Ohio Environmental Protection Agency

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

9/21/2016

Certified Mail

| | |
|---|---|
| Yes | 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 |

Mr. Heriberto Ismael Tello Gomez
Vesuvius USA Corporation - CD
20200 SHELDON ROAD
Brook Park, OH 44142

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 1318126134
Permit Number: P0120644
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**
- **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

# Response to Comments

| | |
|---|---|
| Facility ID: | 1318126134 |
| Facility Name: | Vesuvius USA Corporation - CD |
| Facility Description: | Non-clay refactory. |
| Facility Address: | 20200 SHELDON ROAD<br>Brook Park, OH 44142<br>Cuyahoga County |
| Permit: | P0120644, Permit-To-Install and Operate - Renewal |
| A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the The Plain Dealer on 08/12/2016. The comment period ended on 09/11/2016. | |
| Hearing date (if held) | |
| Hearing Public Notice Date (if different from draft public notice) | |

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

**1. Topic: None**

a. Comment: None

b. Response: None

# FINAL

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

| | |
|---|---|
| Facility ID: | 1318126134 |
| Permit Number: | P0120644 |
| Permit Type: | Renewal |
| Issued: | 9/21/2016 |
| Effective: | 9/21/2016 |
| Expiration: | 9/21/2021 |

Ohio Environmental Protection Agency

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

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# Authorization

| | |
|---|---|
| Facility ID: | 1318126134 |
| Application Number(s): | A0055798, A0055822 |
| Permit Number: | P0120644 |
| Permit Description: | FEPTIO renewal permit for emissions units P013 (vacuum table), P017 and P018 (cone blenders), P032 (precision sleeve manufacturing), P048 (form sleeve manufacturing), P050 (insert sleeve manufacturing), P057 (mixer), P059 and P060 (oven, mixer, and core shooter), P061 (filter production line), P062 (Cowels mixer), and P065 (filter insertion machine) for a facility that produces a wide variety of filters for industrial and commercial uses. Resin slurry is pressed through mesh screens and/or molds and heat cured to create the hard filters. |
| Permit Type: | Renewal |
| Permit Fee: | $0.00 |
| Issue Date: | 9/21/2016 |
| Effective Date: | 9/21/2016 |
| Expiration Date: | 9/21/2021 |

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

This document constitutes issuance to:

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

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

Ohio 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
Director

# Authorization (continued)

Permit Number: P0120644
Permit Description: FEPTIO renewal permit for emissions units P013 (vacuum table), P017 and P018 (cone blenders), P032 (precision sleeve manufacturing), P048 (form sleeve manufacturing), P050 (insert sleeve manufacturing), P057 (mixer), P059 and P060 (oven, mixer, and core shooter), P061 (filter production line), P062 (Cowels mixer), and P065 (filter insertion machine) for a facility that produces a wide variety of filters for industrial and commercial uses. Resin slurry is pressed through mesh screens and/or molds and heat cured to create the hard filters.

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

| | |
|---|---|
| **Emissions Unit ID:** | **P013** |
| Company Equipment ID: | VVT and Oven #5 |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P017** |
| Company Equipment ID: | Cone blender #2 |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P018** |
| Company Equipment ID: | Cone blender #3. |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P032** |
| Company Equipment ID: | Insert Sleeve System and Oven #9 |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P048** |
| Company Equipment ID: | Sleeve Forming System and Oven #10 |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P050** |
| Company Equipment ID: | Sleeve Insert Line and Oven #11 |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P057** |
| Company Equipment ID: | Foundary Water-Based Core Washers |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P059** |
| Company Equipment ID: | Feedex Sleeve Line |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |

| | |
|---|---|
| **Emissions Unit ID:** | **P060** |
| Company Equipment ID: | Oven #2 South - Breaker Core Line |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P061** |
| Company Equipment ID: | Filter Process |
| Superseded Permit Number: | P0118161 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P062** |
| Company Equipment ID: | Cowles Mixer |
| Superseded Permit Number: | P0118198 |
| General Permit Category and Type: | Not Applicable |
| **Emissions Unit ID:** | **P065** |
| Company Equipment ID: | Filter Insertion Machine |
| Superseded Permit Number: | P0118198 |
| General Permit Category and Type: | Not Applicable |

# A. Standard Terms and Conditions

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

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

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

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

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

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

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

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

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

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

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

Annual emissions fee.Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. 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 beingpermanently shut down without first applying for and obtaining a permit pursuantto 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.

# 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) B.1.c) through B.1.f)

   c) 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.

| | plicable Rules/Requirements | plicable Emissions Limitations/Control Measures |
|---|---|---|
| | \C rule 3745-31-05(D)<br>nthetic Minor to avoid MACT and Title V. | e c)(2) below. |
| | OAC rule 3745-24 | See c)(2)c, e)(4), and e)(5) below. |

      (2) Additional Terms and Conditions

         a. The total allowable usage and emissions of Hazardous Air Pollutants (HAPs) as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units operated at this facility (identified in c)(2)b. below) shall not exceed 9.95 tons per year for any individual HAP or 24.0 tons per year for a combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

         b. The following emissions units operated at this facility emit HAPs: P013, P032, P048, P050, P059, and P060.

         c. The permittee shall comply with the requirements of OAC rule 3745-24 regarding $NO_x$ and VOC emissions relative to the nonattainment status of Cuyahoga County for ozone. If Cuyahoga County is redesignated to attainment, then beginning January 1 of the year following the U.S. EPA redesigation to

attainment of the National Ambient Air Quality Standard for ozone, this rule requirement will not apply.

d) Monitoring and Recordkeeping Requirements

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

a. the name and identification number of each HAP-containing resin employed onsite;

b. the individual HAP content for each HAP-containing resin employed, in pounds of individual HAP per pound of resin;

c. the total combined HAP content, in pounds of combined HAPs per pound of resin, [sum all the individual HAP contents from b.];

d. the amount, in pounds, of each HAP-containing resin employed;

e. the total individual HAP emissions from all HAP-containing resin materials, in pounds or tons per month [for each HAP the sum of b. times d. for each HAP-containing resin];

f. the total combined HAP emissions from all HAP-containing resin material, in pounds or tons per month [the sum of c. times d. for each HAP-containing resin];

g. the 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

h. the 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).

The above information described in a. through h. does not have to be kept for each individual emissions unit.

* The current list of 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.

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 exceedances of the rolling, 12-month individual HAP emission/material usage and/or 12-month combined HAPs emission/material usage for the emissions units identified in c)(2)b. above.

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 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.

(4) If $NO_x$ or VOC is emitted at or above the reporting threshold, the permittee shall submit emission statements for both pollutants to the Ohio EPA through Air Services online web portal and shall include at a minimum the following information:

a. the certifying individual shall certify that the information contained in the statement is accurate to the best of their knowledge and that all estimates and judgments relating to such information have been made in good faith; and

b. estimated actual emissions of $NO_x$ and VOC, in tons per year.

(5) Emission statements must be submitted by April fifteenth of the calendar year following the year covered by the emission statements.

f) Testing Requirements

(1) Compliance with the emissions limitations in c)(1) and c)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:
Individual HAP emissions shall not exceed 9.95 tons per year, facility-wide, based on a rolling, 12-month summation for the list of emissions units in c)(2)b.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(1).

b. Emission Limitation:
Combined HAP emissions shall not exceed 24.0 tons per year, based on a rolling, 12-month summation for the list of emissions units in c)(2)b.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in d)(1).

g) Miscellaneous Requirements

(1) None.

# C. Emissions Unit Terms and Conditions

## 1. P013, VVT and Oven #5

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

Vertical vacuum table (VVT) board forming system (Department 158) used to produce insulating and refractory shapes of varying sizes for use in steel and foundry industries. This process includes, four pulpers, slurry holding tanks, slurry screens, drying oven (oven #5 – 7.03 mmBtu/hr natural gas-fired), reclamation tanks, and packaging operation. Process emissions are controlled by dust collectors DSC#0229, DSC#1224, and DSC#1569.

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)e., c)(1), c)(2), d)(3), e)(5)

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 0.86 lb/hr and 3.8 tons/yr from the dust collector stacks and the oven vents serving this emissions unit.<br><br>Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.65 lb/hr and 2.85 tons/yr from the dust collector stacks and the oven vents serving this emissions unit.<br><br>Volatile organic compound (VOC) emissions shall not exceed 1.95 lbs/hr and 0.88 ton/yr from the oven vents |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | serving this emissions unit.<br><br>Nitrogen oxide ($NO_x$) emissions shall not exceed 0.69 lb/hr and 3.0 tons/yr from the combustion of natural gas.<br><br>Carbon monoxide (CO) emissions shall not exceed 0.58 lb/hr and 2.54 tons/yr from the combustion of natural gas.<br><br>PE/$PM_{10}$ emissions shall not exceed 0.053 lb/hr and 0.232 ton/yr from the combustion of natural gas.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-31-05(D).<br><br>See b)(2)a. and b)(2)b. below |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from the dust collector stacks and the oven vents shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| c. | OAC rule 3745-17-11(B) | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-21-07(M)(4) | See b)(2)c. below. |
| e. | OAC rule 3745-31-05(D)<br>FEPTIO to avoid MACT and Title V | Phenol emissions shall not exceed 1.95 lbs/hr and 0.88 ton/yr.<br><br>See c)(1) below.<br><br>See Section B. |

(2) Additional Terms and Conditions

a. The short-term (lb/hour) and annual (tons/yr) emission limitations for particulate, $PM_{10}$, $NO_x$, and CO were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emission limitations.

b. The short-term (lb/hour) emission limitation for VOC was established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for this emission limitation.

c. The provisions of paragraph (M) of this rule do not apply according to the exemption under rule 21-07(M)(5)(d) which states:

i. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule consists only of water and liquid organic material, and the liquid organic material comprises no more than twenty percent, by volume, of said volatile content; or

ii. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule does not exceed twenty percent by volume of said material.

c) Operational Restrictions

(1) The resin materials employed in this emissions unit shall not contain more than 0.88 percent by weight phenol.

