

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

2/12/2014

Certified Mail

VICKI VESEL
GrafTech International Holdings, Inc.
PO BOX 6116
CLEVELAND, OH 44101

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318453876
Permit Number: P0095739
Permit Type: Renewal
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**

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.

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.

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
GrafTech International Holdings, Inc.**

Facility ID:	1318453876
Permit Number:	P0095739
Permit Type:	Renewal
Issued:	2/12/2014
Effective:	2/12/2014
Expiration:	2/12/2019



Division of Air Pollution Control
Permit-to-Install and Operate
for
GrafTech International Holdings, Inc.

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	15
1. P011, Heated Press.....	16



Final Permit-to-Install and Operate
GrafTech International Holdings, Inc.
Permit Number: P0095739
Facility ID: 1318453876
Effective Date: 2/12/2014

Authorization

Facility ID: 1318453876
Application Number(s): A0027332
Permit Number: P0095739
Permit Description: FEPTIO renewal for emissions unit P011 which is an electric heated press manufacturing carbon articles equipped with fabric filter baghouse followed by thermal incinerator. PTI 13-04634 issued 8/22/2006.
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 2/12/2014
Effective Date: 2/12/2014
Expiration Date: 2/12/2019
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

GrafTech International Holdings, Inc.
12900 SNOW RD
Parma, OH 44130-1012

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

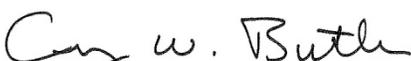
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 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


Craig W. Butler
Interim Director



Final Permit-to-Install and Operate
GrafTech International Holdings, Inc.
Permit Number: P0095739
Facility ID: 1318453876
Effective Date: 2/12/2014

Authorization (continued)

Permit Number: P0095739

Permit Description: FEPTIO renewal for emissions unit P011 which is an electric heated press manufacturing carbon articles equipped with fabric filter baghouse followed by thermal incinerator. PTI 13-04634 issued 8/22/2006.

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

Emissions Unit ID:	P011
Company Equipment ID:	Heated Press
Superseded Permit Number:	13-04634
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
GrafTech International Holdings, Inc.
Permit Number: P0095739
Facility ID: 1318453876
Effective Date: 2/12/2014

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.



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: P0095739
Facility ID: 1318453876
Effective Date: 2/12/2014

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) 2. and 3. below.

2. Facility-wide HAP Restrictions

a) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)(1)(b) FEPTIO to avoid Title V	See a)(2)a. and a)(2)b. below.

(2) Additional Terms and Conditions

- a. The total allowable emissions of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at the GrafTech International Holdings, Inc., (see a)(2)b. below) shall not exceed 9.0 tons/year for any individual HAP and 24.0 tons/year for a combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation of emissions for EU P011 plus the annual HAP contribution from the other emissions units at GrafTech International Holdings, Inc. See f)(1) below.
- b. The following list of emissions units at GrafTech International Holdings, Inc. emit HAPs:

 B004, B014, P005, P009, P011, P012, P013, P014, P015, P016, P017, B017, (6) pot furnaces, (6) muffle furnaces, (2) pitch impregnator vents, (15) 0.165 - 1.875 mmBtu/hr natural gas-fired space heaters, (1) 1.05 mmBtu/hr natural gas-fired



hot water boiler, (1) 0.27 mmBtu/hr natural gas fired hot water heater, maintenance welding hoods, small heated BP press, lab equipment/lab hoods, and bench scale exfoliation furnace.

- b) Operational Restrictions
 - (1) None.
- c) Monitoring and Recordkeeping Requirements
 - (1) See B.2.f)(1) and C.1.d)(4) below.
- d) Reporting Requirements
 - (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
 - (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. the rolling, 12-month individual HAP emission limitation; and
 - ii. the rolling, 12-month combined HAPs emission limitation.
 - b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and



- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality (CDAQ).

e) Testing Requirements

- (1) Compliance with the emission limitations in 2.a)(1) above shall be determined in accordance with the following method(s):

- a. Emission Limitation:

- 9.0 tons/yr of each single HAP for GrafTech International Holdings, Inc., as a rolling, 12- month summation.

