



12/1/2014

Linda Denison
Columbus Steel Castings
2211 Parsons Avenue
Columbus, OH 43207

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL

Facility ID: 0125040020
Permit Number: P0117396
Permit Type: Initial Installation
County: Franklin

Certified Mail

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:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, The Columbus Dispatch. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Central District Office at (614)728-3778.

Sincerely,

Erica R. Engel-Ishida, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 -Via E-Mail Notification
Ohio EPA-CDO

PUBLIC NOTICE
Issuance of Draft Air Pollution Permit-To-Install
Columbus Steel Castings

Issue Date: 12/1/2014
Permit Number: P0117396
Permit Type: Initial Installation
Permit Description: Initial installation of an 8 ton/hr thermal sand reclamation system. System includes: four (4) sand silos, two (2) mechanical scrubber units, thermal reclamation unit, sand dryer with magnetic separator, one (1) new baghouse, and two (2) existing baghouses.
Facility ID: 0125040020
Facility Location: Columbus Steel Castings
2211 Parsons Avenue,
Columbus, OH 43207-2386
Facility Description: Steel Foundries (except Investment)

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitonline.aspx> by entering the permit # or: Stephanie Habinak, Ohio EPA DAPC, Central District Office, 50 West Town Street, 6th Floor P.O. Box 1049, Columbus, OH 43216-1049. Ph: (614)728-3778



Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2. Source Description:

8 ton/hr thermal sand reclamation system. System includes: vibratory feeders and propulsion system; magnetic separator #1; sand dryer; sand silo #1 vent to baghouse B-3306; magnetic separator #2; surge silo #4; mechanical scrubber #1 and #2 vent to baghouse B-3552; thermal reclaim unit vents to baghouse tsrbv2; surge silo #2 vents to bin vent #2; surge silo #3 vents to bin vent #3; and a 7.2 MMbtu/hr burner.

3. Facility Emissions and Attainment Status:

Columbus Steel Casting is classified as a mega Title V facility and is major for PE, PM10, PM2.5, VOC, and HAP(s). Franklin County is currently in non-attainment with the 2008 ozone standard.

4. Source Emissions:

The thermal sand reclamation system is a source of controlled and fugitive emissions. Below is table outlining calculated emissions.

Controlled Processes	
B-3306	magnetic separator; sand dryer/lump crusher; vibratory feeders; large silo
B-3552	Mechanical separator #1; silo above mechanical separator #2; mechanical separator #2;
tsrbv2 (new baghouse)	thermal treatment unit
Bin vent	Silo above mechanical separator #1; silo above thermal treatment unit

Givens	
B-3306	10,366 cfm; 0.005 gr/dscf
B-3352	14,864 cfm; 0.005 gr/dscf
tsrbv2	35,300 cfm; 0.005 gr/dscf
Bin vent	100% capture; 99.5% control
Silo 2	Throughput – 8.94 tons/hr; EF – 2.40 lbs PM/hr
Silo 3	Throughput – 7.73 tons/hr; EF – 2.40 lbs PM/hr

PM Emissions from B-3306

$$\text{lb PM/hr} = (0.005 \text{ gr/dscf}) * (10,366 \text{ cfm}) * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$$

$$(0.44 \text{ lb PM/hr}) * (8760 \text{ hr/yr}) * (\text{ton}/2000 \text{ lbs}) = 1.95 \text{ tpy}$$



PM Emissions from B-3552

$$\text{lb PM/hr} = (0.005 \text{ gr/dscf}) * (14,864 \text{ cfm}) * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$$

$$(0.64 \text{ lb PM/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 2.79 \text{ tpy}$$

PM Emissions from tsrbv2

$$\text{lb PM/hr} = (0.005 \text{ gr/dscf}) * (10,366 \text{ cfm}) * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$$

$$(1.51 \text{ lbs PM/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 6.63 \text{ tpy}$$

Bin Vent – Silo 2

$$\text{lb PM/hr} = (8.94 \text{ tons/hr}) * (2.40 \text{ lbs PM/ton})$$

$$(21.46 \text{ lbs PM/hr}) * (1-0.995) = 0.11 \text{ lb PM/hr}$$

$$(0.11 \text{ lb PM/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 0.48 \text{ tpy}$$

Bin Vent – Silo 3

$$\text{lb PM/hr} = (7.73 \text{ tons/hr}) * (2.40 \text{ lbs PM/ton})$$

$$(18.55 \text{ lbs PM/hr}) * (1-0.995) = 0.09 \text{ lb PM/hr}$$

$$(0.09 \text{ lb PM/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 0.41 \text{ tpy}$$

