



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

6/24/2016

Mr. Michael Tomaro
 GRAFTECH INTERNATIONAL HOLDINGS INC
 12300 Snow Rd.
 Parma, OH 44130

Certified Mail

| | |
|----|------------------------------------|
| No | TOXIC REVIEW |
| No | SYNTHETIC MINOR TO AVOID MAJOR NSR |
| No | CEMS |
| No | MACT/GACT |
| No | NSPS |
| No | NESHAPS |
| No | NETTING |
| No | MODELING SUBMITTED |
| No | SYNTHETIC MINOR TO AVOID TITLE V |
| No | FEDERALLY ENFORCABLE PTIO (FEPTIO) |
| No | SYNTHETIC MINOR TO AVOID MAJOR GHG |

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
 Facility ID: 1318458257
 Permit Number: P0120545
 Permit Type: Initial Installation
 County: Cuyahoga

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) 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. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

How to appeal this permit

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

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

How to save money, reduce pollution and reduce energy consumption

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

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

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

What should you do if you notice a spill or environmental emergency?

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

If you have any questions regarding your permit, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



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

Cc: CDAQ



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
GRAFTECH INTERNATIONAL HOLDINGS INC**

| | |
|----------------|----------------------|
| Facility ID: | 1318458257 |
| Permit Number: | P0120545 |
| Permit Type: | Initial Installation |
| Issued: | 6/24/2016 |
| Effective: | 6/24/2016 |
| Expiration: | 6/24/2026 |



Division of Air Pollution Control
Permit-to-Install and Operate
for
GRAFTECH INTERNATIONAL HOLDINGS INC

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Final Permit-to-Install and Operate
GRAFTECH INTERNATIONAL HOLDINGS INC
Permit Number: P0120545
Facility ID: 1318458257
Effective Date: 6/24/2016

Authorization

Facility ID: 1318458257
Application Number(s): A0055589
Permit Number: P0120545
Permit Description: Initial PTIO for emissions units P003 (lathe), P009 (planer, sander), P010 (bridge mill), and P014 (lathe) for processing graphite material. Each emissions unit is vented to a baghouse for particulate control that vents inside the building.
Permit Type: Initial Installation
Permit Fee: \$2,200.00
Issue Date: 6/24/2016
Effective Date: 6/24/2016
Expiration Date: 6/24/2026
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

GRAFTECH INTERNATIONAL HOLDINGS INC
12300 Snow Road
Parma, OH 44130

of a Permit-to-Install and Operate 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:

Cleveland Division of Air Quality
2nd Floor
75 Erievue 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


Craig W. Butler
Director



Authorization (continued)

Permit Number: P0120545

Permit Description: Initial PTIO for emissions units P003 (lathe), P009 (planer, sander), P010 (bridge mill), and P014 (lathe) for processing graphite material. Each emissions unit is vented to a baghouse for particulate control that vents inside the building.

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

| | |
|-----------------------------------|----------------|
| Emissions Unit ID: | P009 |
| Company Equipment ID: | 070 Timesavers |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |

Group Name: Graphite P003, P010, P014

| | |
|-----------------------------------|-----------------|
| Emissions Unit ID: | P003 |
| Company Equipment ID: | ET-100 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P010 |
| Company Equipment ID: | 056 Milltronics |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P014 |
| Company Equipment ID: | ET-65 |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |



Final Permit-to-Install and Operate
GRAFTECH INTERNATIONAL HOLDINGS INC
Permit Number: P0120545
Facility ID: 1318458257
Effective Date: 6/24/2016

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. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. 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 of this permit 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.



Final Permit-to-Install and Operate
GRAFTECH INTERNATIONAL HOLDINGS INC
Permit Number: P0120545
Facility ID: 1318458257
Effective Date: 6/24/2016

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 [DO/LAA] 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 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 emission 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.

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.



