



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

9/18/2015

Certified Mail

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 0320010001  
Permit Number: P0119150  
Permit Type: Administrative Modification  
County: Defiance

|     |                                    |
|-----|------------------------------------|
| Yes | TOXIC REVIEW                       |
| No  | PSD                                |
| Yes | 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 Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
77 South High Street, 17th Floor  
Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

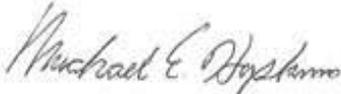
Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://www.epa.ohio.gov/survey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

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

If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)352-8461 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



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

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



**FINAL**

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

Facility ID: 0320010001  
Permit Number: P0119150  
Permit Type: Administrative Modification  
Issued: 9/18/2015  
Effective: 9/18/2015





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

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**Final Permit-to-Install**  
GM Defiance Casting Operations  
**Permit Number:** P0119150  
**Facility ID:** 0320010001  
**Effective Date:** 9/18/2015

## Authorization

Facility ID: 0320010001  
Facility Description: Foundry  
Application Number(s): M0003433  
Permit Number: P0119150  
Permit Description: Agency-initiated administrative modification to update the testing language GM proposed as part of an ERAC appeal.  
Permit Type: Administrative Modification  
Permit Fee: \$500.00  
Issue Date: 9/18/2015  
Effective Date: 9/18/2015

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.

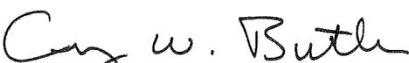
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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

  
Craig W. Butler  
Director



**Final Permit-to-Install**  
GM Defiance Casting Operations  
**Permit Number:** P0119150  
**Facility ID:** 0320010001  
**Effective Date:**9/18/2015

## Authorization (continued)

Permit Number: P0119150  
Permit Description: Agency-initiated administrative modification to update the testing language GM proposed as part of an ERAC appeal.

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

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| <b>Emissions Unit ID:</b>         | <b>P638</b>                          |
| Company Equipment ID:             | Precision Sand Mod#2 Core Machine #6 |
| Superseded Permit Number:         | P0117013                             |
| General Permit Category and Type: | Not Applicable                       |



**Final Permit-to-Install**  
GM Defiance Casting Operations  
**Permit Number:** P0119150  
**Facility ID:** 0320010001  
**Effective Date:** 9/18/2015

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

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

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

**2. Severability Clause**

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

**3. General Requirements**

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

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

#### **4. Monitoring and Related Record Keeping and Reporting Requirements**

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

- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the 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 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted

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

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

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c) The permittee shall submit progress reports to the 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 permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**10. Applicability**

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s) not exempt from the requirement to obtain a Permit-to-Install.

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

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the

Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

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

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

## 12. Permit-To-Operate Application

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

**13. Construction Compliance Certification**

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

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

**14. Public Disclosure**

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

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

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

**16. Fees**

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

**17. Permit Transfers**

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

**18. Risk Management Plans**

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

**19. Title IV Provisions**

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



**Final Permit-to-Install**  
GM Defiance Casting Operations  
**Permit Number:** P0119150  
**Facility ID:** 0320010001  
**Effective Date:** 9/18/2015



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GM Defiance Casting Operations  
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## **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) B.2., B.3, B.4, B.5 and B.6.
2. The emissions units contained in PTI P0106622, issued 12/20/2010 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 coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
    - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
    - ii. TEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists' (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
  - b) The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
  - c) This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC).
  - d) The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic contaminant: formaldehyde

TLV (mg/m<sup>3</sup>): 0.368

Maximum Hourly Emission Rate (lbs/hr): 0.72

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 6.27

MAGLC (ug/m<sup>3</sup>): 6.46

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

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

Toxic contaminant: naphthalene  
TLV (mg/m3): 54  
Maximum Hourly Emission Rate (lbs/hr): 2.17  
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 28.49  
MAGLC (ug/m3): 1,248.31

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

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

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

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

The permittee, has demonstrated that emissions of m,p-xylene, phenol, naphthalene, o-xylene, cumene, acetophenone and alpha-Methylstyrene, from the emissions units contained in PTI P0106622, issued 12/20/2010 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, issued 12/20/2010 is estimated to be equal or greater than eighty per cent, but less than 100 per cent of the maximum acceptable ground level concentration (MAGLC), shall not operate the emissions unit(s) at a rate that would exceed the daily emissions rate, process weight rate, and/or restricted hours of operations, as allowed in this permit; and any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

3. 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.