****PM10 and PM2.5 emissions are estimated as 30% of the total PM emission from foundry processes, per the CERP Report ****

Baghouse	PM lbs/hr	PM tons/yr	PM10, PM2.5 lbs/hr	PM10, PM2.5 tons/yr
B-3306	0.44	1.95	0.13	0.58
B-3552	0.64	2.79	0.19	0.84
New	1.51	6.63	0.45	1.99
Bin Vent - Silo 2	0.11	0.47	0.03	0.14
Bin Vent - Silo 3	0.09	0.41	0.03	0.12
TOTAL	2.79	12.24	0.84	3.67

EF for Uncontrolled Pollutants			
	Sand Dryer – NG 0.0022892 MMcf/hr	Thermal Unit – NG 0.0071 MMcf/hr	Thermal Unit - Binder
PM*	7.6 lb/MMcf	7.6 lb/MMcf	N/A
PM10	7.6 lb/MMcf	7.6 lb/MMcf	N/A



PM2.5	7.6 lb/MMcf	7.6 lb/MMcf	N/A
VOC	5.5 lb/MMcf	5.5 lb/MMcf	15.552 lbs binder/hr; 98% destruction efficiency
SOx	0.6 lb/MMcf	0.6 lb/MMcf	
NOx	100 lb/MMcf	100 lb/MMcf	0.268 lbNOx/ton sand
CO	84 lb/MMcf	84 lb/MMcf	

**NG emissions for PM, PM10, and PM2.5 are the same and for cumulative purposes the emission rate for PM was multiplied by 3.*

Emissions from Sand Dryer – NG

$$(0.0022892 \text{ MMcf/hr}) * (7.6 \text{ lb PM/MMcf}) = 0.0174 \text{ lb PM/hr}$$

$$(0.0174 \text{ lb PM/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 0.076 \text{ tpy}$$

$$(0.0022892 \text{ MMcf/hr}) * (5.5 \text{ lb VOC/MMcf}) = 0.0126 \text{ lb VOC/hr}$$

$$(0.0126 \text{ lb VOC/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 0.055 \text{ tpy}$$

$$(0.0022892 \text{ MMcf/hr}) * (0.6 \text{ lbSOx/MMcf}) = 0.0014 \text{ lbSOx/hr}$$

$$(0.0014 \text{ lbSOx/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 0.006 \text{ tpy}$$

$$(0.0022892 \text{ MMcf/hr}) * (100 \text{ lbNOx/MMcf}) = 0.23 \text{ lbNOx/hr}$$

$$(0.23 \text{ lbNOx/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 1.00 \text{ tpy}$$

$$(0.0022892 \text{ MMcf/hr}) * (84 \text{ lb CO/MMcf}) = 0.19 \text{ lb CO/hr}$$

$$(0.192 \text{ lb CO/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 0.84 \text{ tpy}$$

Emissions from Thermal Unit – NG

$$(0.0071 \text{ MMcf/hr}) * (7.6 \text{ lb PM/MMcf}) = 0.054 \text{ lb PM/hr}$$

$$(0.054 \text{ lb PM/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 0.24 \text{ tpy}$$

$$(0.0071 \text{ MMcf/hr}) * (5.5 \text{ lb VOC/MMcf}) = 0.039 \text{ lb VOC/hr}$$

$$(0.039 \text{ lb VOC/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 0.17 \text{ tpy}$$

$$(0.0071 \text{ MMcf/hr}) * (0.6 \text{ lbSOx/MMcf}) = 0.004 \text{ lbSOx/hr}$$

$$(0.004 \text{ lbSOx/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 0.017 \text{ tpy}$$

$$(0.0071 \text{ MMcf/hr}) * (100 \text{ lbNOx/MMcf}) = 0.71 \text{ lbNOx/hr}$$

$$(0.71 \text{ lbNOx/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 3.11 \text{ tpy}$$

$$(0.0071 \text{ MMcf/hr}) * (84 \text{ lb CO/MMcf}) = 0.60 \text{ lb CO/hr}$$



$$(0.60 \text{ lb CO/hr}) * (8760 \text{ hrs/yr}) * (\text{ton}/2000 \text{ lbs}) = 2.63 \text{ tpy}$$

Emissions from Thermal Unit – Binder

Data from HA International (Binder Supplier)

24 lbs binder/ton sand
70% LOI (loss of ignition) at pouring
7.2 lbs binder/ton sand remaining
73% LOI at shakeout
1.94 lbs binder/ton sand remaining

