



Environmental Protection Agency

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

4/22/2011

Gary Dickson  
Vesuvius USA Corporation - CD  
20200 Sheldon Road  
Brook Park, OH 44142

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 1318126134  
Permit Number: P0107902  
Permit Type: Renewal  
County: Cuyahoga

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	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)

Dear Permit Holder:

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

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

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPCWeb page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

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

Cc: CDAQ





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
Vesuvius USA Corporation - CD**

Facility ID:	1318126134
Permit Number:	P0107902
Permit Type:	Renewal
Issued:	4/22/2011
Effective:	4/22/2011
Expiration:	4/11/2016





Division of Air Pollution Control
Permit-to-Install and Operate
for
Vesuvius USA Corporation - CD

Table of Contents

Authorization ..... 1
A. Standard Terms and Conditions ..... 3
1. What does this permit-to-install and operate ("PTIO") allow me to do?..... 4
2. Who is responsible for complying with this permit? ..... 4
3. What records must I keep under this permit? ..... 4
4. What are my permit fees and when do I pay them?..... 4
5. When does my PTIO expire, and when do I need to submit my renewal application? ..... 4
6. What happens to this permit if my project is delayed or I do not install or modify my source? ..... 5
7. What reports must I submit under this permit? ..... 5
8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit? ..... 5
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ... 5
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report? ..... 6
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located? ..... 6
12. What happens if one or more emissions units operated under this permit is/are shut down permanently? ..... 6
13. Can I transfer this permit to a new owner or operator?..... 7
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"? ..... 7
15. What happens if a portion of this permit is determined to be invalid? ..... 7
B. Facility-Wide Terms and Conditions..... 8
C. Emissions Unit Terms and Conditions ..... 10
1. F002, Ball Mill Dust System ..... 11
2. P014, No. 4 cone blender, bulk exothermic system..... 15
3. P057, Foundry Water Based Core Washers ..... 19



## Authorization

Facility ID: 1318126134

Application Number(s): A0026772, A0026775, A0026777

Permit Number: P0107902

Permit Description: Renewal PTIO permit for Vesuvius USA Corp. - CD, which includes ball mill dust system with dust collector, Cone blender with three dust collectors and three coating mixers vented to a baghouse. F002 previously permitted under PTI 13-900 issued 4/13/1982 and a PTO issued 6/22/1984. P014 and P057 previously permitted under PTI # 13-04538 issued 4/4/2006.

Permit Type: Renewal

Permit Fee: \$0.00

Issue Date: 4/22/2011

Effective Date: 4/22/2011

Expiration Date: 4/11/2016

Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Vesuvius USA Corporation - CD  
20200 SHELDON ROAD  
Brook Park, OH 44142

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

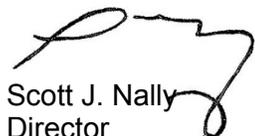
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality  
2nd Floor  
75 Erieview Plaza  
Cleveland, OH 44114  
(216)664-2297

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (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 described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0107902

Permit Description: Renewal PTIO permit for Vesuvius USA Corp. - CD, which includes ball mill dust system with dust collector, Cone blender with three dust collectors and three coating mixers vented to a baghouse. F002 previously permitted under PTI 13-900 issued 4/13/1982 and a PTO issued 6/22/1984. P014 and P057 previously permitted under PTI # 13-04538 issued 4/4/2006.

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

**Emissions Unit ID:**

Company Equipment ID:  
Superseded Permit Number:  
General Permit Category and Type:

**F002**

Ball Mill Dust System  
13-900  
Not Applicable

**Emissions Unit ID:**

Company Equipment ID:  
Superseded Permit Number:  
General Permit Category and Type:

**P014**

No. 4 cone blender, bulk exothermic system  
13-04538  
Not Applicable

**Emissions Unit ID:**

Company Equipment ID:  
Superseded Permit Number:  
General Permit Category and Type:

**P057**

Foundry Water Based Core Wash  
13-04538  
Not Applicable

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

**1. What does this permit-to-install and operate ("PTIO") allow me to do?**

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

**2. Who is responsible for complying with this permit?**

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

**3. What records must I keep under this permit?**

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

**4. What are my permit fees and when do I pay them?**

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

**5. When does my PTIO expire, and when do I need to submit my renewal application?**

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

**6. What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

**7. What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

**8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

**9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

**10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Cleveland Division of Air Quality in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

**11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?**

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

**12. What happens if one or more emissions units operated under this permit is/are shut down permanently?**

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means 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.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

---

<sup>1</sup>Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

**13. Can I transfer this permit to a new owner or operator?**

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

**14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?**

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

**15. What happens if a portion of this permit is determined to be invalid?**

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

## **B. Facility-Wide Terms and Conditions**

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) None.
  - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - (1) None.