(2) The maximum annual resin usage rate for this emissions unit shall not exceed 200,000 pounds per rolling, 12-month period, based upon a rolling, 12-month summation of the resin usage amounts.

(3) The emissions from this emissions unit shall be vented to the dust collectors (DSC#1569, DSC#1224, and DSC#0229) at all times when the emissions unit is in operation.

(4) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable range established for the pressure drop across the dust collector DSC#1569 is between 1.0 and 6.0 inches of water.

(5) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable range established for the pressure drop across the dust collector DSC#1224 is between 0.2 and 6.0 inches of water.

(6) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable range established for the pressure drop across the dust collector DSC#0229 is between 1.0 and 6.0 inches of water.

(7) The permittee shall only burn natural gas as fuel in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dust collectors (DSC#1569, DSC#1224, and DSC#0229) were not in service while this emissions unit was in operation.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across each dust collector when the emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across each dust collector on a daily basis. The monitoring equipment shall be 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of 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 dust collector is effective for the durations 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 emissions 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.

(3) The permittee shall collect and record the following information each month for this emissions unit:

a. the company identification for each material employed (e.g., resin-coated sand and any liquids);

b. the amount, in pounds, of the resin material employed in this emissions unit;

c. the phenol content of the resin employed, in percent by weight (lb phenol/lb resin);

d. the VOC content of the resin, in pounds of VOC per pound of resin, as applied; and

e. the rolling, 12-month summation of the resin material employed in this emissions unit, in pounds.

[Note: The material information must be for the materials as employed, including any thinning solvents added at the emissions unit.]

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

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 identify in the annual permit evaluation report the following information concerning the operations of the dust collector during the 12-month reporting period for this/these emissions unit(s):

a. each period of time (start time and date, and end time and date) when the pressure drop across the dust collector was outside of the acceptable range;

b. any 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 dust collectors (DSC#1569, DSC#1224, and DSC#0229);

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.

(4) The permittee shall identify in the annual PER each day when a fuel other than natural gas was burned in this emissions unit.

(5) 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. an identification of each incident when the phenol content of the resin materials employed exceeded the 0.88 percent by weight limitation;

ii. an identification of each incident when the actual resin usage amount exceeds the 200,000 pounds per rolling 12-month period 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.

(6) The quarterly reports shall be submitted 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 (Cleveland DAQ).

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 shall not exceed 0.86 lb/hr from the dust collector stacks and the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$$Max \times [(EF_{PM}) \times (1 - CE) + Oven_{PM}] = 0.86 \text{ lb/hr}$$

where:

Max = 2.1 tons/hr = maximum hourly throughput
$EF_{PM}$ = 7.01 lbs/ton*
CE = 97% = overall control efficiency of the dust collectors (99% control for each of the three dust collectors)
$Oven_{PM}$ = 0.2 lb/ton (WebBFIRE SCC 30500504)

* 7.01 lbs/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

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

b. Emission Limitation:
Particulate emissions shall not exceed 3.8 tons/yr of PE from the dust collector stacks and the oven vents serving this emissions unit.

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

c. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.65 lb/hr from the dust collector stacks and the oven vents serving this emissions unit.

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

$Max \times [(EF_{PM\text{-}10}) \times (1 - CE) + Oven_{PM\text{-}10}] = 0.65$ lb/hr

where:

Max = 2.1 tons/hr = maximum hourly throughput
$EF_{PM\text{-}10}$ = 7.01 lbs/ton*
CE = 97% = overall control efficiency of the dust collectors
$Oven_{PM\text{-}10}$ = 0.1 lb/ton (WebFIRE SCC 30500504)

* 7.01 lbs/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable $PM_{10}$ emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable.

d. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 2.85 tons/yr from the dust collector stacks and oven vents serving this emissions unit.

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

e. Emission Limitation:
Volatile organic compound (VOC) emissions shall not exceed 1.95 lbs/hr total from oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

E = RU x EF
E = maximum hourly VOC emissions
RU = 221.2 lbs/hour maximum resin usage
EF = 0.0088 lb VOC/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25, or an alternative method approved by Ohio EPA.

f. Emission Limitation:
VOC emissions shall not exceed 0.88 ton/yr total from oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

E = RU x EF x ton/2,000 lbs
E = actual annual VOC emissions
RU = actual annual resin usage, in lbs/yr, from records (see d)(3)e.); max annual resin usage = 200,000 lbs/yr (see c)(2))
EF = VOC content, 0.0088 lb VOC/lb resin employed

g. Emission Limitation:
$NO_x$ emissions shall not exceed 0.69 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.098 lb $NO_x$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (7.03 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor from AP-42 is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 7, or an alternative method approved by Ohio EPA.

h. Emission Limitation:
$NO_x$ emissions shall not exceed 3.0 tons/yr from the combustion of natural gas.

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

i. Emission Limitation:
CO emissions shall not exceed 0.58 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.082 lb CO/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (7.03 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 10, or an alternative method approved by Ohio EPA.

j. Emission Limitation:
CO emissions shall not exceed 2.54 tons/yr from the combustion of natural gas.

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

k. Emission Limitation:
PE/$PM_{10}$ emissions shall not exceed 0.053 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.0075 lb PE/$PM_{10}$/mmBtu) from Section 1.4 ("Natural Gas Combustion") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (7.03 mmBtu/hr) of the natural gas-fired burner. Since the emission factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A (total PE are equivalent to total $PM_{10}$ emissions).

l. Emission Limitation:
PE/$PM_{10}$ emissions shall not exceed 0.232 ton per year from the combustion of natural gas.

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

m. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, from the dust collector stacks and the oven vents serving this emissions unit.

Applicable Compliance Method:
If required, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

n. Emission Limitation:
Phenol emissions shall not exceed 1.95 lbs/hr total from oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$E = RU \times EF_P = 1.95$ lbs/hr
E = maximum hourly phenol emissions
RU = 221.2 lbs/hr = maximum hourly resin usage
$EF_P = 0.0088$ lb phenol/lb of resin employed.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with U.S. EPA Air Toxic Test Method TO-4a, or an alternative method approved by Ohio EPA.

o. Emission Limitation:
Phenol emissions shall not exceed 0.88 ton/yr total from oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

$E = RU \times EF_P \times$ ton/2,000 lbs
E = actual annual phenol emissions
RU = actual annual resin usage, in lbs/yr, from records (see d)(3)e.)
$EF_P = 0.0088$ lb phenol/lb resin employed

g) Miscellaneous Requirements

(1) This emissions unit was installed in July of 1979 and modified in April 2006.

(2) Superseded permits include P0058776 issued final 5/24/1991; 13-04538 issued final 4/4/2006; P0107092 issued final 12/8/2010; and P0118161 issued final 2/24/2016.

**2. P017, Cone blender #2**

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

Cone blender #2 and bag compactors. Particulate emissions generated by this unit are controlled by dust collectors DSC#0518 and DSC#0711 (exothermic system department 104).

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.

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 1.52 lb/hr and 6.66 tons/yr from the dust collector stacks serving this emissions unit.<br>Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.72 lb/hr and 3.15 tons/yr from the dust collector stacks serving this emissions unit.<br>See b)(2)a. below. |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from the dust collector stacks shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| c. | OAC rule 3745-17-11(B) | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-31-05(D)<br>FEPTIO to avoid MACT and Title V | See Section B. |

(2) Additional Terms and Conditions

a. The short-term (lb/hr) and annual (ton/yr) emission limitations for particulate and $PM_{10}$ were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emission limitations.

c) Operational Restrictions

(1) The emissions from this emissions unit shall be vented to the dust collectors (DSC#0711 and DSC#0518) at all times the emissions unit is in operation.

(2) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable ranges established for the pressure drops across the dust collectors are between 0.2 and 6.0 inches of water for DSC#0711 and between 0.5 and 6.0 inches of water for DSC#0518.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dust collectors (DSC#0711 and DSC#0518) were not in service while the emissions unit was in operation.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across each dust collector when the emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drops across each dust collector on a daily basis. The monitoring equipment shall be 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 drops deviate from the limits or ranges 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified in this permit, unless the permittee determines that corrective action is not necessary and document 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.

The ranges or limits on the pressure drops across the dust collectors are effective for the durations 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 limits or ranges for the pressure drops based upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emissions unit. In addition, approved revisions to the ranges or limits 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) 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 identify in the annual PER the following information concerning the operations of the dust collectors 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 dust collector was outside of the acceptable range;

b. any 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 dust collectors (DSC#0711 and DSC#0518);

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. <u>Emissions Limitation</u>:
Particulate emissions (PE) shall not exceed 1.52 lbs/hr from the dust collector stacks serving this emissions unit.

<u>Applicable Compliance Method</u>:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

(Max) x ($EF_{PM}$) x (1 –CE) = 1.52 lb/hr

where:

Max =0.99 ton/hr = maximum hourly throughput
EF = 154.02 lbs/ton*
CE = 99% = overall control efficiency of the dust collector

* 154.02 lbs/ton = 120.02 lbs/ton from SCC 30500502 (processing) + 34 lbs/ton from SCC 30500303 (for drum filling)

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

b. Emissions Limitation:
Particulate emissions (PE) shall not exceed 6.66 tons/yr from the dust collector stacks serving this emissions unit.