98% minimum destruction efficiency expected at thermal unit operating temperature

VOC emissions:

$$= \text{lbs VOC/ton sand} * \text{tons sand/hr} \\ (15.552 \text{ lbs binder/hr into thermal unit (as organic material in solid form)}) * (1-0.98) = 0.311 \text{ lbs VOC/hr}$$

NOx Emissions:

According to the technical data sheets for the binders, only Part 2 contains isocyanates. The highest isocyanate content is 75% (mixture of MDI and polymeric MDI). Binders are mixed 50:50 Part 1 to Part 2

Total isocyanates added to sand is = 37.500%

$$(1.94 \text{ lbs binder / ton sand}) * (37.5\% \text{ MDI}) = 0.729 \text{ lbs MDI / ton sand}$$

Worst case has 100 % conversion of N in isocyanates to NOx as NO2

Chemical material balance of MDI to NO2

MDI is 4,4'-methylene diphenoldiisocyanate: C15 H10 N2 O2

One mole of MDI will produce 2(NO2)

MDI Molecular weight = 250.25 lb/lb-mol

NO2 molecular weight = 46 lb/lb-mol

$$(250.25 \text{ lb / lb-mol MDI}) * (1 \text{ mol MDI} / 2 \text{ mol NO}_2) * (1 \text{ mol NO}_2 / 46 \text{ lb}) = 2.72 \text{ lb MDI/ lb NO}_2$$

0.729 lbs MDI remaining /ton sand (entering thermal unit)

$$(0.729 \text{ lb MDI / ton sand}) * (1 \text{ lb NO}_2 / 2.72 \text{ lb MDI}) = 0.268 \text{ lb NO}_2 / \text{ton sand}$$

$$(0.268 \text{ lb NO}_2 / \text{ton sand}) * (8 \text{ ton sand/hr}) = 2.144 \text{ lbs NO}_2 / \text{hr}$$

$$(2.144 \text{ lb NO}_2 / \text{hr}) * (8760 \text{ hrs / yr}) = 18,781.72 \text{ lbs /yr} \sim 9.39 \text{ tons / yr}$$



5. Conclusion:

Stack testing has been incorporated in the testing section for PM, PM2.5, PM10, NOX, VOC, and CO. Issuance of P0117396 is recommended.

6. Please provide additional notes or comments as necessary:

None

7. Total Permit Allowable Emissions Summary (for informational purposes only):

Pollutant	TPY
PM	12.56
PM2.5	3.67
PM10	3.67
NOX	13.5
SOX	0.025
VOC	1.81
CO	3.47



DRAFT

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

Facility ID:	0125040020
Permit Number:	P0117396
Permit Type:	Initial Installation
Issued:	12/1/2014
Effective:	To be entered upon final issuance



Division of Air Pollution Control
Permit-to-Install
for
Columbus Steel Castings

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Draft Permit-to-Install
Columbus Steel Castings
Permit Number: P0117396
Facility ID: 0125040020

Effective Date: To be entered upon final issuance

Authorization

Facility ID: 0125040020
Facility Description: Steel Foundry
Application Number(s): A0049241
Permit Number: P0117396
Permit Description: Initial installation of an 8 ton/hr thermal sand reclamation system. System includes: four (4) sand silos, two (2) mechanical scrubber units, thermal reclamation unit, sand dryer with magnetic separator, one (1) new baghouse, and two (2) existing baghouses.
Permit Type: Initial Installation
Permit Fee: \$1,000.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 12/1/2014
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

Columbus Steel Castings
2211 Parsons Avenue
Columbus, OH 43207-2386

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, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049
(614)728-3778

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



Draft Permit-to-Install
Columbus Steel Castings
Permit Number: P0117396
Facility ID: 0125040020

Effective Date: To be entered upon final issuance

Authorization (continued)

Permit Number: P0117396
Permit Description: Initial installation of an 8 ton/hr thermal sand reclamation system. System includes: four (4) sand silos, two (2) mechanical scrubber units, thermal reclamation unit, sand dryer with magnetic separator, one (1) new baghouse, and two (2) existing baghouses.

