



Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

9/26/2012

Certified Mail

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

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0320010001
Permit Number: P0110399
Permit Type: Administrative Modification
County: Defiance

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

Dear Permit Holder:

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

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer 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, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA
Ohio EPA-NWDO; Michigan; Indiana



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
GM Defiance Casting Operations**

Facility ID: 0320010001
Permit Number: P0110399
Permit Type: Administrative Modification
Issued: 9/26/2012
Effective: 9/26/2012



Division of Air Pollution Control
Permit-to-Install
for
GM Defiance Casting Operations

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Authorization

Facility ID: 0320010001
 Facility Description: Foundry.
 Application Number(s): A0044992, A0045115
 Permit Number: P0110399
 Permit Description: Administrative modification of PTI P0106622, issued 12/22/2010. This permit is being issued to correctly identify emissions units P910 through P913 as fugitive and stack emissions units (previously permitted as P478, P546 through P548). Also the precision sand casting cooling tunnels and deflash/decore/degate operations are being modified from stack sources to fugitive sources (previously permitted as P474, P475, P512-P514 and P541-P543).

Permit Type: Administrative Modification
 Permit Fee: \$1,875.00
 Issue Date: 9/26/2012
 Effective Date: 9/26/2012

This document constitutes issuance to:

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

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

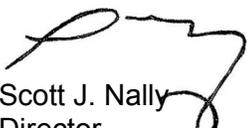
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


 Scott J. Nally
 Director



Authorization (continued)

Permit Number: P0110399
 Permit Description: Administrative modification of PTI P0106622, issued 12/22/2010. This permit is being issued to correctly identify emissions units P910 through P913 as fugitive and stack emissions units (previously permitted as P478, P546 through P548). Also the precision sand casting cooling tunnels and deflash/decure/degate operations are being modified from stack sources to fugitive sources (previously permitted as P474, P475, P512-P514 and P541-P543).

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

Emissions Unit ID: P911
 Company Equipment ID: PSand Mod #2 Attrition Mill and Waste Sand Conveyor
 Superseded Permit Number: P0106622
 General Permit Category and Type: Not Applicable

Group Name: PSand Attrition Mills

Emissions Unit ID:	P910
Company Equipment ID:	Precision Sand Mod #1 Attrition Mill and Waste Sand Conveyor
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P912
Company Equipment ID:	PSand Mod #3 Attrition Mill and Waste Sand Conveyor
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P913
Company Equipment ID:	PSand Mod #4 Attrition Mill and Waste Sand Conveyor
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable

Group Name: PSand Casting Cooling Tunnels

Emissions Unit ID:	F014
Company Equipment ID:	PSand Mod #1 Casting Cooling Tunnel
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F015
Company Equipment ID:	PSand Mod #2 Casting Cooling Tunnel
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F016
Company Equipment ID:	PSand Mod #3 Casting Cooling Tunnel
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F017
Company Equipment ID:	PSand Mod #4 Casting Cooling Tunnel
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable

Group Name: PSand Finishing

Emissions Unit ID:	F018
Company Equipment ID:	PSand Mod #1 DeFlash, DeCore, DeGate
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F019
Company Equipment ID:	PSand Mod #2 DeFlash, DeCore, DeGate
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F020
Company Equipment ID:	PSand Mod #3 DeFlash, DeCore, DeGate
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F021
Company Equipment ID:	PSand Mod #4 DeFlash, DeCore, DeGate
Superseded Permit Number:	P0106622
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

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

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

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

- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.
 - (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, and (ii) any deviations from operational restrictions.

and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northwest District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

- (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Ohio EPA DAPC, Northwest District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

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

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

6. Compliance Requirements

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.
- b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- c) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- d) The permittee shall submit progress reports to the Ohio EPA DAPC, Northwest District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
- (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

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

8. Air Pollution Nuisance

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

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northwest District Office. If no deviations occurred during a calendar quarter, the permitteeshall

submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

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

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

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All

records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

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

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

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

13. Construction Compliance Certification

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

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

14. Public Disclosure

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

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

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

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

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

18. Risk Management Plans

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

19. Title IV Provisions

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

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) 3 through 7.
2. Emissions units F007 through F012, P801 through P804, P464 through P479, P510 through P549, and P906 through P909 as described in Permit to Install (PTI) P0106622, issued 12/20/10, is subject to the applicable provisions of the Prevention of Significant Deterioration (PSD) regulations as promulgated by the United States Environmental Protection Agency (U.S. EPA). The authority to apply and enforce the PSD regulations has been delegated to the Ohio EPA.