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

c. Emissions Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.72 lb/hr from the dust collector stacks serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

(Max) x ($EF_{PM}$) x (1 –CE) = 0.72 lb/hr

where:

Max = 0.99 ton/hr = maximum hourly throughput
EF = 73.22 lbs/ton*
CE = 99% = overall control efficiency of the dust collector

* 73.22 lbs/ton = 61.22 lbs/ton from SCC 30500502 (processing) + 12.0 lbs/ton from SCC 30500303 (for drum filling)

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

d. Emissions Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 3.15 tons/yr from the dust collector stacks serving this emissions unit.

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

e. Emissions Limitation:
Visible particulate emissions from the dust collector stacks serving this emissions unit shall not exceed 20% opacity, as a 6-minute average.

Applicable Compliance Method:
If required, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

g) Miscellaneous Requirements

(1) This emissions unit was installed in July 1970 and modified in April of 2006.

(2) Superseded permits include P0058780 issued final 7/10/1995; 13-04538 issued final 4/4/2006; P0095240 issued final 4/22/2011; and P0118161 issued final 2/24/2016.

**3. P018, Cone blender #3.**

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

Cone blender #3 and bag compactors. Particulate emissions generated by this unit are controlled by dust collectors DSC#0519 and DSC#0711 (exothermic system department 104).

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.

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 1.52 lbs/hr and 6.66 tons/yr from the dust collector stacks serving this emissions unit.<br>Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.72 lb/hr and 3.15 tons/yr from the dust collector stacks serving this emissions unit.<br>See b)(2)a. below. |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from the dust collector stacks shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| c. | OAC rule 3745-17-11(B) | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-31-05(D)<br>FEPTIO to avoid MACT and Title V | See Section B. |

(2) Additional Terms and Conditions

a. The short-term (lb/hour) and annual (ton/yr) emission limitations for particulate and $PM_{10}$ were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed f or these emission limitations.

c) Operational Restrictions

(1) The emissions from this emissions unit shall be vented to the dust collectors (DSC#0711 and DSC#0519) at all times the emissions unit is in operation.

(2) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable ranges established for the pressure drops across the dust collectors are between 0.2 and 6.0 inches of water for DSC#0711 and between 1.0 and 6.0 inches of water for DSC#0519.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dust collectors (DSC#0711 and DSC#0519) were not in service while the emissions unit was in operation.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across each dust collector when the emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across each dust collector on a daily basis. The monitoring equipment shall be 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 drops deviate from the limits or ranges 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified in this permit, unless the permittee determines that corrective action is not necessary and document 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 plan:

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 reading 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 ranges or limits on the pressure drops across the dust collectors are effective for the durations 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 limits or ranges for the pressure drops based upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emissions unit. In addition, approved revisions to the ranges or limits 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) 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 identify in the annual PER the following information concerning the operations of the dust collectors 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 dust collector was outside of the acceptable range;

b. any 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 dust collectors (DSC#0711 and DSC#0519);

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. <u>Emission Limitation</u>:
Particulate emissions (PE) shall not exceed 1.52 lb/hr from the dust collector stacks serving this emissions unit.

<u>Applicable Compliance Method</u>:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

(Max) x ($EF_{PM}$) x (1 –CE) = 1.52 lbs/hr

where:

Max = 0.99 ton/hr = maximum hourly throughput
EF = 154.02 lbs/ton*
CE = 99% = overall control efficiency of the dust collector

*154.02 lbs/ton = 120.02 lbs/ton from SCC 30500502 (processing) + 34 lbs/ton from SCC 30500303 (for drum filling)

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

b. Emission Limitation:
Particulate emissions (PE) shall not exceed 6.66 tons/yr from the dust collector stacks serving this emissions unit.

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

c. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.72 lb/hr from the dust collector stacks serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

(Max) x ($EF_{PM}$) x (1 –CE) = 0.72 lb/hr

where:

Max = 0.99 ton/hr = maximum hourly throughput
EF = 73.22 lbs/ton*
CE = 99% = overall control efficiency of the dust collector

*73.22 lbs/ton = 61.22 lbs/ton from SCC 30500502 (processing) + 12.0 lbs/ton from SCC 30500303 (for drum filling)

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

d. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 3.15 tons per year from the dust collector stacks serving this emissions unit.

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

e. Emissions Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, from the dust collector stacks serving this emissions unit.

Applicable Compliance Method:
If required, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

g) Miscellaneous Requirements

(1) This emissions unit was installed in July of 1970 and modified in April of 2006.

(2) Superseded permits include P0058781 issued final 7/10/1995; 13-04538 issued final 4/4/2006; P0095240 issued final 4/22/2011; and P0118161 issued final 2/24/2016.

## 4. P032, Insert Sleeve System and Oven #9

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

Precision sleeve manufacturing system (Department 125) used to produce insulating and exothermic sleeves of varying shapes and sizes for use in the steel and foundry industries. The process includes two mixers, molds, and natural gas-fired curing oven (Oven #9 – 6.5 mmBtu/hr natural gas-fired). Particulate emissions generated by this process are controlled by dust collectors DSC#0965 and DSC#2077.

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)e., c)(1), c)(2), d)(3), e)(5)

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 1.1 lbs/hr and 4.8 tons/yr from the dust collector stacks and oven vents serving this emissions unit.<br><br>Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.9 lb/hr and 3.9 tons/yr from the dust collector stacks and oven vents serving this emissions unit.<br><br>Volatile organic compound (VOC) emissions shall not exceed 2.8 lbs/hr and 2.0 tons/yr from the oven vents serving |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | this emissions unit.<br><br>Nitrogen oxide ($NO_x$) emissions shall not exceed 0.64 lb/hr and 2.80 tons/year from the combustion of natural gas.<br><br>Carbon monoxide (CO) emissions shall not exceed 0.54 lb/hr and 2.37 tons per year from the combustion of natural gas.<br><br>PE/$PM_{10}$ emissions shall not exceed 0.05 lb/hr and 0.22 tons per year from the combustion of natural gas. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-31-05(D).<br><br>See b)(2)a. and b)(2)b. below. |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from the dust collector stacks and the oven vents serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule. |
| c. | OAC rule 3745-17-11 | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-21-07(M)(4) | See b)(2)c. below. |
| e. | OAC rule 3745-31-05(D)<br><br>FEPTIO to avoid MACT and Title V. | Formaldehyde emissions shall not exceed 0.5 lb/hr and 0.35 ton/year.<br><br>Phenol emissions shall not exceed 2.3 lbs/hr and 1.65 tons/year.<br><br>See c)(1) and c)(2) below.<br><br>See Section B. |

(2) Additional Terms and Conditions

a. The short-term (lb/hour) and annual (tpy) emission limitations for particulate, $PM_{10}$, $NO_x$, and CO were established based on potential to emit; therefore, no

record keeping and/or reporting requirements are needed for these emission limitations.

b. The short-term (lb/hour) emission limitation for VOC was established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for this emission limitation.

c. The provisions of paragraph (M) of this rule do not apply according to the exemption under rule 21-07(M)(5)(d) which states:

i. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule consists only of water and liquid organic material, and the liquid organic material comprises no more than twenty percent, by volume, of said volatile content; or

ii. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule does not exceed twenty percent by volume of said material.

c) Operational Restrictions

(1) The resin materials employed in this emissions unit shall not contain more than 1.65 percent by weight phenol and 0.35 percent by weight formaldehyde.

(2) The maximum annual resin usage rate for this emissions unit shall not exceed 200,000 pounds per rolling, 12-month period, based upon a rolling, 12-month summation of the resin usage amounts.

(3) The emissions from this emissions unit shall be vented to the dust collectors (DSC#0965 and DSC#2077) at all times when the emissions unit is in operation.

(4) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable ranges established for the pressure drops across the dust collectors are between 0.2 and 2.0 inches of water for DSC#0965 and between 0.2 and 6.0 inches of water for DSC#2077.

(5) The permittee shall only burn natural gas as fuel in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any periods when the dust collectors (DSC#0965 and DSC#2077) were not in service while the emissions unit was in operation.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across each dust collector when the emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drops across each dust collector on a daily basis. The monitoring equipment shall be 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 drops deviate from the limits or ranges 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified in this permit, unless the permittee determines that corrective action is not necessary and document 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 plan:

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 reading 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 ranges or limits on the pressure drops across the dust collectors are effective for the durations 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 limits or ranges for the pressure drops based upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emissions unit. In addition, approved revisions to the ranges or limits will constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(3) The permittee shall collect and record the following information each month for this emissions unit:

a. the company identification for each material employed (e.g., resin-coated sand and any liquids);

b. the amount, in pounds, of resin material employed in this emissions unit;

c. the formaldehyde and phenol content of the resin, in percent by weight;

d. the VOC content of the resin, in pounds of VOC per pound of resin, as applied; and

e. the rolling, 12-month summation of the resin materials employed in this emissions unit, in pounds.

[Note: The material information must be for the materials as employed, including any thinning solvents added at the emissions unit.]

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

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 identify in the annual permit evaluation report the following information concerning the operations of the dust collectors 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 dust collector was outside of the acceptable range;

b. any 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 dust collectors (DSC#0965 and DSC#2077);

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.

(4) The permittee shall identify in the annual PER each day when a fuel other than natural gas was burned in this emissions unit.

(5) 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. an identification of each incident when the phenol content of the resin materials employed exceeded the 1.65 percent by weight and 0.35 percent by weight formaldehyde limitation;

ii. an identification of each incident when the actual resin usage rate exceeds the 200,000 pounds per rolling 12-month period 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 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 DAQ.