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

Emissions Unit ID:	P913
Company Equipment ID:	Thermal sand reclamation system
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Draft Permit-to-Install
Columbus Steel Castings
Permit Number: P0117396
Facility ID: 0125040020
Effective Date: To be entered upon final issuance

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, Central 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, Central District Office. The written 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. 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, Central 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, Central 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, Central 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, Central 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, Central 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



Draft Permit-to-Install
Columbus Steel Castings
Permit Number: P0117396
Facility ID: 0125040020

Effective Date: To be entered upon final issuance

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



Draft Permit-to-Install
Columbus Steel Castings
Permit Number: P0117396
Facility ID: 0125040020

Effective Date: To be entered upon final issuance

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) None.



Draft Permit-to-Install
Columbus Steel Castings
Permit Number: P0117396
Facility ID: 0125040020
Effective Date: To be entered upon final issuance

C. Emissions Unit Terms and Conditions



1. P913, Thermal sand reclamation system

Operations, Property and/or Equipment Description:

8 ton/hr thermal sand reclamation system. System includes: vibratory feeders and propulsion system; magnetic separator #1; sand dryer; sand silo #1 vented to baghouse B-3306; magnetic separator #2; surge silo #4; mechanical scrubber #1 and #2 vented to baghouse B-3552; thermal reclaim unit vented to baghouse tsrbv2; surge silo #2 vented to bin vent #2; surge silo #3 vented to bin vent #3; and a 7.2 MMBtu/hr natural gas-fired burner.

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	<p>Particulate matter (PM) emissions shall not exceed 1.02 tons per month averaged over a 12-month, rolling period.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 1.17 tons per month averaged over a 12-month, rolling period.</p> <p>See b)(2)a. – b.</p>
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	<p>Particulate emissions with a diameter of 2.5 micrometers or less (PM2.5) shall not exceed 0.33 ton per month averaged over a 12-month period.</p> <p>Particulate emissions with a diameter of 10 micrometers or less (PM10) shall not exceed 0.33 ton per month averaged over a 12-month, rolling period.</p> <p>Sulfur dioxide (SO2) emissions shall not exceed 0.003 ton per month averaged over a 12-month, rolling period.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.33 ton per month averaged</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		over a 12-month, rolling period. Volatile organic compound (VOC) emissions shall not exceed 0.17 ton per month averaged over a 12-month, rolling period. See b)(2)c.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)d.i.
b.	OAC rule 3745-17-07(A)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to 40 CFR Part 40, Subpart UUU.
c.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20% opacity, as a three-minute average.
d.	OAC rule 3745-17-08(B)(3)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to ORC 3704.03(T).
e.	OAC rule 3745-17-10(B)(1)	PM emissions shall not exceed 0.04 lb/MMBtu.
f.	OAC rule 3745-18-06(E)(2)	The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3), as effective 11/30/01. See b)(2)d.ii.
g.	NSPS - 40 CFR Part 60, Subpart UUU	Visible emissions from the stacks serving the emissions unit shall not exceed 10% opacity, as a six-minute average. See b)(2)e.
h.	40 CFR Part 60, Subpart A	See b)(2)f.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to baghouses B-3306, B-3352 and tsrbv2 at all times the emissions unit is in operation.
- b. The baghouses associated with this emissions unit shall be designed to achieve the following outlet concentrations:
 - i. baghouse B-3306 = 0.005 gr/dscf



- ii. baghouse B-3552 = 0.005 gr/dscf
- iii. baghouse tsrbv2 = 0.005 gr/dscf

The permittee shall employ best available control measures that include the installation and use of hoods, fans, and other equipment to adequately enclose, contain, capture, vent, and control fugitive dust from this emissions unit. Such equipment shall have a collection efficiency sufficient to eliminate visible particulate emissions of fugitive dust at the points of capture to the extent possible with good engineering design.

- c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- d. These rule paragraphs apply once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.
 - i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the sulfur dioxide (SO₂), carbon monoxide (CO), and volatile organic compound (VOC) emissions from this air contaminant source since the uncontrolled potential to emit for SO₂, CO, and VOC is each less than 10 tons/year.
 - ii. No owner or operator of any process equipment shall cause or permit the maximum emission of sulfur dioxide from any source to exceed 120.83 pounds per hour.
- e. The PM outlet concentration specified by this rule is less stringent than the emission limitation established pursuant to ORC 3704.03(T).
- f. The permittee shall demonstrate compliance with the applicable provisions of 40 CFR Part 60, Subpart UUU in accordance with 40 CFR Part 60, Subpart A.

c) Operational Restrictions

- (1) The emissions unit shall burn only natural gas.

[Authority for term: ORC 3704.03(T)]



d) Monitoring and/or Recordkeeping Requirements

- (1) See 40 CFR Part 60, Subpart UUU (40 CFR 60.734 – 60.735).