- Applicable Compliance Method:

- Compliance shall be based upon the record keeping specified in Section C.1.d)(4) and shall be the sum of the monthly emission rates for any rolling, 12-month period for P011 plus the annual contribution from all other emissions units at GrafTech International Holdings, Inc..

- b. Emission Limitation:

- 24.0 tons/yr of combined HAPs for GrafTech International Holdings, Inc., as a rolling, 12- month summation

- Applicable Compliance Method:

- Compliance shall be based upon the record keeping specified in Section C.1.d)(4) and shall be the sum of the monthly emission rates for any rolling, 12-month period for P011 plus the annual contribution from all other emissions units at GrafTech International Holdings, Inc..

f) Miscellaneous Requirements

- (1) Since GrafTech International Holdings, Inc. is a research and development facility they have numerous small emission sources. Many of these sources would be extremely difficult to track on a monthly basis because of the changing nature of R&D work. Many of these small sources do not operate on a routine basis. Tracking monthly emissions from such small sources for a rolling, 12-month average given the nature of the operations is not possible. GrafTech International Holdings, Inc. shall perform an annual analysis for HAP emissions for these emissions units if the HAP emissions from C.1.d)(4)(f) exceeds 9.0 tpy.

- (2)



3. Facility-wide CO Restrictions

a) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)(1)(b) FEPTIO to avoid Title V	See a)(2)a. and a)(2)b. below.

(2) Additional Terms and Conditions

- a. The total allowable emissions of carbon monoxide (CO) from emissions units at the GrafTech International Holdings, Inc., (see a)(2)b. below) shall not exceed 20.0 tons/year. Compliance with this emissions limitation shall be based upon a rolling, 12-month summation of CO emissions for B004, B014, B017, P005, P009, and P011 through P017 plus the annual CO contribution from the other emissions units at GrafTech International Holdings, Inc.. See f)(1) below.

- b. The following list of emissions units at GrafTech International Holdings, Inc. emit CO:

B004, B014, P005, P009, P011, P012, P013, P014, P015, P016, P017, B017, (6) pot furnaces, (6) muffle furnaces, (2) pitch impregnator vents, (15) 0.165 - 1.875 mmBtu/hr natural gas-fired space heaters, (1) 1.05 mmBtu/hr natural gas-fired hot water boiler, (1) 0.27 mmBtu/hr natural gas fired hot water heater, maintenance welding hoods, small heated BP press, lab equipment/lab hoods, and bench scale exfoliation furnace.

b) Operational Restrictions

- (1) None.

c) Monitoring and Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month for this facility:

- a. the amount of natural gas combusted, in mmcf;
 b. the amount of fuel oil combusted, in gallons;



- c. the total monthly CO emissions from a. and b. above, in tons; and
- d. the rolling, 12-month CO emissions.

The CO emissions shall be calculated using the appropriate AP-42 factors for emissions units B004, B014, B017, P005, P009, and P011 through P017. If available and applicable, stack test results from a similar source may be used to determine the CO emissions.

- (2) The monthly CO emissions rate in accordance with e)(1) and f)(1) below for all CO-emitting process operations not addressed by c)(1).
- (3) The permittee shall calculate and record the total rolling, 12-month CO emissions rate (summation of c)(1) and c)(2) above).

d) Reporting Requirements

- (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. the rolling, 12-month CO emission limitation.
 - b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and



- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Cleveland Division of Air Quality (CDAQ).

e) Testing Requirements

- (1) Compliance with the emission limitations in 3.a)(1) above shall be determined in accordance with the following method(s):

- a. Emission Limitation:

Facility-wide emissions of CO shall not exceed 20.0 tons/yr as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in B.3.c)(1) and C.1.d)(4)g. and shall be the sum of the monthly emission rates for any rolling, 12-month period and, if necessary, the annual contribution from all other emissions units at the facility. See f)(1) below.

f) Miscellaneous Requirements

- (1) Since GrafTech International Holdings, Inc. is a research and development facility they have numerous small emission sources. Many of these sources would be extremely difficult to track on a monthly basis because of the changing nature of R&D work. Many of these small sources do not operate on a routine basis. Tracking monthly emissions from such small sources for a rolling, 12-month average given the nature of the operations is not possible. The permittee shall perform an annual analysis for CO emissions for these emissions units if the CO emissions from c)(1) above exceeds 20.0 tpy.



