrate compliance with the following emission limitations when utilizing SO_2 as the catalyst:

i. 0.16 lb of SO_2 per ton of sand, for core making; and

ii. The control efficiency for SO_2.

d. The following test methods shall be employed to demonstrate compliance with the above emission limitations:

i. for total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions.

ii. for SO_2, Methods 1-4 and 6 of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 6 of 40 CFR Part 60, Appendix A for determining SO_2 mass emissions.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO. The test method(s) which must be employed to demonstrate compliance with the control efficiencies are specified below.

e. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases."

f. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

g. During emission testing, the permittee shall also record the following information:

i. the pH range for the scrubbing liquid;

ii. the scrubber water flow rate, in gallons/minute; and

iii. the catalyst and resin used to make the cores.

h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, NWDO shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures

provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

(2) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The maximum annual amount of sand processed for P524, P527, P530, P533 and P538, combined shall not exceed 114,696 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated by the record keeping requirements specified in d)(1).

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

b. Emission Limitations:

0.60 lb of VOC per ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

c. Emission Limitations:

0.10 lb of VOC per ton of sand (hopper and mixing)

Applicable Compliance Method:

The lb/ton emission limitation was established based on the Casting Emission Reduction Program (CERP) report #1409-123-EQ (Technikon), published 12/09/02, revised 5/06.

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as

applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

d. Emission Limitation:

0.20 lb of VOC per ton of sand (metal cleaning).

Applicable Compliance Method:

The lb/ton emission limitation was established based on the use of five 55 gallon drums of metal cleaner per month with a VOC content of 8.1 lbs per gallon with 85% captured by the scrubber [scrubber does not provide control during metal cleaning] and the use of 114,696 tons per year of sand. Compliance shall be demonstrated based on the record keeping requirements specified in d)(5).

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

e. Emission Limitations:

PM_{10} emissions shall not exceed 0.0182 lb/ton of sand (hopper and mixing)

Filterable PM_{10} emissions shall not exceed 0.028 lb/ton of sand (core making)

Applicable Compliance Method:

If required, compliance with the company-established emission factors shall be demonstrated based on the results of emission testing conducted in accordance with Methods 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

f. Emission Limitation:

VOC emissions from emission units P524, P527, P530, P533 and P538, combined shall not exceed 51.61 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by adding the VOC emissions from hopper and mixing, core making, and metal cleaning. VOC emission from hopper and mixing, core making, and metal cleaning were established by multiplying the respective VOC emission limitations of 0.10 lb/ton, 0.60 lb/ton,

and 0.20 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitations and the annual sand throughput, compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g. Emission Limitation:

Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factors of 0.035 lb of VOC per ton of sand by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

h. Emission Limitation:

PM_{10} emissions P524, P527, P530, P533 and P538, combined shall not exceed 2.67 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by adding the PM_{10} emissions from hopper/mixing, and core making. PM_{10} emissions from hopper/mixing, and core making were established by multiplying the respective PM_{10} emission limitations of 0.0182 lb/ton and 0.028 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period and dividing by 2000 lbs/ton. Therefore as long as compliance with the annual sand throughput restriction is demonstrated by the record keeping requirements specified in d)(1), compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

i. Emission Limitation:

SO_2 emissions shall not exceed 9.18 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the lb/ton of sand emission limitation by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual sand throughput, compliance with the annual limitation shall be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

j. Emission Limitation:

SO_2 shall not exceed 0.16 lb/ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

k. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources" or as amended. Alternative or equivalent methods can be used with the approval of the director.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0106622]

g) Miscellaneous Requirements

(1) None.

107. Emissions Unit Group -Family Zero: P481, P595, P596,

EU ID	Operations, Property and/or Equipment Description
P481	Engine block finishing and pre-machining line consisting of the following operations: casting load-in and blow-off station, defin robotic #1, defin robotic #2, decore unit #1, decore unit #2, final grinding cell #1, final grinding cell #2, steel shot blast cabinet #1, directed steel shot blast cabinet and work stations - Family Zero Finishing Line #1
P595	Engine block finishing and pre-machining line consisting of the following operations: casting load-in and blow-off station, defin robotic #1, defin robotic #2, decore unit #1, decore unit #2, final grinding cell #1, final grinding cell #2, steel shot blast cabinet #1, directed steel shot blast cabinet and work stations - Family Zero Finishing Line #2
P596	Engine block finishing and pre-machining line consisting of the following operations: casting load-in and blow-off station, defin robotic #1, defin robotic #2, decore unit #1, decore unit #2, final grinding cell #1, final grinding cell #2, steel shot blast cabinet #1, directed steel shot blast cabinet and work stations - Family Zero Finishing Line #3

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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(D) (P0107631 issued April 27, 2011)	<u>From each emissions unit individually:</u> Emissions of particulate matter 10 microns or less in size (PM_{10}) shall not exceed 3.28 pounds per hour (lbs/hr) and 14.37 tons per year (tpy). See b)(2)a. and b)(2)b.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
d.	ORC 3704.03(T)	See b)(2)c.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	40 CFR, Part 64 – Compliance Assurance Monitoring (CAM)	See d)(1) through d)(4) and e)(1).