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

3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

- d) the documentation of the initial evaluation of compliance with ORC 3704.03(F) and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions units or the materials applied.
5. 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.
  6. For the emissions units contained in PTI P0106622, issued 1/20/2010, 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.



**Final Permit-to-Install**  
GM Defiance Casting Operations  
**Permit Number:** P0119150  
**Facility ID:** 0320010001  
**Effective Date:** 9/18/2015

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

**1. P638, Precision Sand Mod#2 Core Machine #6**

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

Precision Sand Mod#2 Core Machine #6 which includes the sand hoppers, mixers and the core machine maintenance.

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) Applicable Emissions Limitations and/or Control Requirements

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

|    | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures  |
|----|-------------------------------|--|
| a. | OAC rule 3745-31-05(D)        | <p>Volatile organic compound emissions (VOC) from emissions units P524, P527, P530, P533, P538 and P638, combined, shall not exceed 81.44 tons per year (tpy), not including VOC that are fugitive, based upon a rolling, 12-month summation of the monthly emissions.</p> <p><u>Receiving hopper and sand mixer (Stacks PSand3-2 and PSand4-2):</u><br/>           VOC emissions shall not exceed 0.22 pound per ton of sand processed.</p> <p><u>Core making (Stack PSandScr2):</u><br/>           VOC emissions shall not exceed 1.0 lb VOC per ton of sand processed.</p> <p><u>Maintenance (metal cleaning of core machine – Stack PSandScr2):</u><br/>           VOC emissions shall not exceed 0.20 pound per ton of sand processed.</p> <p>Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month summation of the monthly emissions.</p> <p>Sulfur dioxide (SO<sub>2</sub>) emissions from emissions units P524, P527, P530,</p> |

|    | Applicable Rules/Requirements  | Applicable Emissions Limitations/Control Measures   |
|----|--|---|
|    |  | <p>P533, P538 and P638, combined, shall not exceed 9.18 tpy, based upon a rolling, 12-month summation of the monthly emissions.</p> <p><u>Core making (Stack PSandScr2):</u><br/>           SO<sub>2</sub> emissions shall not exceed 0.16 pound per ton of sand processed.</p> <p>Particulate matter less than or equal to 10 microns in size (PM<sub>10</sub>) from emission units P524, P527, P530, P533, P538 and P638, combined, shall not exceed 3.01 tons per year (tpy), based upon a rolling, 12-month summation of the monthly emissions.</p> <p><u>Receiving hopper and sand mixer (Stacks PSand3-2 and PSand4-2):</u><br/>           PM<sub>10</sub> shall not exceed 0.0204 pound per ton of sand processed.</p> <p><u>Core making (Stack PSandScr2):</u><br/>           PM<sub>10</sub> shall not exceed 0.032 pound per ton of sand processed.</p> <p>Visible PE from the stacks serving this emissions unit shall not exceed 20% opacity, as a six-minute average.</p> <p>See b)(2)a., b)(2)b., b)(2)c. and b)(2)d.</p> |
| b. | OAC rule 3745-17-07(A)<br>OAC rule 3745-17-11(B)<br>OAC rule 3745-18-06(E) | The emission limitations specified by these rules are less stringent than the emissions limitations established pursuant to OAC rule 3745-31-05(D).   |
| c. | ORC 3704.03(T)   | See b)(2)e.   |
| d. | OAC rule 3745-31-05(A)(3), as effective 11/30/01                           | See b)(2)f.   |
| e. | OAC rule 3745-31-05(A)(3), as effective 1/01/06                            | See b)(2)g.   |
| f. | OAC rule 3745-114-01<br>ORC 3704.03(F)                                     | See B.2 – Facility-Wide Terms and Conditions.   |