In accordance with 40 CFR 124.15, 124.19 and 124.20 the following shall apply:

- i. The effective date of the permit shall be 30 days after the service of notice to any public commenter's the final decision to issue, modify or revoke and re-issue the permit, unless the service of notice is by mail, in which case the effective date of the permit shall be 33 days after the service notice; and
- ii. If an appeal is made to the Environmental Appeals Board of the U.S. EPA the effective date of the permit is suspended until such time as the appeal is resolved or denied.

Appeals will be addressed to:
United States Environmental Protection Agency
Environmental Appeals Board
401 M Street, SW (MC-113do)
Washington, DC 21460

3. The emissions units contained in PTI P0106622, issued 12/20/10, were evaluated 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 coating or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
 - i. Threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
 - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value

is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

- b) The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c) This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" 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 (mg/m³): 6.27

MAGLC (um/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 (mg/m³): 61.19

MAGLC (um/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 (mg/m³): 53.73

MAGLC (um/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 (mg/m³): 28.49

MAGLC (um/m³): 1,248.32

Toxic contaminant: o-xylene

TLV (mg/m³): 434

Maximum Hourly Emission Rate (lbs/hr): 0.43

Predicted 1-Hour Maximum Ground-Level Concentration (mg/m³): 4.94

MAGLC (um/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 (mg/m³): 141.7

MAGLC (um/m³): 5,852.07

Toxic contaminant: acetophenone
TLV (mg/m3): 49.141
Maximum Hourly Emission Rate (lbs/hr): 1.04
Predicted 1-Hour Maximum Ground-Level Concentration (mg/m3): 17.82
MAGLC (um/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 (mg/m3): 2.21
MAGLC (um/m3): 5,754.21

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 to 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 PTI P0106622, issued 12/20/10; 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).

4. 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.

5. The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine the 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.
6. 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.
7. 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. P911, PSand Mod #2 Attrition Mill and Waste Sand Conveyor

Operations, Property and/or Equipment Description:

Precision Sand Mod#2 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 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	<p><u>From the attrition mill:</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.</p> <p>See b)(2)a.</p>
b.	OAC rule 3745-31-05(D)	<p><u>Fugitive emissions (the fugitive portion of this emissions unit is the pan and waste sand conveyors):</u></p> <p>Fugitive particulate emissions (PE) shall not exceed 1.07tpy based upon a rolling, 12-month summation of the monthly emissions.</p> <p>Fugitive particulate matter less than or equal to 10 microns in size (PM₁₀) shall not exceed 2.14tpy based upon a rolling, 12-month summation of the monthly emissions.</p> <p><u>Stack emissions (the stack component of this emissions units is the attrition mill, which is controlled with a baghouse):</u></p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>PE shall not exceed 0.02 lb/ton of aluminum and 1.15tpy based upon a rolling, 12-month summation of the monthly emissions.</p> <p>PM₁₀ shall not exceed 0.04lb/ton and 2.29tpy based upon a rolling, 12-month summation of the monthly emissions.</p> <p>Visible stack PE shall not exceed 10% opacity, as a six-minute average.</p> <p>See b)(2)b. and b)(2)e.</p>
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.	OAC rule 3745-17-07(B)	Visible fugitive PE shall not exceed 20% opacity as a three-minute average, except as provided by rule.
h.	OAC rule 3745-17-08(B)(3)	See b)(2)f.

(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 the potentials to emit (PTE) for PE and PM₁₀. The PTE is being restricted such that the emission increase for PM₁₀ allowed for in PTI P0106622, issued 12/20/10, will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 25 (for PE) and 15 tpy (for PM₁₀). 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. Fugitive PE shall not exceed 1.07tpy, based upon a rolling, 12-month summation of the monthly emissions;

- ii. Fugitive PM₁₀ emissions shall not exceed 2.14tpy from the pan and waste sand conveyor, based upon a rolling, 12-month summation of the monthly emissions.
 - iii. Stack PE shall not exceed 0.02 lb/ton of aluminum and 1.15tpy from the attrition mill, based upon a rolling, 12-month summation of the monthly emissions.
 - iv. Stack PM₁₀ shall not exceed 0.04lb/ton and 2.29tpy from attrition mill, 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 PM₁₀ 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 (PM_{2.5}) are being implemented through the PM₁₀ Surrogate Policy issued by EPA in 1997. For purposes of

demonstrating that PM₁₀ is a reasonable surrogate for PM_{2.5}, all emissions of PM₁₀ will be considered PM_{2.5}.

f. 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.

c) Operational Restrictions

(1) The maximum annual sand usage 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 this permit, the permittee shall not exceed the sand usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Sand Usage (tons)</u>
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 this permit, compliance with the annual sand usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of sand processed.