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



**1. F002, Ball Mill Dust System**

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

Ball Mill Dust System with dust collector, twin silos and unloading stations.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Particulate Matter (PM) emissions shall not exceed 5.32 lbs/hr and 2.63 tons per year (TPY).
b.	OAC rule 3745-17-07(A)(1)(a)	Visible particulate emissions from any stack serving this emissions unit shall not exceed 20 percent opacity, as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-07(B)	Visible emissions of fugitive dust shall not exceed 20 percent opacity as a 3-minute average.
d.	OAC rule 3745-17-08(B)	Reasonably available control measures sufficient to minimize or eliminate visible emissions of fugitive dust. See term b)(2)a.
e.	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

- (2) Additional Terms and Conditions
- a. The installation and use of hoods, fans, and/or other equipment to adequately enclose, contain, capture, vent, and control fugitive dust from this emissions unit shall meet the following requirements:
- i. the collection efficiency shall be sufficient to minimize or eliminate visible emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and
- ii. the control equipment for this emissions unit shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there shall be no visible particulate emissions (whichever is less stringent) from the exhaust stack of this emissions unit.
- c) Operational Restrictions
- (1) None.
- d) Monitoring and/or Recordkeeping Requirements
- (1) 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 the exhaust 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 from any points of capture and/or the stack, the permittee shall also note the following in the operations log:
- a. the location and color of the emissions;
- b. the total duration of any visible emissions incident; and
- c. any corrective actions taken to eliminate the visible emissions.
- e) Reporting Requirements
- (1) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:
- a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit;
- b. all days during which any visible particulate emissions were observed from the stack serving this emission unit; and
- c. any corrective actions taken to eliminate the visible emissions.

- (2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner proved by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
  - (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- f) Testing Requirements
- (1) Compliance with the emission limitations in b)(1) of this permit shall be determined in accordance with the following methods:
    - a. Emission Limitation:  
Each fabric filter/baghouse serving this emissions unit shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there shall be no visible particulate emissions from any stack.  
  
Applicable Compliance Method:  
Compliance with the requirement for no visible particulate emissions from the exhaust stack, identified in this permit, shall be determined in accordance with U.S. EPA Method 22. If opting to comply with the outlet particulate emissions rate, compliance with the 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases from the stack shall be determined in accordance with U.S. EPA Methods 1 through 5, as appropriate.
    - b. Emission Limitation:  
5.32 lbs/hr of particulate matter  
  
Applicable Compliance Method:  
Compliance shall be determined by totaling the following products:
      - i. Unloading to the storage silos (pneumatic):  
  
Multiply the AP-42 particulate emission factor of 0.27 pound of particulate emissions per ton of material mixed by 120 tons per hour. The resulting uncontrolled emissions rate, 32.4 lbs/hr, is then multiplied by a fabric filter/baghouse control factor of 99% (1 - .99), resulting in a controlled emission rate of 0.324 lbs/hr. Emission factors based on AP-42 Fifth Edition (Cement Batch Silo 11.12-2) using a factor of 0.27 lbs/ton after controls and (Blender Process 8.5-1) using a factor of 120 lbs/ton after controls.

ii. Truck loading (transit mix) or mixer loading:

Multiply the AP-42 particulate emission factor of 0.02 or 0.04 pound of particulate emissions per ton of material mixed for truck loading or mixer loading, respectively by 120 tons per hour. The resulting uncontrolled emissions rate, 2.4 lbs/hr or 4.8 lbs/hr, is then multiplied by a fabric filter/baghouse control factor of 99% (1 - .99), resulting in a controlled emission rate of 0.024 lb/hr or 0.048 lb/hr.