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 shall not exceed 1.1 lbs/hr from the dust collector stacks and the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$$Max \times [(EF_A + EF_B) \times (1 - CE) + Oven_{PM}] = 1.1 \text{ lbs/hr}$$

where:

Max = 0.76 ton/hr = maximum hourly throughput
$EF_A$ = 7.01 lbs/ton*
$EF_B$ = 25 lbs PM/ton (from WebFIRE SCC 30500505)
CE = 98% = overall control efficiency of the dust collectors (99% control for each of the two dust collectors)
$Oven_{PM}$ = 0.82 lb/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

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

b. Emission Limitation:
Particulate emissions shall not exceed 4.8 tons per year from the dust collector stacks and the oven vents serving this emissions unit.

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

c. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.9 lb/hr from the dust collector stacks and the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$Max \times [(EF_A + EF_B) \times (1 - CE) + Oven_{PM\text{-}10}] = 0.9$ lb/hr
where:

Max = 0.76 ton/hr = maximum hourly throughput
$EF_A$ = 7.01 lbs/ton*
$EF_B$ = 20 lbs $PM_{10}$/ton (from WebFIRE SCC 30500505)
CE = 98% = overall control efficiency of the dust collectors (99% control for each of the two dust collectors)
$Oven_{PM\text{-}10}$ = 0.69 lb/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable $PM_{10}$ emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable.

d. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 3.9 tons/yr from the dust collector stacks and oven vents serving this emissions unit.

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

e. Emission Limitation:
VOC emissions shall not exceed 2.8 lbs/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$E = RU \times EF$

E = maximum hourly VOC emissions
RU = 139 lbs/hour maximum resin usage
EF = 0.02 lb VOC/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25, or an alternative method approved by Ohio EPA.

f. Emission Limitation:
VOC emissions shall not exceed 2.0 tons per year from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

E = RU x EF x ton/2,000 lbs

E = actual annual VOC emissions
RU = actual annual resin usage, in lbs/yr, from records (see d)(3)e.); max annual resin usage = 200,000 lbs/yr (see c)(2))
EF = VOC content, 0.02 lb VOC/lb resin employed

g. Emission Limitation:
$NO_x$ emissions shall not exceed 0.64 lb/hr from the combustion of natural gas

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.098 lb $NO_x$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (6.5 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 7, or an alternative method approved by Ohio EPA.

h. Emission Limitation:
$NO_x$ emissions shall not exceed 2.80 tons/year from the combustion of natural gas.

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

i. Emission Limitation:
CO emissions shall not exceed 0.54 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.082 lb CO/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (6.5 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 10, or an alternative method approved by Ohio EPA.

j. Emission Limitation:
CO emissions shall not exceed 2.37 tons/year from the combustion of natural gas.

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

k. Emission Limitation:
0.05 lb/hr of PE/$PM_{10}$ emissions from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.0075 lb PE/$PM_{10}$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (6.5 mmBtu/hr) of the natural gas-fired burner. Since the emission factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A (total PE are equivalent to total $PM_{10}$ emissions).

l. Emission Limitation:
0.22 ton per year of PE/$PM_{10}$ emissions from the combustion of natural gas.

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

m. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, from the dust collector stacks and the oven vents serving this emissions unit.

Applicable Compliance Method:
If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

n. Emission Limitation:
Formaldehyde emissions shall not exceed 0.5 lb/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$E = RU \times EF_F = 0.5$ lb/hr

RU = 139 lbs/hr = maximum hourly resin usage
$EF_F$ = 0.0035 lb formaldehyde/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 63, Appendix A, Method 420, or an alternative method approved by Ohio EPA.

o. Emission Limitation:
Formaldehyde emissions shall not exceed 0.35 ton/year from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

$E = RU \times EF_F \times$ ton/2,000 lbs

E = actual annual formaldehyde emissions
RU = actual annual resin usage, in lbs/yr, from records (see d)(3)e.)
$EF_F$ = 0.0035 lb formaldehyde/lb resin employed

p. Emission Limitation:
Phenol emissions shall not exceed 2.3 lbs/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$E = RU \times EF_P = 2.3$ lbs/hr

RU = 139 lbs/hr = maximum hourly resin usage
$EF_P$ = 0.0165 lb phenol/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with U.S. EPA Air Toxic Test Method TO-4a, or an alternative method approved by Ohio EPA.

q. Emission Limitation:
Phenol emissions shall not exceed 1.65 tons/year from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

$E = RU \times EF_P \times ton/2{,}000\ lbs$

E = actual annual phenol emissions
RU = actual annual resin usage, in lbs/yr, from records (see d)(3)e.)
$EF_P$ = 0.0165 lb phenol/lb resin employed

g) Miscellaneous Requirements

(1) This emissions unit was installed in July 1979 and modified in April of 2006.

(2) Superseded permits include P0058791 issued final 8/12/1994; 13-04538 issued final 4/4/2006; P0095240 issued final 4/22/2011; and P0118161 issued final 2/24/2016.

## 5. P048, Sleeve Forming System and Oven #10

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

Free form sleeve manufacturing system (Department 152) used to produce insulating and exothermic sleeves of varying shapes and sizes for use in the steel and foundry industries. The process includes, two mixers, molds, and natural gas-fired curing oven (Oven #10 – 7.16 mmBtu/hr natural gas-fired). Particulate emissions generated by this process are controlled by dust collector DSC#1695.

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)e., c)(1), c)(2), d)(3), e)(5)

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 1.0 lb/hr and 4.4 tons / year from the dust collector stack and oven vents serving this emissions unit.<br><br>Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.8 lb/hr and 3.5 tons/yr from the dust collector stack and oven vents serving this emissions unit.<br><br>Volatile organic compound (VOC) emissions shall not exceed 5.1 lbs/hr and 2.82 tons/yr from the oven vents serving |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | this emissions unit.<br><br>Nitrogen dioxide ($NO_x$) emissions shall not exceed 0.70 lb/hr and 3.07 tons/yr from the combustion of natural gas.<br><br>Carbon monoxide (CO) emissions shall not exceed 0.59 lb/hr and 2.58 tons per year from the combustion of natural gas.<br><br>PE/$PM_{10}$ emissions shall not exceed 0.05 lb/hr and 0.22 ton per year from the combustion of natural gas.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-31-05(D).<br><br>See b)(2)a. and b)(2)b. below. |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from the dust collector stack and oven vents serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| c. | OAC rule 3745-17-11(B) | The particulate emission limitation specified by this rule is less stringent then the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-21-07(M)(4) | See b)(2)c. below. |
| e. | OAC rule 3745-31-05(D)<br>FEPTIO to avoid MACT and Title V | Formaldehyde emissions shall not exceed 5.1 lbs/hr and 0.62 ton/yr from the oven vents serving this emissions unit.<br><br>Phenol emissions shall not exceed 2.23 lbs/hr and 2.2 tons/yr from the oven vents serving this emissions unit.<br><br>See c)(1) and c)(2) below.<br><br>See Section B. |

(2) Additional Terms and Conditions

a. The short-term (lb/hour) and annual (ton/yr) emission limitations for particulate, $PM_{10}$, $NO_x$, and CO were established based on potential to emit, therefore, no record keeping and/or reporting requirements are needed for these emission limitations.

b. The short-term (lb/hour) emission limitation for VOC was established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for this emission limitation.

c. The provisions of paragraph (M) of this rule do not apply according to the exemption under rule 21-07(M)(5)(d) which states:

i. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule consists only of water and liquid organic material, and the liquid organic material comprises no more than twenty percent, by volume, of said volatile content; or

ii. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule does not exceed twenty percent by volume of said material.

c) Operational Restrictions

(1) The resin materials employed in this emissions unit shall not exceed 2.0 percent by weight formaldehyde and 0.88 percent by weight phenol.

(2) The maximum annual resin usage rate for this emissions unit shall not exceed 500,000 pounds per rolling, 12-month period for phenol-containing resins and 61,798 pounds per rolling, 12-month period for formaldehyde-containing resins, based upon a rolling, 12-month summation of the resin usage amounts.

(3) The permittee shall operate the dust collector (DSC#1695) whenever this emissions unit is in operation.

(4) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable range established for the pressure drop across the dust collector (DSC#1695) is between 0.2 and 6.0 inches of water.

(5) The permittee shall only burn natural gas as fuel in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dust collector was not in service while the emissions unit was in operation.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the dust collector when this emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the

pressure drop across the dust collector on a daily basis. The monitoring equipment shall be 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 limits or ranges 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified in this permit, unless the permittee determines that corrective action is not necessary to document 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 plan:

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 reading 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 ranges or limits on the pressure drops across the dust collector is effective for the durations 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 limits or ranges for the pressure drop based upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emissions 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.

(3) The permittee shall collect and record the following information each month for this emissions unit:

a. the company identification for each material employed (e.g. resin-coated sand and any liquids);

b. the amount, in pounds, of formaldehyde-containing resin materials employed in this emissions unit;

c. the amount, in pounds, of phenol-containing resin materials employed in this emissions unit;

d. the formaldehyde and phenol content of each resin, in percent by weight;

e. the VOC content of each resin, in pounds of VOC per pound of resin, as applied;

f. the rolling, 12-month summation of the formaldehyde-containing resin material employed in this emissions unit, in pounds; and

g. the rolling, 12-month summation of the phenol-containing resin material employed in this emissions unit, in pounds.

[Note: The material information must be for the materials as employed, including any thinning solvents added at the emissions unit.]

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

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 identify in the annual permit evaluation report the following information concerning the operations of the dust collector 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 dust collector was outside of the acceptable range;

b. any 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 dust collector (DSC#1695);

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.

(4) The permittee shall identify in the annual PER each day when a fuel other than natural gas was burned in this emissions unit.

(5) 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. an identification of each incident when the phenol content of the resin materials employed exceeds 0.88 percent by weight and/or 2.0 percent by weight formaldehyde limitation; and

ii. an identification of each incident when the actual resin material usage exceeds the 500,000 pounds per rolling, 12-month period for phenol-containing resins and 61,798 pounds per rolling 12-month period for formaldehyde-containing resin limitations;

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 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 DAQ.