Final Permit-to-Install and Operate
GrafTech International Holdings, Inc.
Permit Number: P0095739
Facility ID: 1318453876
Effective Date: 2/12/2014

C. Emissions Unit Terms and Conditions



1. P011, Heated Press

Operations, Property and/or Equipment Description:

Electric press manufacturing carbon articles equipped with fabric filter baghouse followed by thermal incinerator

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. b)(1)d., c)(4), d)(3), d)(4), e)(2), and f)(1)g..

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) PTI 13-04634 issued 8/22/2006	Sulfur dioxide (SO ₂) emissions shall not exceed 35.2 pounds per hour. Carbon monoxide (CO) emissions shall not exceed 1.89 pounds per hour. Volatile organic compound (VOC) emissions shall not exceed 0.20 pound per hour. Nitrogen oxide (NO _x) emissions shall not exceed 1.18 pounds per hour. The requirements of this rule also include compliance with OAC rules 3745-17-07(A), 3745-17-11 and 3745-31-05(D)(1)(b).



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average.
c.	OAC rule 3745-17-11(B)(1)	Particulate emissions (PE/PM ₁₀) shall not exceed 0.99 pound per hour.
d.	OAC rule 3745-31-05(D)(1)(b) Synthetic Minor to avoid Title V	24.0 TPY of SO ₂ emissions as a rolling, 12-month summation. 1.29 TPY of CO emissions as a rolling, 12-month summation. 0.14 TPY of VOC emissions as a rolling, 12-month summation. 0.80 TPY of NOx emissions as a rolling, 12-month summation. 0.68 TPY of PE/PM ₁₀ emissions as a rolling, 12-month summation.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

- (1) The permittee shall operate a thermal incinerator whenever this emissions unit is in operation*.
- (2) The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation*, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance.
- (3) The permittee shall operate a fabric filter baghouse whenever this emissions unit is in operation*.
- (4) The maximum annual operating hours for this emissions unit shall not exceed 1,365 hours, based upon a rolling, 12-month summation of the operating hours based on operation*.

* Note: Operation is defined as when the press is actively emitting. Preheating of the press and incinerator is not considered operation.



d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation*. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and calculate the average combustion temperature within the thermal incinerator, each of the eight, 3-hour blocks of time during each day of operation, and shall record and maintain the following information each day:
 - a. all 3-hour blocks of time, when the emissions unit was in operation*, during which the average combustion temperature within the thermal incinerator was more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance; and
 - b. a log of the downtime for the capture (collection) system, thermal incinerator, and monitoring equipment when the associated emissions unit was in operation*.
- (2) The permittee shall operate and maintain equipment to monitor the pressure drop across the fabric filter baghouse 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 the fabric filter baghouse on a once per shift basis while the emissions unit is in operation* and note whether the pressure drop is within the manufacturer's recommended range.
- (3) The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. the number of hours the source was in operation* for each month; and
 - b. the rolling, 12-month summation of the number of hours the source was in operation*.
- (4) The permittee shall collect and record the following information each month for this emissions unit:
 - a. the quantity of mix processed in the emissions unit in pounds;
 - b. the quantity of pitch in each mix processed in pounds and the quantity of added sulfur in each mix in pounds;
 - c. the total of each individual HAP emissions from the emissions unit in pounds or tons per month. Individual HAP Emissions calculated as follows: Total tons of



Individual HAP Emission/month = summation (pounds of ingredients in each batch mix) x (emission factor lbs individual HAP emission/lbs ingredients) x (% pitch in batch/12.5 % pitch basis of emission factor) x (1-(control device efficiency/100)) x (1 ton/2000 lbs) where the emission factors are 0.01624 lbs POM/lbs ingredients, 0.01183 lbs Carbonyl Sulfide/lbs ingredients (only for mixes with excess sulfur added), and 0.00205 lbs Carbon Disulfide/lb ingredients (only for mixes with excess sulfur added). The emission factors shall be updated based on the results of any new emissions data or stack testing data obtained for this emissions unit and its emissions controls;