The lbs/hr emission rate for each of the four areas is summed. The resulting emission rate is 1.112 lbs/hr when truck loading or 1.136 lbs/hr when mixer loading.

c. Emission Limitation:  
2.63 TPY of particulate matter

Applicable Compliance Method:

The annual emission limitation was established by multiplying the hourly emission rate of 5.32 lbs/hr by 988 hours of operation and dividing by 2,000 pounds per ton.

d. Emission Limitation:  
Visible emission of fugitive dust shall not exceed 20 percent opacity as a three-minute average.

Applicable Compliance Method:

If required, compliance with the visible emissions of fugitive dust shall be determined in accordance with U.S. EPA Method 9 set forth in "Appendix on Test Methods" in 40 CFR, Part 60, Appendix A, and the requirements of OAC rule 3745-17-03(B)(3).

e. Emission Limitation:  
Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

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

g) Miscellaneous Requirements

(1) None.



2. P014, No. 4 cone blender, bulk exothermic system

Operations, Property and/or Equipment Description:

Cone Blender No. 4 with three dust collectors

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Particulate emissions shall not exceed 2.76 lbs/hr and 12.09 tons per year  PM <sub>10</sub> emissions shall not exceed 0.96 lb/hr and 4.20 tons per year.  See section b)(2)a. below.
b.	OAC rule 3745-17-07(A)	Visible emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emissions limitation established pursuant to OAC rule 3745-31-05(A)(5)(3).

- (2) Additional Terms and Conditions
  - a. The short-term (lb/hour) and annual (tpy) emissions limitations for particulate and PM<sub>10</sub> emissions were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emissions limitations.
- c) Operational Restrictions
  - (1) The permittee shall operate the dust collectors (DSC-521, DSC-139 and BVF-976) whenever this emissions unit is in operation.
  - (2) The pressure drop across each of the dust collectors shall be maintained within the following ranges while the emissions unit is in operation:  
DSC-521: 0.2 – 6.0 inches of water  
DSC-139: 1.0 – 6.0 inches of water  
BVF-976: 1.0 – 6.0 inches of water
- d) Monitoring and/or Recordkeeping Requirements
  - (1) The permittee shall maintain daily records that document any time periods when the dust collectors were not in service while the emissions unit was in operation.
  - (2) The permittee shall properly operate and maintain equipment to monitor the pressure drop across each of the dust collectors (DSC-521, DSC-139, and BVF-976) while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the dust collectors on a daily basis.
- e) Reporting Requirements
  - (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
  - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
  - (3) The permittee shall identify in the annual PER any record showing that any dust collector (DSC-521, DSC-139 or BVF-976) was not in service when the emissions unit was in operation.

f) Testing Requirements

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

a. Emission Limitation:  
 20% opacity from stack, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9.

b. Emission Limitation:  
 2.76 lbs/hr of PE (total from dust collectors DSC-521, DSC-139 and BVF-976)

Applicable Compliance Method:

Compliance with the mass emissions limitation shall be determined by using the following one-time calculation for potential to emit:

$$(\text{Max}) \times (EF_{\text{PM}}) \times (1 - \text{CE}) = 2.76 \text{ lbs/hr}$$

Where:

Max = 1.0 ton/hr = maximum hourly throughput

EF = 276.2 lbs/ton\*

CE = 99% = control efficiency of each dust collector

\*276.2 lbs/ton = 2 x 120 lbs/ton from AP-42 (Table 11.5-2 for dry mixing) + 34 lbs/ton from SCC 3-05-003-03 (for drum filling) + 2.2 lbs/ton from AP-42 (Table 11.12-2 for the blow pot)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A.

c. Emission Limitation:  
 12.09 tons per year of PE (total from dust collectors DSC-521, DSC-139 and BVF-976)

Applicable Compliance Method:

The annual limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation:  
0.96 lb/hr of PM<sub>10</sub> emissions (total from dust collectors DSC-521, DSC-139 and BVF-976)

Applicable Compliance Method:

Compliance with the mass emissions limitation shall be determined by using the following one-time calculation for potential to emit:

$$(\text{Max}) \times (\text{EF}_{\text{PM}}) \times (1 - \text{CE}) = 0.96 \text{ lb/hr}$$

Where:

Max = 1.0 ton/hr = maximum hourly throughput

EF = 96.2 lbs/ton\*

CE = 99% = control efficiency of each dust collector

\*96.2 lbs/ton = 2 x 30 lbs/ton from AP-42 (Table 11.5-2 for dry mixing) + 34 lbs/ton from SCC 3-05-003-03 (for drum filling) + 2.2 lbs/ton from AP-42 (Table 11.12-2 for the blow pot)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable, of 40 CFR Part 60, Appendix A.