Final Permit-to-Install and Operate
GRAFTECH INTERNATIONAL HOLDINGS INC
Permit Number: P0120545
Facility ID: 1318458257
Effective Date: 6/24/2016

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.



Final Permit-to-Install and Operate
GRAFTECH INTERNATIONAL HOLDINGS INC
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Effective Date: 6/24/2016

C. Emissions Unit Terms and Conditions

1. P009, 070 Timesavers

Operations, Property and/or Equipment Description:

070 Timesavers planer, sander controlled by the Donaldson dust collector # 3

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) June 30, 2008 | Particulate emissions (PE) shall not exceed 0.12 ton per month averaged over a 12-month rolling period. See 5.b)(2)a. below. |
| b. | OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008 | The Best Available Technology (BAT) requirements under OAC rule 3745-31-05 (A)(3) do not apply to the PE emissions from this emissions unit since the controlled potential to emit is less than 10 tons/year. See 5.b)(2)b. below. |
| c. | OAC rule 3745-31-05(F) | Particulate emissions (PE) shall not exceed 0.32 lb/hr and 1.4 tons per year. |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|-------------------------------|---|
| d. | OAC rule 3745-17-07(B) | Visible emissions of fugitive dust shall not exceed 20% opacity as a three minute average. |
| e. | OAC rule 3745-31-17-08(B) | Reasonably available control measures (RACM) must be employed to sufficiently minimize or eliminate visible emissions of fugitive dust. See 5.b)(2)c. and c)(1) below. |
| f. | OAC rule 3745-31-17(B) | The particulate emission limit specified by this rule is less stringent than the particulate emission limit established pursuant to OAC rule 3745-31-05(F). |

(2) Additional Terms and Conditions

- a. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year exemption) into the Ohio State Implementation Plan (SIP).
- b. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
- c. The permittee shall employ reasonably available control measures that shall include, but not be limited to, the installation and use of hoods, fans, and/or other equipment to adequately enclose, contain, capture, vent, and control fugitive dust from this emission unit and 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.
- d. The opacity limitation from OAC rule 3745-17-07(A) does not apply to this emission unit because the dust collector for this emissions unit is vented inside the building. It is not possible to determine opacity inside a building. Therefore, any particulate emissions escaping the building through non-stack egress points (e.g., windows, doors, roof monitors) will be viewed as a fugitive dust emission and subject to the opacity limitation from OAC rule 3745-17-07(B).

c) Operational Restrictions

- (1) The emissions from this emissions unit shall be vented to the Donaldson dust collector # 3 at all times when the planer, sander is in operation.
- (2) In order to maintain compliance with the applicable emissions limitations contained in this permit, the acceptable range established for the pressure drop across the Donaldson dust collector # 3 is between 1 and 15 inches of water.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain daily records that document any time periods when the Donaldson dust collector # 3 is not in service while the emission unit was in operation.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water across the dust collector when the emissions unit is in operation. The permittee shall record the pressure drop across the Donaldson dust collector # 3 on a daily basis. The monitoring equipment shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals(s) with any modifications deemed necessary by the permittee.

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 deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the names(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations;

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reason for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date the corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;

- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigations 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 Donaldson dust collector # 3 is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland Division of Air Quality (Cleveland DAQ). The permittee may request revisions to the permitted limit or range for the pressure drop based, upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emission unit. In addition, approved revisions to the range or limit will constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal: or they may be mailed as a hard copy to the Cleveland Division of Air Quality (Cleveland DAQ).
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland DAQ by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of not more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the Donaldson dust collector # 3 during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the pressure drop across the Donaldson dust collector # 3 was outside the operating range;
 - b. each period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the Donaldson dust collector # 3;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

- e. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s) , as identified in the monitoring and record keeping requirements of this permit.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:

Particulate emissions (PE) shall not exceed 0.12 ton PE/month averaged over a 12-month rolling period.