(2) The permittee shall operate the baghouses at all times when the attrition mills are in operation.

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 this permit, the cumulative quantity of sand processed, in tons; and
- c. after the first 12 months of operation following the issuance of this permit, 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.

- (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

- (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 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 emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

*once during each normal calendar week

- (4) The permittee shall maintain records documenting any time periods when the attrition mills were in operation and the baghouses were not operating.

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 this permit, the maximum allowable cumulative sand usage restriction; and
 - b. after the first 12 calendar months of operation following the issuance of this permit, 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.

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

- (3) 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; and
 - b. any corrective actions taken to minimize or eliminate the visible 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.

- (4) The permittee shall submit deviation (excursion) reports that identify any time periods when the attrition mills were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

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 P_{sand module 1} (emissions units P910), P_{sand module 2} (emissions units P911), P_{sand module 3} (emissions units P912) or P_{sand module 4} (emissions

units P913), 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 from the attrition mills of each of these emissions units. Modules 1, 3 and 4 are exhausted to an RTO, Module 2 exhaust through only a baghouse
- 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.

(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 Limitations:

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).

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.

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.

c. Emission Limitations:

Fugitive PE shall not exceed 1.07tpy from the pan and waste sand conveyor, 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 0.00867 lb/ton of sand(waste sand conveyor) and 0.01 lb/ton of sand(pan conveyor) by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton. 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.

d. Emission Limitations:

Stack PE shall not exceed 0.02 lb/ton and 1.15tpy from the attrition mill, based on a rolling, 12-month summation of the monthly emissions.

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.

e. Emission Limitations:

Stack PM₁₀ shall not exceed 0.04lb/ton and 2.29tpy, from the attrition mill, based on a rolling, 12-month summation of the monthly emissions.

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.

f. Emission Limitations:

Visible PE shall not exceed 10% opacity as a six-minute average.

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").

g. Emission Limitations:

Visible fugitive PE shall not exceed 20% opacity as a three-minute average.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance OAC rule 3745-17-03(B)(3).

g) Miscellaneous Requirements

- (1) None.

2. Emissions Unit Group -PSand Attrition Mills: P910, P912, P913

EU ID	Operations, Property and/or Equipment Description
P910	Precision Sand Mod #1 Pan Conveyor, Attrition Mill, and Waste Sand Conveyor
P912	Precision Sand Mod #3 Pan Conveyor, Attrition Mill, and Waste Sand Conveyor
P913	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 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	<p><u>From each emissions unit individually (attrition mills):</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.</p> <p>See b)(2)a.</p>
b.	OAC rule 3745-31-05(D)	<p><u>Fugitive emissions from each emissions unit individually (the fugitive portion of these emissions units are the pan and waste sand conveyors):</u></p> <p>Fugitive particulate emissions (PE) shall not exceed 1.07tpy based upon a rolling, 12-month summation of the monthly emissions.</p> <p>Fugitive particulate matter less than or equal to 10 microns in size (PM₁₀) shall not exceed 2.14tpy based upon a rolling, 12-month summation of the monthly emissions.</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p><u>Stack emissions from each emissions unit individually (the stack component of these emissions units are the attrition mills, which are controlled with a baghouse and RTO):</u></p> <p>PE shall not exceed 0.02 lb/ton of aluminum and 1.15tpy based upon a rolling, 12-month summation of the monthly emissions.</p> <p>PM₁₀ shall not exceed 0.04lb/ton and 2.29tpy based upon a rolling, 12-month summation of the monthly emissions.</p> <p>Visible stack PE shall not exceed 10% opacity, as a six-minute average.</p> <p>See b)(2)b. and b)(2)e.</p>
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.	OAC rule 3745-17-07(B)	Visible fugitive PE shall not exceed 20% opacity as a three-minute average, except as provided by rule.
h.	OAC rule 3745-17-08(B)(3)	See b)(2)f.