- e. Emission Limitation:  
4.20 tons per year of PM<sub>10</sub> emissions (total from dust collectors DSC-521, DSC-139 and BVF-976)

Applicable Compliance Method:

The annual limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- g) Miscellaneous Requirements

(1) None.



3. P057, Foundry Water Based Core Washers

Operations, Property and/or Equipment Description:

3 Coating mixers vented to a baghouse

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Particulate emissions shall not exceed 0.50 lb/hr and 2.19 tons per year  PM <sub>10</sub> emissions shall not exceed 0.50 lb/hr and 2.19 tons per year.  See section b)(2)a. below.
b.	OAC rule 3745-17-07(A)	Visible emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emissions limitation established pursuant to OAC rule 3745-31-05(A)(5)(3).

- (2) Additional Terms and Conditions
  - a. The short-term (lb/hour) and annual (tpy) emissions limitations for particulate and PM<sub>10</sub> emissions were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emissions limitations.
- c) Operational Restrictions
  - (1) The permittee shall operate the dust collector (DSC-582) whenever this emissions unit is in operation.
  - (2) The pressure drop across the dust collector shall be maintained within the range of 1.0 – 6.0 inches of water while the emission unit is in operation.
- d) Monitoring and/or Recordkeeping Requirements
  - (1) The permittee shall maintain daily records that document any time periods when the dust collector (DSC-582) was not in service while the emissions unit was in operation.
  - (2) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the dust collector (DSC-582) while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). the permittee shall record the pressure drop across each of the dust collectors on a daily basis.
- e) Reporting Requirements
  - (1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
  - (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
  - (3) The permittee shall identify in the annual PER any record showing that any dust collector (DSC-582) was not in service when the emissions unit was in operation.
- f) Testing Requirements
  - (1) Compliance with the emissions limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):

- a. Emission Limitation:  
20% opacity from stack, as a 6-minute average, except as provided by rule.

**Applicable Compliance Method:**

If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9.

- b. Emission Limitation:  
0.50 lb/hr of PE

**Applicable Compliance Method:**

Compliance with the mass emissions limitation shall be determined by using the following one-time calculation for potential to emit:

$$(\text{Max}) \times (\text{EF}_{\text{PM}}) \times (1 - \text{CE}) = 0.50 \text{ lb/hr}$$

Where:

Max = 2.50 tons/hr = maximum hourly throughput

EF = 20.0 lbs/ton\*

CE = 99% = control efficiency of each dust collector

\*20.0 lbs/ton from AP-42 (Table 6.4-1 for paint mixing)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A.

- c. Emission Limitation:  
2.19 tons per year of PE

**Applicable Compliance Method:**

The annual limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- d. Emission Limitation:  
0.50 lb/hr of PM<sub>10</sub> emissions

**Applicable Compliance Method:**

Compliance with the mass emissions limitation shall be determined by using the following one-time calculation for potential to emit:

$$(\text{Max}) \times (\text{EF}_{\text{PM}}) \times (1 - \text{CE}) = 0.50 \text{ lb/hr}$$

Where:

Max = 2.5 tons/hr = maximum hourly throughput

EF = 20.0 lbs/ton\*

CE = 99% = control efficiency of each dust collector

\*20.0 lbs/ton from AP-42 (Table 6.4-1 for paint mixing)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable, of 40 CFR Part 60, Appendix A..

- e. Emission Limitation:  
2.19 tons per year of PM<sub>10</sub> emissions

Applicable Compliance Method:

The annual limitation was developed by multiplying the pound per hour limitation by the maximum operating schedule of 8,760 hours per year, and dividing by 2,000 pounds per ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

- g) Miscellaneous Requirements

- (1) None.