[Authority for term: 40 CFR Part 60, Subpart UUU]

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

[Authority for term: ORC 3704.03 (T)]

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across each baghouse when the emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across each baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

The pressure drop across the baghouses shall be maintained within the following ranges while the P913 is in operation:

- a. baghouse B-3306 = 2-8"
- b. baghouse B-3552 = 2-8"
- c. baghouse tsrbv2 = 2-5"

[Authority for term: ORC 3704.03(T)]

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

- a. the date and time the excursion began;
- b. the magnitude of the excursion 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 an excursion, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that



determination and the date and time the excursion ended. The permittee shall maintain records of the following information for each corrective action taken:

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

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

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

[Authority for term: ORC 3704.03(T)]

- (5) The permittee shall properly install, operate, and maintain continuous temperature monitors and recorder(s) that measure and record(s) the combustion temperature within the emissions unit when the emissions unit is in operation, including periods of startup and shutdown. 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 operating manual(s), with any modifications deemed necessary by the permittee. These records shall be maintained at the facility for a period of no less than 3 years.
- (4) The emissions unit shall be operated at a minimum combustion temperature of 1350 degrees Fahrenheit.

[Authority for term: ORC 3704.03(T)]

- (5) Whenever the monitored average combustion temperature within the emissions unit, deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the excursion. The permittee shall maintain records of the following information for each investigation:



- a. the date and time the excursion began;
- b. the magnitude of the excursion 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 an excursion, the permittee shall take prompt corrective action to bring the operation of the emissions unit 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 excursion 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 excursion ended;
- i. the total period of time (in minutes) during which there was an excursion;
- 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 performance tests that demonstrate compliance with the allowable emission rate(s) for the pollutant(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 an administrative modification.

[Authority for term: ORC 3704.03(T)]

- (6) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from each baghouse stack and 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.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: 40 CFR Part 60, Subpart UUU]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit semiannual written reports that identify:
 - a. all days during which any visible particulate emissions were observed from the baghouse stacks serving this emissions unit;
 - b. 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
 - c. any corrective actions taken to minimize or eliminate the visible particulate emissions from the baghouse stacks and/or visible emissions of fugitive dust.

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

[Authority for term: OAC rule 3745-17-07(B), 40 CFR Part 60, Subpart UUU]



- (3) The permittee shall submit quarterly excursion reports that identify the following:
- i. each excursion from control device operating parameters that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, excluding excursions resulting from malfunctions reported in accordance with OAC rule 3745-15-06;
 - ii. period of time for each excursion (initially observed time and date, and end time and date);
 - iii. the probable cause of such excursions; and
 - iv. any corrective actions or preventive measures taken.
 - e. If no excursions occurred during a calendar quarter, the permittee shall submit a report that states that no excursions occurred during the quarter; and
 - f. These reports shall be made to the Ohio EPA, Central District Office. The written reports shall be submitted electronically through Air Services quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.
- (4) The permittee shall submit quarterly deviation reports that identify the following:
- a. each incident described in Section e)(3)a.i. where a prompt investigation was not conducted;
 - b. each incident described in Section e)(3)a.i. where prompt corrective action, that would bring the control device operating parameters into normal ranges was determined to be necessary and was not taken; and
 - c. each incident described in Section e)(3)a.i. 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.
 - d. The deviation report shall identify the following:
 - i. any deviations from federally enforceable emission limitations or operational restrictions, 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, Central 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.



- e. If no deviations occurred during a calendar quarter, the permittee shall submit a report that states that no deviations occurred during the quarter.
- (5) The quarterly excursion reports and quarterly deviation reports may be combined to fulfill the requirements of Section e)(2) and e)(3).
- (6) The permittee shall submit excursion reports that identify each day when fuels other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the occurrence of the excursion.

[Authority for term: ORC 3704.03(T)]
- f) Testing Requirements
 - (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation

PM emissions shall not exceed 1.02 tons per month averaged over a 12-month rolling period

Applicable Compliance Method

Compliance with the allowable mass emission rate for PM emissions shall be based on the stack test performed in accordance with Section f)(2).

[Authority for term: ORC 3704.03(T)]
 - b. Emission Limitation

NOx emissions shall not exceed 1.17 tons per month averaged over a 12-month rolling period

Applicable Compliance Method

Compliance with the allowable mass emission rate for NOx emissions shall be based on the stack test performed in accordance with Section f)(2).