(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 the potentials to emit (PTE) for PE and PM₁₀. The PTE is being restricted such that the emission increase for PM₁₀ allowed for in PTI P0106622, issued 12/20/10, will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 25 (for PE) and 15 tpy (for PM₁₀). 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. Fugitive PE shall not exceed 1.07tpy, based upon a rolling, 12-month summation of the monthly emissions;
 - ii. Fugitive PM₁₀ emissions shall not exceed 2.14tpy from the pan and waste sand conveyor, based upon a rolling, 12-month summation of the monthly emissions.
 - iii. Stack PE shall not exceed 0.02 lb/ton of aluminum and 1.15tpy from the attrition mill, based upon a rolling, 12-month summation of the monthly emissions.
 - iv. Stack PM₁₀ shall not exceed 0.04lb/ton and 2.29tpy from attrition mill, 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 PM₁₀ 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 (PM_{2.5}) are being implemented through the PM₁₀ Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM₁₀ is a reasonable surrogate for PM_{2.5}, all emissions of PM₁₀ will be considered PM_{2.5}.
- f. 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.

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 this permit, the permittee shall not exceed the sand usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Sand Usage (tons)</u>
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 this permit, compliance with the annual sand usage restriction shall be based upon a rolling, 12-month summation of the monthly quantity of sand processed.

- (2) The permittee shall operate the baghouses at all times when the attrition mills are in operation.

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 this permit, the cumulative quantity of sand processed, in tons; and
 - c. after the first 12 months of operation following the issuance of this permit, 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.

- (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

- (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 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 emissions incident; and

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

*once during each normal calendar week

- (4) The permittee shall maintain records documenting any time periods when the attrition mills were in operation and the baghouses were not operating.
- (5) 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.
- (6) 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:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the temperature readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

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

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.

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 this permit, the maximum allowable cumulative sand usage restriction; and
 - b. after the first 12 calendar months of operation following the issuance of this permit, 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.

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

- (3) 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; and
 - b. any corrective actions taken to minimize or eliminate the visible 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.

- (4) The permittee shall submit deviation (excursion) reports that identify any time periods when the attrition mills were in operation and the baghouses were not operating. Each report shall be submitted within 30 days after the deviation occurs.

- (5) 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 "a." or "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 "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.

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 P sand module 1 (emissions units P910), P sand module 2 (emissions units P911), P sand module 3 (emissions units P912) or P sand module 4 (emissions units P913), 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 from the attrition mills of each of these emissions units. Modules 1, 3 and 4 are exhausted to an RTO, Module 2 exhaust through only a baghouse
 - 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.

- (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 Limitations:

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).

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.

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.

c. Emission Limitations:

Fugitive PE shall not exceed 1.07tpy from the pan and waste sand conveyor, 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 0.00867 lb/ton of sand(waste sand conveyor) and 0.01 lb/ton of sand(pan conveyor) by the annual sand restriction of 114,696 tons and dividing by 2000 lbs/ton. 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.

d. Emission Limitations:

Stack PE shall not exceed 0.02 lb/ton and 1.15tpy from the attrition mill, based on a rolling, 12-month summation of the monthly emissions.

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.

e. Emission Limitations:

Stack PM₁₀ shall not exceed 0.04lb/ton and 2.29tpy, from the attrition mill, based on a rolling, 12-month summation of the monthly emissions.

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.

f. Emission Limitations:

Visible PE shall not exceed 10% opacity as a six-minute average.

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").

g. Emission Limitations:

Visible fugitive PE shall not exceed 20% opacity as a three-minute average.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance OAC rule 3745-17-03(B)(3).

g) Miscellaneous Requirements

- (1) None.

3. Emissions Unit Group -PSand Casting Cooling Tunnels: F014, F015, F016, F017

EU ID	Operations, Property and/or Equipment Description
F014	Precision Sand Mod #1 Casting Cooling Tunnel
F015	Precision Sand Mod #2 Casting Cooling Tunnel
F016	Precision Sand Mod #3 Casting Cooling Tunnel
F017	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)d. and b)(2)d.

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	<u>From each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 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)	<u>From each emissions unit individually:</u> Particulate emissions (PE) shall not exceed 1.34 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 2.67 tpy, based upon a rolling, 12-month summation of the monthly emissions. 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 3745-17-07(B)	Visible fugitive particulate emissions shall not exceed 20% opacity as a three-

		minute average, except as provided by rule.
f.	OAC rule 3745-17-08(B)(3)	See b)(2)f.

(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 PM₁₀. The PTE is being restricted such that the emission increase for PE and PM₁₀ allowed for in PTI P0106622, issued 12/20/10, will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 25 tpy (for PE) and 15 tpy (for PM₁₀). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and reasonable available control measures (RACM) required in b)(2)f.:
 - i. PM₁₀ emissions shall not exceed 2.67tpy, based upon a rolling, 12-month summation of the monthly emissions; and
 - ii. PE shall not exceed 1.34tpy, 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 PM₁₀

emissions from this air contaminant source since the controlled potential to emit (PTE) for PM₁₀ 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 (PM_{2.5}) are being implemented through the PM₁₀ Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM₁₀ is a reasonable surrogate for PM_{2.5}, all emissions of PM₁₀ will be considered PM_{2.5}.
- f. The permittee shall utilize 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.