(2) Additional Terms and Conditions

- a. This permit establishes the federally enforceable emission limitations in b)(1)a. and are based on the following:
  - i. Core making – a packed tower wet scrubber. The wet scrubber shall achieve the following control efficiencies:
    - (a) dimethyl isopropyl amine (DMIPA) as catalyst: 99% for the DMIPA; and
    - (b) SO<sub>2</sub> as catalyst: 99% for SO<sub>2</sub>.
- b. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) for PM<sub>10</sub>. The PTE is being restricted such that the emission increase for PM<sub>10</sub> allowed for in Permit to Install (PTI) P0106622, issued 12/20/2010 will be below the Prevention of Significant Deterioration (PSD) “significant threshold” applicability level of 15 tpy (for PM<sub>10</sub>). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2), which require control equipment and process control:
  - i. PM<sub>10</sub> emissions shall not exceed:
    - (a) 0.0204 lb/ton of sand (receiving hopper and sand mixer),
    - (b) 0.032 lb/ton of sand (core making); and
    - (c) 3.01 tpy, based upon a rolling, 12-month summation of the monthly emissions.
- c. All emissions of particulate matter are PM<sub>10</sub>.
- d. Prevention of Significant Deterioration (PSD) requirements for particulate matter equal to or less than 2.5 microns in size (PM<sub>2.5</sub>) are being implemented through the PM<sub>10</sub> Surrogate Policy issued by EPA in 1997. For purposes of demonstrating that PM<sub>10</sub> is a reasonable surrogate for PM<sub>2.5</sub>, all emissions of PM<sub>10</sub> will be considered PM<sub>2.5</sub>.
- e. Best Available Technology (BAT) requirements for VOC emissions under ORC 3704.03(T) have been determined to be compliance with the annual emission limitation for VOC as established pursuant to OAC rule 3745-31-05(D).
- f. Best Available Technology (BAT) requirements for SO<sub>2</sub> and PM<sub>10</sub> emissions under OAC rule 3745-31-05(A)(3), as effective November 30, 2001 have been determined to be compliance with the annual emission limitations for SO<sub>2</sub> and PM<sub>10</sub> as established pursuant to OAC rule 3745-31-05(D).

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.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of PM<sub>10</sub> from this air contaminant source since the potential to emit is less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed, the use of a baghouse and cyclone.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions of SO<sub>2</sub> from this air contaminant source since the potential to emit for each is less than ten tons per year, taking into account the federally enforceable restriction on the amount of sand processed and the use of a wet scrubber.

c) Operational Restrictions

- (1) The maximum annual sand processed in emission units P524, P527, P530, P533, P538 and P638, combined, shall not exceed 114,696 tons, based upon a rolling, 12-month summation of sand processed.

Precision Sand Module 2 (emissions units P524, P527, P530, P533 and P538) has been in operation for more than 12 months and, as such, the permittee has existing records to generate the rolling, 12-month summation of the material usage, upon issuance of this permit.

- (2) The permittee shall operate the baghouse at all times when any of the emissions units is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month for emissions units P524, P527, P530, P533, P538 and P638, combined:

- a. the quantity of sand processed, in tons; and  
b. the quantity of sand processed, in tons, based on a rolling, 12-month summation of the monthly sand processed.

\*The amount of sand processed through this emissions unit is equivalent to the amount of sand received in emissions units P906, P907, P908 and P909. The monitoring and record keeping associated with the sand received in emissions unit P906 can be used to fulfill the requirements in this section.

- (2) The permittee shall properly operate and maintain equipment to continuously monitor the liquor pH and the scrubber liquor flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

- a. the catalyst gas scrubber liquor pH, on a once-per-shift basis;
- b. the catalyst gas scrubber liquor flow rate, in gallons per minute, on a once-per-shift basis; and
- c. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

Whenever the monitored values for the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate deviate from the range specified below, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the catalyst gas scrubber liquor pH and catalyst gas scrubber liquor flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- d. The catalyst gas scrubber, utilizing the DMIPA, catalyst, recirculating liquor pH shall be continuously maintained at a value of less than or equal to 5 at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance. The caustic catalyst gas scrubber, utilizing the SO<sub>2</sub> catalyst, recirculating liquor pH shall be continuously maintained at a value of greater than or equal to 9 at all

times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

- e. The catalyst gas scrubber liquor flow rate shall be continuously maintained at a value of not less than 3 gallons per minute per 1,000 cfm of gas flow at all times while the emissions unit is in operation, or as established during the most recent performance test that demonstrated the emissions unit was in compliance.

These ranges are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the ranges based upon information obtained during future tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the ranges will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of administrative modification.