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 1.0 lb/hr of PE (from the dust collector stack and the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$$Max \times [(EF_{PM}) \times (1 - CE) + Oven_{PM}] = 1.0 \text{ lb/hr}$$

where:

Max = 1.1 ton/hr = maximum hourly throughput
$EF_{PM}$ = 7.01 lbs/ton*
CE = 99% = control efficiency of the dust collector
$Oven_{PM}$ = 0.82 lb/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

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

b. Emission Limitation:
Particulate emissions (PE) shall not exceed 4.4 tons/yr from the dust collector stack and oven vents serving this emissions unit.

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

c. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.8 lb/hr from the dust collector stack and oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$Max \times [(EF_{PM\text{-}10}) \times (1 - CE) + Oven_{PM\text{-}10}] = 0.8$ lb/hr

where:

Max = 1.1 ton/hr = maximum hourly throughput
$EF_{PM\text{-}10}$ = 7.01 lbs/ton*
CE = 99% = control efficiency of the dust collector
$Oven_{PM\text{-}10}$ = 0.69 lb/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable $PM_{10}$ emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable.

d. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 3.5 tons/yr from the dust collector stack and oven vents serving with this emissions unit.

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

e. Emission Limitation:
VOC emissions shall not exceed 5.1 lbs/hr from the oven vents serving with this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$E = RU \times EF$

E = maximum hourly VOC emissions
RU = 253.9 lbs/hour maximum resin usage
EF = 0.02 lb VOC/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25, or an alternative method approved by Ohio EPA.

f. Emission Limitation:
VOC emissions shall not exceed 2.82 tons/yr from the oven vents serving with this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

$E = (RU_F \times EF_F \times ton/2{,}000\ lbs) + (RU_P \times EF_P \times ton/2{,}000\ lbs)$

E = actual annual VOC emissions
$RU_F$ = actual annual formaldehyde-containing resin usage, lbs/yr, from records (see d)(3)f.)
$EF_F$ = VOC content, 0.02 lb VOC/lb resin employed
$RU_P$ = actual annual phenol-containing resin usage, lbs/yr, from records (see d)(3)g.)
$EF_P$ = VOC content, 0.0088 lb VOC/lb resin employed

g. Emission Limitation:
$NO_x$ emissions shall not exceed 0.70 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.098 lb $NO_x$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (7.16 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 7, or an alternative method approved by Ohio EPA.

h. Emission Limitation:
$NO_x$ emissions shall not exceed 3.07 tons/yr from the combustion of natural gas.

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

i. Emission Limitation:
CO emissions shall not exceed 0.59 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.082 lb CO/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (7.16 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 10, or an alternative method approved by Ohio EPA.

j. Emission Limitation:
CO emissions shall not exceed 2.58 tons/yr of CO emissions from the combustion of natural gas.

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

k. Emission Limitation:
0.05 lb/hr of PE/$PM_{10}$ emissions from the combustion of natural gas

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.0075 lb PE/$PM_{10}$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (7.16 mmBtu/hr) of the natural gas-fired burner. Since the emission factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A (Total PE are equivalent to total $PM_{10}$ emissions).

l. Emission Limitation:
0.22 ton per year of PE/$PM_{10}$ emissions from the combustion of natural gas.

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

m. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, from the dust collector stack and the oven vents serving this emissions unit.

Applicable Compliance Method:
If required by Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

n. Emission Limitation:
Formaldehyde emissions shall not exceed 5.1 lbs/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$E = RU \times EF_F = 5.1$ lbs/hr

E = maximum hourly formaldehyde emissions
RU = 253.9 lbs/hr = maximum hourly resin usage
$EF_F$ = 0.02 lb formaldehyde/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 63, Appendix A, Method 420, or an alternative method approved by Ohio EPA.

o. Emission Limitation:
Formaldehyde emissions shall not exceed 0.62 ton/yr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

$E = RU \times EF_F \times$ ton/2,000 lbs

E = actual annual formaldehyde emissions
RU = actual annual formaldehyde-containing resin usage, in lbs/yr, from records (see d)(3)f.)
$EF_F$ = 0.02 lb formaldehyde/lb resin employed

p. Emission Limitation:
Phenol emissions shall not exceed 2.23 lbs/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$E = RU \times EF_P = 2.23$ lbs/hr

E = maximum hourly phenol emissions
RU = 253.9 lbs/hr = maximum hourly resin usage
$EF_P$ = 0.0088 lb phenol/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with U.S. EPA Air Toxic Test Method TO-4a, or an alternative method approved by Ohio EPA.

q. Emission Limitation:
Phenol emissions shall not exceed 2.2 tons/yr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

$E = RU \times EF_P$

E = actual annual phenol emissions
RU = actual annual phenol-containing resin usage, in lbs/yr, from records (see d)(3)g.)
$EF_P$ = 0.0088 lb phenol/lb resin employed

g) Miscellaneous Requirements

(1) This emissions unit was installed in July of 1979 and modified in April of 2006.

(2) Superseded permits include P0058803 issued final 9/30/1994; 13-04538 issued final 4/4/2006; P0095240 issued final 4/22/2011; and P0118161 issued final 2/24/2016.

## 6. P050, Sleeve Insert Line and Oven #11

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

Insert sleeve manufacturing system (Department 160) used to produce insulating and exothermic sleeves of varying shapes and sizes for use in the steel and foundry industries. The process includes, two mixers, molds, and natural gas-fired curing oven (Oven #11 – 6.56 mmBtu/hr natural gas-fired). Particulate emissions generated by this process are controlled by dust collector DSC#1734.

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)e., c)(1), c)(2), d)(6), e)(6)

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 0.7 lb/hr and 3.2 tons/yr from the dust collector stack and oven vents serving this emissions unit.<br><br>Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.6 lb/hr and 2.6 tons/yr from the dust collector stack and oven vents serving this emissions unit.<br><br>Volatile organic compound (VOC) emissions shall not exceed 3.9 lbs/hr and 4.4 tons/yr from the oven vents serving |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | this emissions unit.<br><br>Nitrogen dioxide ($NO_x$) emissions shall not exceed 0.64 lb/hr and 2.80 tons/yr from the combustion of natural gas.<br><br>Carbon monoxide (CO) emissions shall not exceed 0.54 lb/hr and 2.37 tons/yr from the combustion of natural gas.<br><br>PE/$PM_{10}$ emissions shall not exceed 0.05 lb/hr and 0.22 ton/yr from the combustion of natural gas.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-31-05(D).<br><br>See b)(2)a. and b)(2)b. below. |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from the dust collector stack and the oven vents serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| c. | OAC rule 3745-17-11(B) | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-21-07(M)(4) | See b)(2)c. below. |
| e. | OAC rule 3745-31-05(D)<br>FEPTIO to avoid MACT and Title V | Formaldehyde emissions shall not exceed 3.9 lbs/hr and 0.07 ton/yr from the oven vents serving this emissions unit.<br><br>Phenol emissions shall not exceed 1.72 lbs/hr and 4.37 tons/yr from the oven vents serving this emissions unit.<br><br>See c)(1) and c)(2) below.<br><br>See Section B. |

(2) Additional Terms and Conditions

a. The short-term (lb/hour) and annual (tpy) emission limitations for particulate, $PM_{10}$, $NO_x$, and CO were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emission limitations.

b. The short-term (lb/hour) emission limitation for VOC was established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for this emission limitation.

c. The provisions of paragraph (M) of this rule do not apply according to the exemption under rule 21-07(M)(5)(d) which states:

i. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule consists only of water and liquid organic material, and the liquid organic material comprises no more than twenty percent, by volume, of said volatile content; or

ii. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule does not exceed twenty percent by volume of said material.

c) Operational Restrictions

(1) The resin materials employed in this emissions unit shall not exceed 2.0 percent by weight formaldehyde and 0.88 percent by weight phenol.

(2) The maximum annual resin usage rate for this emissions unit shall not exceed 993,300 pounds, per rolling, 12-month period of phenol containing resins and 6,700 pounds per rolling, 12-month period of formaldehyde containing resins, based upon a rolling, 12-month summation of the resin usage amounts.

(3) The permittee shall operate the dust collector (DSC#1734) whenever this emissions unit is in operation.

(4) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable range established for the pressure drop across the dust collector (DSC#1734) is between 1.0 and 6.0 inches of water.

(5) The permittee shall only burn natural gas as fuel in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dust collector was not in service while the emissions unit was in operation.

(2) The FEPTIOapplication for emissions unit P050 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee. The “Toxic Air Contaminant Statute”, ORC 3704.03(F), was

applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:

a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

   i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or

   ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "**X**" hours per day and "**Y**" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

   $$TLV/10 \times 8/X \times 5/Y = 4\ TLV/XY = MAGLC$$

d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

   Toxic Contaminant: Phenol

   TLV ($mg/m^3$): 19.2

   Maximum Hourly Emission Rate (lbs/hr): 1.72

   Predicted 1-Hour Maximum Ground-Level Concentration ($ug/m^3$): 23

   MAGLC ($ug/m^3$): 457

The permittee, has demonstrated that emissions of phenol from emissions unit P050 is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

(3) Prior to making any physical changes to or changes in the method of operation of the emissions unit, that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

(4) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):

a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);

b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);

c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

(5) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the dust collector when this emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the dust collector on a daily basis. The monitoring equipment shall be 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 limits or ranges 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified in this permit, unless the permittee determines that corrective action is not necessary to document 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 plan:

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 reading 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 ranges or limits on the pressure drops across the dust collector is effective for the durations 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 limits or ranges for the pressure drop based upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emissions 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.