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 this permit, the permittee shall not exceed the aluminum usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Aluminum Usage (tons)</u>
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

Month(s)	<u>Maximum Allowable Cumulative Aluminum Usage (tons)</u>
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.

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 this permit, the cumulative quantity of aluminum processed, in tons; and
 - c. after the first 12 months of operation following the issuance of this permit, 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.

- (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.) 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 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

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 this permit, the maximum allowable cumulative aluminum usage restriction; and
 - b. after the first 12 calendar months of operation following the issuance of this permit, 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.

- (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; 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.

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 Limitations:

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).

b. Emission Limitations:

VOC emissions shall not exceed 10.04 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 0.75 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.

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.

c. Emission Limitations:

Fugitive PE shall not exceed 1.34tpy, 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 0.10 pounds per ton (lbs/ton) of aluminum by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. If required, 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.

d. Emission Limitations:

PM₁₀ shall not exceed 2.67tpy, 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 0.20 pounds per ton (lbs/ton) of aluminum by the annual aluminum restriction of 26,762 tons and dividing by 2000 lbs/ton. 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.

e. Emission Limitations:

Visible fugitive PE shall not exceed 20% opacity as a three-minute average.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance OAC rule 3745-17-03(B)(3).

g) Miscellaneous Requirements

(1) None.

4. Emissions Unit Group -PSand Finishing: F018, F019, F020, F021

EU ID	Operations, Property and/or Equipment Description
F018	Precision Sand Mod #1 DeFlash, DeCore, DeGate Operations
F019	Precision Sand Mod #2 DeFlash, DeCore, DeGate Operations
F020	Precision Sand Mod #3 DeFlash, DeCore, DeGate Operations
F021	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 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	<u>From each emissions unit individually:</u> Volatile organic compound (VOC) emissions shall not exceed 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)	<u>From each emissions unit individually:</u> Particulate matter emissions less than or equal to 10 microns in size (PM ₁₀) shall not exceed 1.34tpy from the DeFlash, DeCore and DeGate, combined, based upon a rolling, 12-month summation of the monthly emissions. See b)(2)b., b)(2)e., and b)(2)f.
c.	OAC rule 3745-17-07(B)	Visible fugitive particulate emissions shall not exceed 20% opacity as a three-minute average, except as provided by rule.
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.
f.	OAC rule 3745-17-08(B)(3)	See b)(2)g.

(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 PM₁₀. The PTE is being restricted such that the emission increase for PM₁₀ allowed for in PTI P0106622, issued 12/20/10, will be below the Prevention of Significant Deterioration (PSD) "significant threshold" applicability level of 15 tpy (for PM₁₀). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1), which requires process control:

PM₁₀ shall not exceed 0.10 lb/ton and 1.34 tpy from the DeFlash, DeCore and DeGate, combined, 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 PM₁₀ 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 (PM_{2.5}) are being implemented through the PM₁₀ Surrogate Policy issued by EPA in 1997. For purposes of

demonstrating that PM₁₀ is a reasonable surrogate for PM_{2.5}, all emissions of PM₁₀ will be considered PM_{2.5}.

- f. All PE is in the form of PM₁₀.
- g. 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.

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 this permit, the permittee shall not exceed the aluminum usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Aluminum Usage (tons)</u>
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 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.

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 this permit, the cumulative quantity of aluminum processed, in tons; and
- c. after the first 12 months of operation following the issuance of this permit, 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.

- (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

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 this permit, the maximum allowable cumulative aluminum usage restriction; and
 - b. after the first 12 calendar months of operation following the issuance of this permit, 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.

- (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; 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.

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 Limitations:

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).

b. Emission Limitations:

VOC emissions shall not exceed 5.04 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 0.377 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.

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.

c. Emission Limitations:

Particulate matter emissions less than or equal to 10 microns in size (PM₁₀) shall not exceed 1.34 tpy from the DeFlash, DeCore and DeGate, combined, 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 0.10 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, 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.

d. Emission Limitations:

Visible fugitive PE shall not exceed 20% opacity as a three-minute average.

Applicable Compliance Method:

If required, compliance with the visible emission limitation shall be demonstrated in accordance OAC rule 3745-17-03(B)(3).

g) Miscellaneous Requirements

(1) None.