Applicable Compliance Method:

The maximum potential to emit PE emission rate is determined by the following calculations based on the allowable particulate limit established through OAC rule 3745-31-05(F):

$$0.32 \text{ lb PE/hr} \times 8760 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 1.4 \text{ tpy PE}$$

$$1.4 \text{ tpy PE} \times 1 \text{ yr}/12 \text{ months} = 0.12 \text{ ton/month average}$$

Therefore, provided compliance is maintained with the lb/hr emission limit, compliance shall also be determined with the average ton/month limit.

- b. Emission Limitation:

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

Applicable Compliance Method:

If required, compliance with the limitation for visible emissions for fugitive dust shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3). The points of observation shall be the non-stack egress points (e.g., windows, doors, roof monitors,) serving this emissions unit.

- c. Emission Limitation:

PE shall not exceed 0.32 lb/hr.

Applicable Compliance Method:

Compliance may be determined using the following emission calculation:

$$1.89 \text{ ton/hour} \times 17.0 \text{ lbs PE/ton (EF}^*) = 32.13 \text{ lb PE/hour}$$



$$32.13 \text{ lb PE/hour} \times (1 - 0.99) = 0.32 \text{ lb PE/hr}$$

Maximum process weight rate = 1.89 ton/hour

*EF = emissions factor is from AP-42 Table 12.10-7 (1/1995) similar to gray iron and steel: cleaning, finishing.

Dust collector control efficiency = 99%

If required, compliance shall be determined by performing a stack test using U.S. EPA Methods 1 – 5 of 40 CFR, Part 60, Appendix A.

d. Emission Limitation:

PE shall not exceed 1.4 tons/year.

Applicable Compliance Method:

The annual emission limitation was established by multiplying the hourly emission rate by 8760 hours of operation per year and dividing by 2000 pounds per ton. Therefore, provided compliance is maintained with the pounds per hour emission limitation, compliance with the annual emission limitation shall also be demonstrated.

g) Miscellaneous Requirements

- (1) Emissions unit P009, was installed in 2015.
- (2) The Donaldson dust collector that controls the particulate emissions from this emissions unit is vented back inside the building. The flow rate contribution for emissions unit P009 is greater than 4,000 cfm; therefore, this emissions unit does not qualify for the permanent exemption contained in OAC rule 3745-31-03(B)(1)(z).



2. Emissions Unit Group -Graphite P003, P010, P014: P003,P010,P014,

| EU ID | Operations, Property and/or Equipment Description |
|-------|---|
| P003 | ET-100 Lathe OD turning, coring, threading, boring controlled by the Donaldson dust collector # 1 |
| P010 | 056 Milltronics bridge mill controlled by the Donaldson dust collector # 3 |
| P014 | ET-65 Lathe OD turning, coring, threading, boring controlled by the Donaldson dust collector # 5 |

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 3745-31-05(A)(3) June 30, 2008 | Particulate emissions (PE) shall not exceed 0.2 ton per month averaged over a 12-month rolling period. See b)(2)a. below. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|---|--|
| b. | OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008 | The Best Available Technology (BAT) requirements under 3745-31-05(A)(3) do not apply to the particulate emissions since the calculated annual emission rate is less than 10 ton/year taking into account the federally enforceable rule limit of 0.551 lb/hr in OAC rule 3745-17-11(B). See b)(2)b. below |
| 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) | Reasonably available control measures (RACM) must be employed to sufficiently minimize or eliminate visible emission of fugitive dust. See b)(2)c. and c)(1) below. |
| e. | OAC rule 3745-17-11(B) | Particulate emissions shall not exceed 0.551 lb/hr |

(2) Additional Terms and Conditions

- a. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- b. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
- c. The permittee shall employ reasonably available control measures that shall include, but not be limited to, the installation and use of hoods, fans, and / or other equipment to adequately enclose, contain, capture, vent, and control fugitive dust from this emission 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.