[Authority for term: ORC 3704.03(T)]
 - c. Emission Limitation

PM2.5 emissions shall not exceed 0.33 ton per month averaged over a 12-month rolling period

Applicable Compliance Method

Compliance with the allowable mass emission rate for PM2.5 emissions shall be based on the stack test performed in accordance with Section f)(2).



[Authority for term: OAC rule 3745-31-05(A)(3), effective 11/30/01]

d. Emission Limitation

PM10 emissions shall not exceed 0.33 ton per month averaged over a 12-month rolling period

Applicable Compliance Method

The allowable mass emission rate for PM10 emissions shall be based on the stack test performed in accordance with Section f)(2).

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 11/30/01]

e. Emission Limitation

SO2 emissions shall not exceed 0.003 ton per month averaged over a 12-month rolling period

Applicable Compliance Method

Compliance shall be determined by the following equation:

$$\text{rolling, 12-months summation} = (0.0094 \text{ MMFt}^3/\text{hr}) * (0.6 \text{ lb SO}_2 / \text{MMFt}^3) * (8760 \text{ hrs/yr}) * (\text{year}/12 \text{ months})$$

The natural gas usage includes the sand dryer and thermal unit as provided in PTI application A0049241, submitted 7/30/14.

Emission factor 0.6 lb SO₂/MMFt³ is obtained from USEPA's AP-42, Volume I, Fifth Edition, Section 1.4, "Natural Gas Combustion", Tables 1.4-1 and 1.4-2, July 1998. The annual limitation was calculated by multiplying the hourly limitation by 8760, and then dividing by 2000.

If required, the permittee may demonstrate compliance through emissions tests performed in accordance with 40 CFR 60, Appendix A, Method 6.

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 11/30/01]

f. Emission Limitation

CO emissions shall not exceed 0.33 ton per month averaged over a 12-month rolling period

Applicable Compliance Method

The allowable mass emission rate for CO emissions shall be based on the stack test performed in accordance with Section f)(2).

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 11/30/01]



g. Emission Limitation

VOC emissions shall not exceed 2.0 tons per month averaged over a 12-month rolling period

Applicable Compliance Method

The allowable mass emission rate for VOC emissions shall be based on the stack test performed in accordance with Section f)(2).

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 11/30/01]

h. Emission Limitation

PM emissions shall not exceed 0.04 lb/MMbtu

Applicable Compliance Method

Compliance may be determined by multiplying the maximum natural gas burning capacity of the emissions unit (0.0094 mmCF/hr) by the AP-42 (Table 1.4-5, 7/98) emissions factor for filterable particulates from natural gas combustion (1.9 lbs/mmCF) and dividing by the maximum heat input capacity of the emissions unit (7.205 mmBtu/hr).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and the procedures specified in OAC rule 3745-17-03(B)(9).

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

i. Emission Limitation

Visible particulate emissions from the stack serving baghouse B-3306, B-3552, and tsrbv2 this emissions unit shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method

Compliance with the stack and fugitive visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: 40 CFR Part 60, Subpart UUU]

j. Emission Limitation

Visible emissions from fugitive dust shall not exceed 20% opacity, as a three-minute average.



Applicable Compliance Method

Compliance with the visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-17-07(B)]

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

a. Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

b. The emission testing shall be conducted to demonstrate compliance with the following emission rates provided in PTI Application A0049241 which were used to establish the monthly average over a 12-month rolling period limitations in this permit:

- i. 2.79 lbs PM/hr
- ii. 0.90 lb PM2.5/hr
- iii. 0.90 lb PM10/hr
- iv. 3.21 lbs NOx/hr
- v. 0.47 lb VOC/hr
- vi. 0.90 lb CO/hr

The emission testing shall also be conducted to demonstrate compliance with the following outlet grain loading limitations:

- i. baghouse B-3306 = 0.005 gr/dscf
- ii. baghouse B-3552 = 0.005 gr/dscf
- iii. baghouse tsrbv2 = 0.005 gr/dscf

c. The following test method shall be employed to demonstrate compliance with the mass emission limitations:

PM	Method 5	40 CFR Part 60, Appendix A
PM10, PM2.5	Method 201	40 CFR Part 60, Appendix A
NOx	Method 7E	40 CFR Part 60, Appendix A
VOC	Method 25 and 25A	40 CFR Part 60, Appendix A



CO Method 10 40 CFR Part 60, Appendix A

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

- d. The tests shall be conducted while the emissions unit is vented to the baghouses and is operating at or near maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA, Central District Office. 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, Central District Office's refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Central District Office 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, Central District Office.

g) Miscellaneous Requirements

- (1) None.