(6) The permittee shall collect and record the following information each month for this emissions unit:

a. the company identification for each material employed (e.g. resin-coated sand and any liquids);

b. the amount, in pounds, of formaldehyde-containing resin materials employed in this emissions unit;

c. the amount, in pounds, of phenol-containing resin materials employed in this emissions unit;

d. the formaldehyde and phenol content of the resin, in percent by weight;

e. the VOC content of each resin, in pounds of VOC per pound of resin, as applied;

f. the rolling, 12-month summation of the formaldehyde-containing resin material employed in this emissions unit, in pounds; and

g. the rolling, 12-month summation of the phenol-containing resin material employed in this emissions unit, in pounds.

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

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 identify in the annual permit evaluation report the following information concerning the operation of the dust collector 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 dust collector was outside of the acceptable range;

b. any 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 dust collector (DSC#1734);

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.

(4) The permittee shall identify in the annual PER each day when a fuel other than natural gas was burned in this emissions unit.

(5) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

(6) 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. an identification of each incident when the phenol content of the resin materials employed exceeds 0.88 percent by weight and/or 2.0 percent by weight formaldehyde limitation; and

ii. an identification of each incident when the actual resin material usage exceeds 993,300 pounds, per rolling, 12-month period of phenol-containing resins and 6,700 pounds per rolling, 12-month period of formaldehyde-containing resins;

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 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 DAQ.

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. <u>Emission Limitation</u>:
Particulate emissions (PE) shall not exceed 0.7 lb/hr from the dust collector stack and oven vents serving this emissions unit.

<u>Applicable Compliance Method</u>:
Compliance with the emissions limitation shall be determined by using the following one-time calculation for potential to emit:

$$Max \times [(EF_{PM}) \times (1 - CE) + Oven_{PM}] = 0.7 \text{ lb/hr}$$

where:

Max = 0.82 ton/hr = hourly throughput
$EF_{PM}$ = 7.01 lbs/ton*
CE = 99% = control efficiency of the dust collector
$Oven_{PM}$ = 0.82 lb/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

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

b. Emission Limitation:
Particulate emissions (PE) shall not exceed 3.2 tons/yr from the dust collector stack and oven vents serving this emissions unit.

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

c. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.6 lb/hr from the dust collector stack and oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$$Max \times [(EF_{PM\text{-}10}) \times (1 - CE) + Oven_{PM\text{-}10}] = 0.6 \text{ lb/hr}$$

where:

Max = 0.82 ton/hr = maximum hourly throughput
$EF_{PM\text{-}10}$ = 7.01 lbs/ton*
CE = 99% = control efficiency the dust collector
$Oven_{PM\text{-}10}$ = 0.69 lb/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable $PM_{10}$ emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable.

d. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 2.6 tons/yr from the dust collector stack and oven vents serving this emissions unit.

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

e. Emission Limitation:
VOC emissions shall not exceed 3.9 lbs/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

E = RU x EF

E = maximum hourly VOC emissions
RU = 195.1 lbs/hour maximum resin usage
EF = 0.02 lb VOC/lb resin employed
If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25, or an alternative method approved by Ohio EPA.

f. Emission Limitation:
VOC emissions shall not exceed 4.44 tons/yr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(6) and the following equation:

$E = (RU_F \times EF_F \times ton/2{,}000\ lbs) + ((RU_P \times EF_P \times ton/2{,}000\ lbs)$

E = actual annual VOC emissions
$RU_F$ = actual annual formaldehyde-containing resin usage, in lbs/yr, from records (see d)(6)f.)
$EF_F$ = VOC content, 0.02 lb VOC/lb resin employed
$RU_P$ = actual annual phenol-containing resin usage, in lbs/yr, from records (see d)(6)g.)
$EF_P$ = VOC content, 0.0088 lb VOC/lb resin employed

g. Emission Limitation:
$NO_x$ emissions shall not exceed 0.64 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.098 lb $NO_x$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (6.56 mmBtu/hr) of the natural gas-fired burner. Since the

emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 7, or an alternative method approved by Ohio EPA.

h. Emission Limitation:
$NO_x$ emissions shall not exceed 2.80 tons/yr from the combustion of natural gas.

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

i. Emission Limitation:
CO emissions shall not exceed 0.54 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.082 lb CO/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (6.56 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 10, or an alternative method approved by Ohio EPA.

j. Emission Limitation:
CO emissions shall not exceed 2.37 tons/yr from the combustion of natural gas.

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

k. Emission Limitation:
0.05 lb/hr of PE/$PM_{10}$ emissions from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.0075 lb PE/$PM_{10}$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (6.56 mmBtu/hr) of the natural gas-fired burner. Since the emission factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A (Total PE are equivalent to total $PM_{10}$ emissions).

l. Emission Limitation:
0.22 ton per year of $PE/PM_{10}$ emissions from the combustion of natural gas.

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

m. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, from the dust collector stack and the oven vents serving this emissions unit.

Applicable Compliance Method:
If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

n. Emission Limitation:
Formaldehyde emissions shall not exceed 3.9 lbs/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$RU \times EF_F = 3.9$ lbs/hr

RU = 195.1 lbs/hr = maximum hourly resin usage
$EF_F$ = 0.02 lb formaldehyde/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 63, Appendix A, Method 420, or an alternative method approved by Ohio EPA.

o. Emission Limitation:
Formaldehyde emissions shall not exceed 0.07 ton/yr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(6) and the following equation:

$E = RU \times EF_F \times ton/2{,}000\ lbs$

E = actual annual formaldehyde emissions
RU = actual annual formaldehyde-containing resin usage, in lbs/yr, from records (see d)(6)f.)
$EF_F$ = 0.02 lb formaldehyde/lb resin employed

p. Emission Limitation:
Phenol emissions shall not exceed 1.72 lbs/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$RU \times EF_P = 1.72\ lbs/hr$

RU = 195.1 lbs/hr = maximum hourly resin usage
$EF_P$ = 0.0088 lb phenol/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with U.S. EPA Air Toxic Test Method TO-4a, or an alternative method approved by Ohio EPA.

q. Emission Limitation:
Phenol emissions shall not exceed 4.37 tons/yr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(6) and the following equation:

$E = RU \times EF_P \times ton/2{,}000\ lbs$

E = actual annual phenol emissions
RU = actual annual phenol-containing resin usage, in lbs/yr, from records (see d)(6)g.)
$EF_P$ = 0.0088 lb phenol/lb resin employed

g) Miscellaneous Requirements

(1) This emissions unit was installed in August of 1994 and modified in April of 2006.

(2) Superseded permits include P0058805 issued final 8/12/1994; 13-04538 issued final 4/4/2006; P0095240 issued final 4/22/2011; and P0118161 issued final 2/24/2016.

## 7. P057, Foundry Water-Based Core Washers

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

Mixers for water-based core washing and sand binders. Particulate emissions from this process are controlled by dust collector DSC#0582 (department #110).

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 0.50 lb/hr and 2.19 tons/yr from the dust collector stack serving this emissions unit.<br>Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.3 lb/hr and 1.3 tons/yr from the dust collector stack serving this emissions unit.See b)(2)a. below. |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from the dust collector stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| c. | OAC rule 3745-17-11 | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(5)(3). |

(2) Additional Terms and Conditions

a. The short-term (lb/hour) and annual (ton/yr) emission limitations for particulate and $PM_{10}$ were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emission limitations.

c) Operational Restrictions

(1) The permittee shall operate the dust collector (DSC#0582) whenever this emissions unit is in operation.

(2) The pressure drop across the dust collector (DSC#0582) shall be maintained within the range of 1.0 – 6.0 inches of water while the emission unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dust collector (DSC#0582) was not in service while the emissions unit was in operation.

The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the dust collector when this emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the dust collector on a daily basis. The monitoring equipment shall be 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 limits or ranges 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified in this permit, unless the permittee determines that corrective action is not necessary to document 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 plan:

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 reading 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 ranges or limits on the pressure drops across the baghouse is effective for the durations 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 limits or ranges for the pressure drop based upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emissions 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) 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 identify in the annual permit evaluation report the following information concerning the operations of the dust collector 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 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 dust collector (DSC#0582);

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. <u>Emission Limitation</u>:
Particulate emissions (PE) shall not exceed 0.50 lb/hr from the dust collector stack serving this emissions unit.

<u>Applicable Compliance Method</u>:
Compliance with hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$(Max) \times (EF_A + EF_B) \times (1 - CE) = 0.50$ lb/hr

where:

Max = 0.99 ton/hr = maximum hourly throughput
$EF_A$ = 20.0 lbs PE/ton from AP-42 (Table 6.4-1 for paint mixing)

$EF_B$ = 34 lb PE/ton from WebFIRE SCC 30500303 for material handling
CE = 99% = control efficiency of the dust collector

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

b. Emission Limitation:
Particulate emissions (PE) shall not exceed 2.19 tons/yr from the dust collector stack (DSC#0582) serving this emissions unit.

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

c. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.3 lb/hr from the dust collector stack serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$(Max) \times (EF_A + EF_B) \times (1 - CE) = 0.3$ lb/hr

where:

Max = 0.99 ton/hr = maximum hourly throughput
$EF_A$ = 20.0 lbs $PM_{10}$/ton from AP-42 (Table 6.4-1 for paint mixing)
$EF_B$ = 12 lbs $PM_{10}$/ton from WebFIRE SCC 30500303 for material handling
CE = 99% = control efficiency of the dust collector

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

d. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 1.3 tons/yr from the dust collector stack serving this emissions unit.

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

g) Miscellaneous Requirements

(1) This emissions unit was installed in July of 1970 and modified in April of 2006.