- (3) The permittee shall maintain records documenting any time periods when any of the emissions units was in operation and the baghouse was not operating.
- (4) The permittee shall perform weekly\* checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse and from the cyclone serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the date and time of the visible emission observation;
  - b. the identification of the stack observed;
  - c. the color of the emissions;
  - d. the total duration of any visible emission observation; and
  - e. the corrective actions, if any, taken to eliminate the visible emissions.

\*once during each normal calendar week

- (5) The permittee shall collect and record the following information on a monthly basis for the metal cleaner applied emissions units P524, P527, P530, P533, P538 and P638, combined:
  - a. the name and identification of each metal cleaner employed;
  - b. the VOC content of each metal cleaner, in pounds per gallon;
  - c. the number of gallons of each metal cleaner employed;
  - d. the total VOC emission rate from all metal cleaners, i.e., the summation of the products of d)(5)b. x d)(5)c. for all metal cleaners employed, in pounds; and

- e. the pound VOC per ton of sand processed from all metal cleaners employed [d)(5)d./d)(1)a].

e) Reporting Requirements

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

- a. the rolling, 12-month restriction on the quantity of sand processed.

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

- (2) The permittee shall submit deviation (excursion) reports that identify the following:

- a. any time periods when the emissions unit was in operation and the baghouse(s) was not operating; and
- b. any exceedance of the 0.20 lb VOC/ton of sand emission limitation, not including VOC that are fugitive, for the metal cleaner.

Each report shall be submitted within 30 days after the deviation occurs.

- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following information concerning the operation of the wet scrubber during the operation of the emissions unit(s):

- a. each period of time (start time and date, and end time and date) when the liquid flow rate or the liquid pH was outside of the appropriate range or limit specified by the manufacturer and outside of the acceptable range for each parameter following any required compliance demonstration;
- b. an identification of each incident of deviation described in (3)a. where a prompt investigation was not conducted;
- c. an identification of each incident of deviation described in (3)a. where prompt corrective action, that would bring the liquid flow rate or scrubber liquid pH into compliance with the acceptable range, was determined to be necessary and was not taken; and
- d. an identification of each incident of deviation described in (3)a. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

If no deviations/excursions occurred during a calendar quarter, the report shall so state that no deviations occurred during the reporting period.

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

- (4) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions, excluding water vapor, were observed from the baghouse and from the cyclone serving this emissions unit and (b) describe the corrective actions, if any, taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.
- f) Testing Requirements
- (1) The permittee shall conduct, or have conducted, emission testing for all four (4) precision sand modules in accordance with the following requirements:
- a. The emissions testing shall be conducted over four (4) consecutive years, beginning no later than 180 days after achieving the maximum production rate at which Psand module 1 (emissions units P464, P465, P466, P467, P468, P469) or Psand module 2 (emissions units P524, P527, P530, P533, P538, P638) or Psand module 3 (emissions units P525, P528, P531, P534, P536, P539) or Psand module 4 (emissions units P526, P529, P532, P535, P537, P540), will be operated, whichever comes first. The permittee shall test a minimum of one module per year.
  - b. The emission testing shall be conducted to demonstrate compliance with the following emission limitations involving DMIPA as the catalyst:
    - i. 1.0 lb of VOC per ton of sand, for core making.
  - c. When the emission unit first utilizes SO<sub>2</sub> as the catalyst for purposes other than research and development, the permittee shall conduct testing within 60 days after the initial use of SO<sub>2</sub> to demonstrate compliance with the following emission limitations when utilizing SO<sub>2</sub> as the catalyst:
    - i. 0.16 lb of SO<sub>2</sub> per ton of sand, for core making; and
    - ii. The control efficiency for SO<sub>2</sub>.
  - d. The following test methods shall be employed to demonstrate compliance with the above emission limitations:
    - i. for total VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 18, 25, or 25A (as applicable) of 40 CFR Part 60, Appendix A for determining total VOC mass emissions.
    - ii. for SO<sub>2</sub>, Methods 1-4 and 6 of 40 CFR Part 60, Appendix A. Appropriate methods shall be used in conjunction with the test methods and procedures specified in Methods 6 of 40 CFR Part 60, Appendix A for determining SO<sub>2</sub> mass emissions.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO. The test method(s) which must be employed to demonstrate compliance with the control efficiencies are specified below.