d. The opacity limitation from OAC rule 3745-17-07(A) does not apply to these emissions units because the dust collector for each emissions unit is vented inside the building. It is not possible to determine opacity inside a building. Therefore, any particulate emissions escaping the building through non-stack egress points (e.g., windows, doors, roof monitors) will be viewed as a fugitive dust emission and subject to the opacity limitation from OAC rule 3745-17-07(B).

c) Operational Restrictions

- (1) The emissions from this emissions unit shall be vented to a baghouse at all times when the unit is in operation.
- (2) In order to maintain compliance with the applicable emissions limitations contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 1 and 15 inches of water.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain daily records that document any time periods when the dust collector serving this emissions unit was not in service while the emissions unit was in operation.
- (2) The permittee shall properly install, operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the emissions unit is in operation including periods of startup and shut down. The permittee shall record the pressure drop across the 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.

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 deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the names(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations;

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reason for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

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

Investigations 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 Cleveland Division of Air Quality (Cleveland DAQ). The permittee may request revisions to the permitted limit or range for the pressure drop based, upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emission unit. In addition, approved revisions to the range or limit will constitute a relaxation for the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal: or they may be mailed as a hard copy to the Cleveland Division of Air Quality (Cleveland DAQ).
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland DAQ by the due date identified in the authorization section of this permit. The PER shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the baghouse during the 12-month reporting period for this /these emissions units(s);
 - a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - b. any period of time (start time and date and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;



- d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
- e. each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s) , as identified in the monitoring and record keeping requirements of this permit.

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Particulate emissions (PE) shall not exceed 0.2 ton PE/month averaged over a 12-month rolling period.

Applicable Compliance Method:

The maximum potential to emit PE emission rate is determined by the following calculations based on the allowable particulate limit from OAC rule 3745-17-11:

$$0.551 \text{ lb PE/hr} \times 8760 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 2.41 \text{ tpy PE}$$

$$2.41 \text{ tpy PE} \times 1 \text{ yr}/12 \text{ months} = 0.2 \text{ ton/month average}$$

Therefore, provided compliance is maintained with the lb/hr emission limit, compliance shall also be determined with the average ton/month limit.

b. Emission Limitation:

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

Applicable Compliance Method:

If required, compliance with the limitation for visible emissions for fugitive dust shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3). The points of observation shall be the non-stack egress points (e.g., windows, doors, roof monitors,) serving this emissions unit.

c. Emission Limitation:

PE shall not exceed 0.551 lb/hr

Applicable Compliance Method:



For P003 and P010:

Compliance may be determined using the following emission calculation:

$$0.26 \text{ ton/hour} \times 17.0 \text{ lbs PE/ton (EF*)} = 4.42 \text{ lbs PE/hour}$$

$$4.42 \text{ lbs PE/hour} \times (1 - 0.99) = 0.04 \text{ lb PE/hr}$$

Maximum process weight rate = 0.26 ton/hour

For P014:

Compliance may be determined using the following emission calculation:

$$0.18 \text{ ton/hour} \times 17.0 \text{ lbs PE/ton (EF*)} = 3.06 \text{ lbs PE/hour}$$

$$3.06 \text{ lbs PE/hour} \times (1 - 0.99) = 0.03 \text{ lb PE/hr}$$

Maximum process weight rate = 0.18 ton/hour

*EF = emissions factor is from AP-42 Table 12.10-7 (1/1995) similar to gray iron and steel; cleaning, finishing.

Dust collector control efficiency = 99%

If required, compliance shall be determined by performing a stack test using U.S. EPA Methods 1 – 5 of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) Emissions units P003, P010, and P014 were each installed in 2015.

Each of the Donaldson dust collectors that control the particulate emissions from these emissions units are vented back inside the building. The flow rate contribution for emissions units P003, P010, and P014 are each greater than 4,000 cfm; therefore, these emissions units do not qualify for the permanent exemption contained in OAC rule 3745-31-03(B)(1)(z).