(2) Additional Terms and Conditions

a. PTI P0107631 establishes the emission limitations for emissions units P481, P595 and P596, individually, for the purpose of establishing federally enforceable limitations representing the potential to emit (PTE). The federally enforceable emission limitations are based on the operational restriction contained in c)(1) which require control equipment:

i. PM_{10} emissions shall not exceed 3.28 lbs/hr and 14.37 tpy.

b. All emissions of particulate matter from this emissions unit are PM_{10}.

c. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the best available technology (BAT) requirements pursuant to ORC 3704.03(T).

c) Operational Restrictions

(1) The following operational restriction has been included in this permit for the purpose of establishing federally enforceable requirements which limit the PTE of emissions units P481, P595 and P596:

a. use of wet dust collector(s) achieving 95% control efficiency for emissions of PM_{10}.

[Authority for term: OAC rule 3745-77-07(A)(1); PTI P0107631]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform weekly* checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack servicing this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the date and time of the visible emission observation;

b. the identification of the stack observed;

c. the color of the emissions;

d. the total duration of any visible emission observation; and

e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week on the roof level

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0107631 and 40 CFR, Part 64]

(2) The permittee shall perform a visible emissions check of the facility roof line each day from the ground-level, during normal operations when weather allows, of the production week. These daily checks will commence with the first being performed no later than 24 hours after the start of production for each process for that week. After the first day, the daily checks will be completed once per calendar day for the balance of the production week. Any observed visible emissions on the roof level will be documented to determine the root cause and corrective action, if needed.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(3) The CAM plan for this emissions unit has been developed for particulate emissions. TheCAM performance indicator for the dust collector(s) controlling this emissions unit is weekly and dailyvisible emission checks. When the daily and/or weekly visible emission checks show operation outsideits normal or usual manner of operation, the permittee shall take corrective actions torestore operation of the emissions unit and/or its control equipment to its normal or usualmanner of operation as expeditiously as practicable in accordance with good air pollutioncontrol practices for minimizing emissions, and shall comply with the reportingrequirements specified in e)(1) below. The emissions unit and control equipmentshall be operated in accordance with the approved CAM Plan, or any approved revisionof the Plan.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(4) If the permittee identifies a failure to achieve compliance with an emission limitation orstandard for which the approved monitoring did not provide an indication of an excursionor exceedance, the permittee shall promptly notify the appropriate Ohio EPA DistrictOffice or local air agency, and if necessary, submit a proposed modification to the Title Vpermit to address the necessary monitoring changes. Such a modification may include,but is not limited to, re-establishing indicator ranges or designated conditions, modifyingthe frequency of conducting monitoring and collecting data, or the monitoring ofadditional parameters.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the stack(s) serving this emissions unit and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(C)(1) and 40 CFR, Part 64]

(2) 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.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

PM_{10} emissions shall not exceed 3.28 lbs/hr and 14.37 tpy from each emissions unit individually.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly limitation by applying a 95% control efficiency for the use of a wet dust collector to an uncontrolled emission rate of 65.62 lbs PM_{10}/hr. The uncontrolled emission rate was determined by adding the emissions generated by the following processes involved in the finishing line:

Finishing Line Process	**Emission Factor (lb PM10/cf)**	**Process Exhaust Air Flow (ACFM)**	**Uncontrolled Process Emission Rate (lb/hr)**
Load-in Conveyor	7.5 x 10-6	1,875	0.84
Blow-off Station	7.5 x 10-6	625	0.28
Robotic Fin Grind and DeFin #1	7.5 x 10-6	9,335	4.2
Robotic Fin Grind and DeFin #2	7.5 x 10-6	9,335	4.2
DeCore Unit #1	7.5 x 10-6	2,334	1.05
DeCore Unit #2	7.5 x 10-6	2,334	1.05
Final Grinding #1	4.5 x 10-5	4,383	11.83
Final Grinding #2	4.5 x 10-5	4,383	11.83
Steel Shot Blast Cabinet #1	4.5 x 10-5	5,325	14.38
Direct Steel Shot blast cabinet	4.5 x 10-5	5,325	14.38
Casting inspection	7.5 x 10-6	3,500	1.58
		Total	65.62

The permittee shall demonstrate compliance with the hourly limitation in accordance with the test methods and procedures in Methods 201/201A and 202

of 40 CFR Part 51, Appendix M, if required. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual allowable emission limitation was established by multiplying the hourly emission limitation by a maximum annual operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation compliance with the annual limitation shall also be demonstrated.

[Authority for term: OAC rule 3745-77-07(C)(1); PTI P0107631]

b. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the visible PE limitation above in accordance with OAC rule 3745-17-03(B)(1), if required.

[Authority for term: OAC rule 3745-77-07(C)(1); OAC rule 3745-17-03(B)(1)]

g) Miscellaneous Requirements

(1) None.