(2) Superseded permits include 13-04538 issued final 4/4/2006; P0107902 issued final 4/22/2011; and P0118161 issued final 2/24/2016.

**8. P059, Feedex Sleeve Line**

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

Oven #2 North (3.3 mmBtu/hour natural gas-fired oven), blade mixer and core shooter associated with dust collector DSC#2207 (department #106).

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)e., c)(1), c)(2), d)(3), e)(5)

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 0.2 lb/hr and 0.9 ton/yr from the dust collector (DSC#2207) stack and oven vents serving this emissions unit.<br><br>Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.2 lb/hr and 0.9 ton/yr from the dust collector (DSC#2207) stack and oven vents serving this emissions unit.<br><br>Volatile organic compound (VOC) emissions shall not exceed 1.0 lb/hr and 1.28 tons/yr from the oven vents serving this emissions unit.<br><br>Nitrogen dioxide ($NO_x$) emissions shall not exceed 0.32 lb/hr and 1.45 tons/yr |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | from the combustion of natural gas.<br><br>Carbon monoxide (CO) emissions shall not exceed 0.272 lb/hr and 1.19 tons/yr from the combustion of natural gas.<br><br>PE/$PM_{10}$ emissions shall not exceed 0.03 lb/hr and 0.13 ton per year from the combustion of natural gas.<br><br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-31-05(D).<br><br>See b)(2)a. and b)(2)b. below. |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| c. | OAC rule 3745-17-11(B) | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-21-07(M)(4) | See b)(2)c. below. |
| e. | OAC rule 3745-31-05(D)<br><br>FEPTIO to avoid MACT and Title V | Phenol emissions shall not exceed 0.42 lb/hr and 0.71 ton/yr from the oven vents serving this emissions unit.<br><br>See c)(1) and c)(2) below.<br><br>See Section B. |

(2) Additional Terms and Conditions

a. The short-term (lb/hour) and annual (ton/yr) emission limitations for particulate, $PM_{10}$, $NO_x$, and CO were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emission limitations.

b. The short-term (lb/hour) emission limitation for VOC was established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for this emission limitation.

c. The provisions of paragraph (M) of this rule do not apply according to the exemption under rule 21-07(M)(5)(d) which states:

i. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule consists only of water and liquid organic material, and the liquid organic material comprises no more than twenty percent, by volume, of said volatile content; or

ii. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule does not exceed twenty percent by volume of said material.

c) Operational Restrictions

(1) The resin materials employed in this emissions unit shall not exceed 0.88 percent by weight phenol.

(2) The maximum annual resin usage rate for this emissions unit shall not exceed 162,232 pounds, per rolling, 12-month period for phenol-containing resins, based upon a rolling, 12-month summation of the resin usage amounts.

(3) The permittee shall operate the dust collector (DSC#2207) whenever this emissions unit is in operation.

(4) In order to maintain compliance with the applicable emission limitations contained in this permit, the acceptable range established for the pressure drop across the dust collector (DSC#2207) is between 1.0 and 6.0 inches of water.

(5) The permittee shall only burn natural gas as fuel in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dust collector was not in service while the emissions unit was in operation.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the dust collector when this emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the dust collector on a daily basis. The monitoring equipment shall be 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 limits or ranges 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified in this permit, unless the permittee determines that corrective action is not necessary to document 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 plan:

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 reading 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 ranges or limits on the pressure drops across the dust collector is effective for the durations 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 limits or ranges for the pressure drop based upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emissions 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.

(3) The permittee shall collect and record the following information for each month this emissions unit is in operation:

a. the company identification for each material employed (e.g., resin-coated sand and any liquids);

b. the amount, in pounds, of phenol-containing resin employed;

c. the phenol content of each resin, in percent by weight;

d. the VOC content of each resin, in pounds VOC per pound of resin, as applied;

e. the rolling, 12-month summation of the phenol-containing resin materials employed in this emissions unit, in pounds.

[Note: The material information must be for the materials as employed, including any thinning solvents added at the emissions unit.]

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

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 identify in the annual permit evaluation report the following information concerning the operation of the dust collector 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 dust collector was outside of the acceptable range;

b. any 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 dust collector (DSC#2207);

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.

(4) The permittee shall identify in the annual PER each day when a fuel other than natural gas was burned in this emissions unit.

(5) 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. an identification of each incident when the phenol content of the resin materials employed exceeds the 0.88 percent by weight phenol limitation; and

ii. an identification of each incident when the actual resin usage amount exceeds 162,232 pounds, per rolling, 12-month period for phenol-containing resins;

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 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 DAQ.

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. <u>Emission Limitation</u>:
Particulate emissions (PE) shall not exceed 0.2 lb/hr of PE from the dust collector and the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

Max x [($EF_{PM}$) x (1 – CE) + $Oven_{PM}$] = 0.2 lb/hr

where:

Max = 0.25 ton/hr = maximum hourly throughput
$EF_{PM}$ = 7.01 lbs PE/ton*
CE = 99% = control efficiency of the dust collector
$Oven_{PM}$ = 0.82 lb PE/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs PE/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

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

b. Emission Limitation:
Particulate emissions (PE) shall not exceed 0.9 ton/yr from the dust collector and the oven vents serving this emissions unit.

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

c. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.2 lb/hr from the dust collector and the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

Max x [($EF_{PM-10}$) x (1 – CE) + $Oven_{PM-10}$] = 0.2 lb/hr

where:

Max = 0.25 ton/hr = maximum hourly throughput
$EF_{PM-10}$ = 7.01 lbs $PM_{10}$/ton*
CE = 99% = control efficiency of the dust collector
$Oven_{PM-10}$ = 0.69 lb $PM_{10}$/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs $PM_{10}$/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable $PM_{10}$ emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable.

d. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.9 ton/yr from the dust collector and the oven vents serving this emissions unit.

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

e. Emission Limitation:
VOC emissions shall not exceed 1.0 lb/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with this emission limitation may be determined using the following one-time calculation for potential to emit:

E = RU x EF

E = maximum hourly VOC emissions
RU = 48 lbs/hr maximum resin usage
EF = VOC content, 0.02 lb VOC/lb resin employed

If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25A (if applicable), or an alternative method approved by Ohio EPA.

f. Emission Limitation:
VOC emissions shall not exceed 1.28 tons/yr from the oven vents serving with this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be determined using the records in d)(3) and the following calculation:

E = RU x EF x ton/2,000 lbs

E = actual annual VOC emissions
RU = actual annual phenol-containing resin usage, in lbs/yr, from records (see d)(3)e.)
EF = VOC content, 0.0088 lb VOC/lb resin employed

g. Emission Limitation:
$NO_x$ emissions shall not exceed 0.32 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.098 lb $NO_x$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (3.3 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 7, or an alternative method approved by Ohio EPA.

h. Emission Limitation:
$NO_x$ emissions shall not exceed 1.45 tons/yr from the combustion of natural gas.

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

i. Emission Limitation:
CO emissions shall not exceed 0.272 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.082 lb CO/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (3.3 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 10, or an alternative method approved by Ohio EPA.

j. Emission Limitation:
CO emissions shall not exceed 1.19 tons/yr from the combustion of natural gas.

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

k. Emission Limitation:
0.03 lb/hr of PE/$PM_{10}$ emissions from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.0075 lb PE/$PM_{10}$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (3.3 mmBtu/hr) of the natural gas-fired burner. Since the emission factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A (total PE are equivalent to total $PM_{10}$ emissions).

l. Emission Limitation:
0.13 ton per year of PE/$PM_{10}$ emissions from the combustion of natural gas.

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

m. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, from the dust collector stack and the oven vents serving this emissions unit.

Applicable Compliance Method:
If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

n. Emission Limitation:
Phenol emissions shall not exceed 0.42 lb/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$E = RU \times EF_P = 0.42$ lb/hr

E = maximum hourly phenol emission rate
RU = 48 lbs/hr = maximum hourly resin usage
$EF_P$ = 0.0088 lb phenol/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with U.S. EPA Air Toxic Test Method TO-4a, or an alternative method approved by Ohio EPA.

o. Emission Limitation:
Phenol emissions shall not exceed 0.71 ton/yr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

$E = RU \times EF_P$

E = actual annual phenol emissions
RU = actual annual phenol-containing resin usage, in lbs/yr, from records (see d)(3)e.)
$EF_P$ = 0.0088 lb phenol/lb resin employed

g) Miscellaneous Requirements

(1) This emissions unit was installed in September 1998 and modified in April of 2006.

(2) Superseded permits include 13-3454 issued final 11/23/1998; 13-03929 issued final 3/7/2002; 13-04538 issued final 4/4/2006; P0095240 issued final 4/22/2011; and P0118161 issued final 2/24/2016.

## 9. P060, Oven #2 South - Breaker Core Line

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

Oven #2 South (2.4 mmBtu/hour natural gas-fired oven), blade mixer and core shooter associated with dust collectors DSC#2207 and DSC#0911 (department #106).