- d. the total combined HAP emissions from the emissions unit in pounds or tons per month [the sum of (c) for all individual HAPs];
- e. the updated rolling, 12-month summation of emissions for each individual HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months and include the contribution from all other emissions units as determined from B.2.f)(1);
- f. the updated rolling, 12-month summation of emissions for total combined HAPs, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months and include the contribution from all other emissions units as determined from B.2.f)(1); and
- g. the updated rolling 12-month summation of emissions for total CO in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months and include the contribution from all other emissions units as determined from B.3.c).

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Cleveland Division of Air Quality (Cleveland DAQ) contact. This information does not have to be kept on an individual emission unit basis.

* Note: Operation is defined as when the press is actively emitting. Preheating of the press and incinerator is not considered operation.

e) Reporting Requirements

- (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid



electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator was more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance;
 - ii. any records of downtime for the capture (collection) system, the thermal incinerator, or the monitoring equipment when the emissions unit was in operation*;
 - iii. each day and time during which the pressure drop across the baghouse was outside the manufacturer's recommended operating range; and
 - iv. all exceedances of the rolling, 12-month limitation on the hours of operation.*
 - b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

* Note: Operation is defined as when the press is actively emitting. Preheating of the press and incinerator is not considered operation.



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:

Sulfur dioxide (SO₂) emissions shall not exceed 35.2 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be determined using U.S. EPA test methods 1 through 4 and 6 of 40 CFR Part 60 Appendix A.

b. Emission Limitation:

Carbon monoxide (CO) emissions shall not exceed 1.89 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be determined using U.S. EPA test methods 1 through 4 and 10 of 40 CFR Part 60 Appendix A.

c. Emission Limitation:

Volatile Organic Compounds (VOC) shall not exceed 0.20 pound per hour.

Applicable Compliance Method:

If required, compliance shall be determined using U.S. EPA test methods 1 through 4 and 18 or 25 or 25A of 40 CFR Part 60 Appendix A.

d. Emission Limitation:

Nitrogen oxide (NO_x) emissions shall not exceed 1.18 pounds per hour.

Applicable Compliance Method:

If required, compliance shall be determined using U.S. EPA test methods 1 through 4 and 7 of 40 CFR Part 60 Appendix A.

e. Emission Limitation:

Visible particulate emissions from any stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

f. Emission Limitation:

Particulate emissions (PE/PM₁₀) shall not exceed 0.99 pound per hour.

Applicable Compliance Method:

If required, compliance shall be determined using U.S. EPA test methods 1 through 5 of 40 CFR Part 60 Appendix A.



g. Emission Limitation:

24.0 TPY of sulfur dioxide (SO₂) emissions as a rolling, 12-month summation.
1.29 TPY of carbon monoxide (CO) emissions as a rolling, 12-month summation.
0.14 TPY Volatile Organic Compounds (VOC) emissions as a rolling, 12-month summation.
0.80 TPY Nitrogen oxide (NO_x) emissions as a rolling, 12-month summation.
0.68 TPY of particulate (PE/PM₁₀) emissions as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the annual limits shall be determined by multiplying the hourly emission rate for each pollutant determined from the performance test required in f)(2) below by the actual annual hours of operation*, based on the recordkeeping requirement in d)(3) and the factor (1 ton/2,000 lbs).

- (2) If deemed necessary by the Cleveland Division of Air Quality, a stack test shall be performed upon request. The most recent stack test was conducted on 10/16/07 with results as follows:

PM: 0.14 lb/hr
CO: 0.13 lb/hr
VOC: 0.2 lb/hr
SO₂: 3.74 lbs/hr
NO_x: 0.73 lb/hr

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic pollutant will be less than 1.0 ton. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that a new permit to install application would be required for an emissions unit if changes in the composition of the materials or use of new materials would cause the emissions of any pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices"), to increase to above 1.0 ton per year.