- e. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases."
- f. The test(s) shall be conducted while the emissions unit is operating under representative conditions at or near its maximum capacity, unless otherwise specified or approved by Ohio EPA or the appropriate local air agency.
- g. During emission testing, the permittee shall also record the following information:
  - i. the pH range for the scrubbing liquid;
  - ii. the scrubber water flow rate, in gallons/minute; and
  - iii. the catalyst and resin used to make the cores.
- h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, NWDO's refusal to accept the results of the emission test(s).

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

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

- (2) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
  
The maximum annual amount of sand processed for P524, P527, P530, P533, P538 and P638, combined shall not exceed 114,696 tons per rolling, 12-month period.



Applicable Compliance Method:

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

b. Emission Limitations:

1.0 lb of VOC per ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

c. Emission Limitations:

0.22 lb of VOC per ton of sand (hopper and mixing)

Applicable Compliance Method:

The lb/ton emission limitation was established based on Ohio Cast Metals Association (OCMA) method.

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

d. Emission Limitation:

0.20 lb of VOC per ton of sand (metal cleaning)

Applicable Compliance Method:

The lb/ton emission limitation was established based on the use of five 55-gallon drums of metal cleaner per month with a VOC content of 8.1 lbs per gallon with 85% captured by the scrubber [scrubber does not provide control during metal cleaning] and the use of 114,696 tons per year of sand. Compliance shall be demonstrated based on the record keeping requirements specified in d)(5).

If required, compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

e. Emission Limitations:

PM<sub>10</sub> emissions shall not exceed 0.0204 lb/ton of sand (hopper and mixing)

PM<sub>10</sub> emissions shall not exceed 0.032 lb/ton of sand (core making)

Applicable Compliance Method:

If required, compliance with the company-established emission factors shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A and 201/201A and 202 of 40 CFR Part 51, Appendix M or as amended. Alternative or equivalent methods can be used with the approval of the director.

f. Emission Limitation:

VOC from emissions units P524, P527, P530, P533, P538 and P638, combined, shall not exceed 81.44 tons per year (tpy), not including VOC that are fugitive, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:

The annual emission limitation was established by adding the VOC emissions from hopper and mixing, core making, and metal cleaning. VOC emission from hopper and mixing, core making, and metal cleaning were established by multiplying the respective VOC emission limitations of 0.22 lb/ton, 1.0 lb/ton, and 0.20 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/ton emission limitations and the annual sand throughput, compliance with the annual limitation shall also be demonstrated.

g. Emission Limitation:

Fugitive VOC emissions shall not exceed 2.0 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The emission limitation was established by multiplying the company-supplied emission factors of 0.035 lb of VOC per ton of sand by the annual sand restriction of 114,696 tons, and then dividing by 2000 lbs/ton.

h. Emission Limitation:

PM<sub>10</sub> emissions P524, P527, P530, P533, P538 and P638, combined, shall not exceed 3.01 tpy, based on a rolling, 12-month summation of the monthly emissions.



Applicable Compliance Method:

The annual emission limitation was established by adding the PM<sub>10</sub> emissions from hopper/mixing, and core making. PM<sub>10</sub> emissions from hopper/mixing, and core making were established by multiplying the respective PM<sub>10</sub> emission limitations of 0.0204 lb/ton and 0.032 lb/ton by the annual sand throughput restriction of 114,696 tons per rolling, 12-month period and dividing by 2000 lbs/ton. Therefore, as long as compliance with the annual sand throughput restriction is demonstrated by the record keeping requirements specified in d)(1), compliance with the annual limitation shall also be demonstrated.

i. Emission Limitation:

SO<sub>2</sub> emissions shall not exceed 9.18 tpy, based on a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the lb/ton of sand emission limitation by the annual sand restriction of 114,696 tons, and then dividing by 2000 lbs/ton. Therefore provided compliance is shown with the lb/ton emission limitation and the annual sand throughput, compliance with the annual limitation shall be demonstrated.

j. Emission Limitation:

SO<sub>2</sub> shall not exceed 0.16 lb/ton of sand (core making)

Applicable Compliance Method:

Compliance shall be demonstrated based on the results of emission testing conducted in accordance with Methods 1-4 and 6 of 40 CFR Part 60, Appendix A or as amended. Alternative or equivalent methods can be used with the approval of the director.

k. Emission Limitation:

Visible PE from the stack(s) serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined according to test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources" or as amended. Alternative or equivalent methods can be used with the approval of the director.

g) Miscellaneous Requirements

(1) None.