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)e., c)(1), c)(2), d)(3), e)(5)

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 0.7 lb/hr and 3.1 tons/yr from the dust collector stacks and oven vents serving this emissions unit.<br><br>Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.6 lb/hr and 2.6 tons/yr from the dust collector stacks and the oven vents serving this emissions unit.<br><br>Volatile organic compound (VOC) emissions shall not exceed 0.62 lb/hr and 2.28 tons/yr.<br><br>Nitrogen dioxide ($NO_x$) emissions shall not exceed 0.24 lb/hr and 1.05 tons/yr from the combustion of natural gas. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | Carbon monoxide (CO) emissions shall not exceed 0.20 lb/hr and 0.88 ton/yr from the combustion of natural gas.<br>PE/$PM_{10}$ emissions shall not exceed 0.01 lb/hr and 0.04 ton/yr from the combustion of natural gas.<br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-31-05(D).<br>See b)(2)a. and b)(2)b. below. |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from the dust collector stacks and oven vents serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| c. | OAC rule 3745-17-11 | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-21-07(M)(4) | See b)(2)c. below. |
| e. | OAC rule 3745-31-05(D)<br>FEPTIO to avoid MACT and Title V | Phenol emissions shall not exceed 0.13 lb/hr and 0.13 ton/yr from the oven vents serving this emissions unit.<br>See c)(1) and c)(2) below.<br>See Section B. |

(2) Additional Terms and Conditions

a. The short-term (lb/hour) and annual (tpy) emission limitations for particulate, $PM_{10}$, $NO_x$, and CO were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emission limitations.

b. The short-term (lb/hour) emission limitation for VOC was established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for this emission limitation.

c. The provisions of paragraph (M) of this rule do not apply according to the exemption under rule 21-07(M)(5)(d) which states:

i. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(1), (M)(2), (M)(3)(a) or (M)(4) of this rule consists only of water and liquid organic material, and the liquid organic material comprises no more than twenty percent, by volume, of said volatile content.

ii. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(1), (M)(2), (M)(3)(a) or (M)(4) of this rule does not exceed twenty percent by volume of said material.

c) Operational Restrictions

(1) The resin materials employed in this emissions unit shall not exceed 0.88 percent by weight phenol.

(2) The maximum annual resin usage rate for this emissions unit shall not exceed 29,952 pounds per rolling, 12-month period, based upon a rolling, 12-month summation of the resin usage amounts.

(3) The permittee shall operate the dust collectors (DSC#2207 and DSC#0911) whenever this emissions unit is in operation.

(4) The pressure drop across dust collector DSC#2207 shall be maintained within the range of 1.0 – 6.0 inches of water while the emissions unit is in operation.

(5) The pressure drop across dust collector DSC#0911 shall be maintained within the range of 0.2 – 6.0 inches of water while the emissions unit is in operation.

(6) The permittee shall only burn natural gas as fuel in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dust collectors were not in service while the emissions unit was in operation.

(2) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across each dust collector when this emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across each dust collector on a daily basis. The monitoring equipment shall be 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 limits or ranges 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable ranges specified in this permit, unless the permittee determines that corrective action is not necessary to document 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 plan:

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 reading 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 ranges or limits on the pressure drops across each dust collector is effective for the durations 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 limits or ranges for the pressure drop based upon information obtained during future testing that demonstrates compliance with the allowable particulate emission rate for the controlled emissions 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.

(3) The permittee shall collect and record the following information for each month this emissions unit is in operation:

a. the company identification for each material employed (e.g., resin-coated sand and any liquids);

b. the amount, in pounds, of resin employed;

c. the phenol content of the resin, in percent by weight;

d. the VOC content of the resin, in pounds VOC per pound of resin, as applied; and

e. the rolling, 12-month summation of the resin materials employed in this emissions unit, in pounds.

[Note: The material information must be for the materials as employed, including any thinning solvents added at the emissions unit.]

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

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 identify in the annual PER the following information concerning the operation of the dust collectors 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 dust collector was outside of the acceptable range;

b. any 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 dust collectors (DSC#2207 and DSC#0911);

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.

(4) The permittee shall identify in the annual PER each day when a fuel other than natural gas was burned in this emissions unit.

(5) 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. an identification of each incident when the phenol content of the resin materials employed exceeds the 0.88 percent by weight phenol limitation; and

ii. an identification of each incident when the actual resin usage amount exceeds 29,952 pounds per rolling, 12-month period;

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 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 DAQ.

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. <u>Emission Limitation</u>:
Particulate emissions (PE) shall not exceed 0.7 lb/hr of PE from the dust collector stacks and the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$Max \times [(EF_A + EF_B) \times (1 - CE) + Oven_{PM}] = 0.7$ lb/hr

where:

Max = 0.5 ton/hr = maximum hourly throughput
$EF_A$ = 7.01 lbs PE/ton*
$EF_B$ = 25 lbs PE/ton (from WebFIRE SCC 30500505)
CE = 98% = overall control efficiency of the dust collectors (99% control for each of the two dust collectors)
$Oven_{PM}$ = 0.82 lb/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs PE/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

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

b. Emission Limitation:
Particulate emissions (PE) shall not exceed 3.1 tons/yr from the dust collector stacks and the oven vents serving this emissions unit.

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

c. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 0.6 lb/hr from the dust collector stacks and the oven vents serving this emissions unit.

0.16 lb/hr of $PM_{10}$ emissions (from dust collector DSC#0911 and oven vents).

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

$Max \times [(EF_A + EF_B) \times (1 - CE) + Oven_{PM-10}] = 0.6$ lb/hr

where:

Max = 0.5 ton/hr = maximum hourly throughput
$EF_A$ = 7.01 lbs $PM_{10}$/ton*

$EF_B$ = 20 lbs PM10/ton from WebFIRE SCC 30500505
CE = 98% = overall control efficiency of the dust collectors (99% for each of the two dust collectors)
$Oven_{PM-10}$ = 0.69 lb $PM_{10}$/ton (from AP-42, Table 11.5-5 for refractory ovens)

* 7.01 lbs $PM_{10}$/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable $PM_{10}$ emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable, from 40 CFR Part 60, Appendix A.

d. Emission Limitation:
Particulate matter emissions less than or equal to 10 microns in size ($PM_{10}$) shall not exceed 2.6 tons/yr from the dust collector stacks and the oven vents serving this emissions unit.

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

e. Emission Limitation:
VOC emissions shall not exceed 0.62 lb/hr: 0.13 lb/hr from the oven vents serving this emissions unit; and 0.49 lb/hr from the curing oven.

Applicable Compliance Method:
Compliance with emissions from the oven vents may be based on the following one-time calculation for potential to emit:

E = RU x EF

E = maximum hourly VOC emissions
RU = 15 lbs/hr = maximum hourly resin usage
EF = VOC content, 0.0088 lb VOC/lb resin employed

Compliance with emissions from the curing oven shall be determined by multiplying the ton/hr rate of material processed (max = 0.49 ton/hr) by the curing oven emission factor (1.0 lb/ton).

If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25A (if applicable), or an alternative method approved by Ohio EPA.

f. Emission Limitation:
VOC emissions shall not exceed 2.28 tons/yr: 0.13 ton/yr from the oven vents serving with this emissions unit; and 2.15 tons/yr from the curing oven.

Applicable Compliance Method:
Compliance with the annual emission limitation from the oven vents shall be based on the record keeping in d)(3) and the following equation:

E = RU x EF x ton/2,000 lbs

E = actual annual VOC emissions
RU = actual annual resin usage from records (see d)(3)e.)
EF = VOC content, 0.0088 lb VOC/lb resin employed

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

g. Emission Limitation:
$NO_x$ emissions shall not exceed 0.24 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.098 lb $NO_x$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (2.4 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 7, or an alternative method approved by Ohio EPA.

h. Emission Limitation:
$NO_x$ emissions shall not exceed 1.05 tons/yr from the combustion of natural gas.

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

i. Emission Limitation:
CO emissions shall not exceed 0.20 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.082 lb CO/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (2.4 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 10, or an alternative method approved by Ohio EPA.

j. Emission Limitation:
CO emissions shall not exceed 0.88 ton/yr from the combustion of natural gas.

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

k. Emission Limitation:
PE/$PM_{10}$ emissions shall not exceed 0.01 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.0075 lb PE/$PM_{10}$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (2.4 mmBtu/hr) of the natural gas-fired burner. Since the emission factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A (total PE are equivalent to total $PM_{10}$ emissions).

l. Emission Limitation:
PE/$PM_{10}$ emissions shall not exceed 0.04 ton/yr from the combustion of natural gas.

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

m. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, from the dust collector stacks and the oven vents serving this emissions unit.

Applicable Compliance Method:
If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-

03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

n. Emission Limitation:
Phenol emissions shall not exceed 0.13 lb/hr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation may be determined by using the following one-time calculation for potential to emit:

$RU \times EF_P = 0.13$ lb/hr

RU = 15 lbs/hr = maximum hourly resin usage
$EF_P$ = 0.0088 lb phenol/lb resin employed

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with U.S. EPA Air Toxic Test Method TO-4a, or an alternative method approved by Ohio EPA.

o. Emission Limitation:
Phenol emissions shall not exceed 0.13 ton/yr from the oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the annual emission limitation shall be based on the record keeping in d)(3) and the following equation:

$E = RU \times EF_P \times$ ton/2,000 lbs

E = actual annual phenol emissions, in ton/yr
RU = actual annual resin usage, in lbs/yr, from records (see d)(3)e.)
$EF_P$ = 0.0088 lb phenol/lb resin employed

g) Miscellaneous Requirements

(1) This emissions unit was installed in January 1972 and modified in April of 2006.

(2) Superseded permits include 13-04538 issued final 4/4/2006; P0095240 issued final 4/22/2011; and P0118161 issued final 2/24/2016.

## 10. P061, Filter Process

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

Filter Production Line associated with dust collectors DSC#1810 and DSC#0164 operating in tandem. Includes one 2.46 mmBtu/hr oven, two 1.23 mmBtu/hr ovens, one 4.5 mmBtu/hr kiln, and one 2.15 mmBtu/hr RTO for a total rating of 11.57 mmBtu/hr.

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)e.

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate emissions (PE) shall not exceed 0.5 lb/hr and 2.19 tons per year from the dust collector stacks and oven vents serving this emissions unit.<br><br>$PM_{10}$ emissions shall not exceed 0.4 lb/hr and 1.8 tons per year from the dust collector stacks and oven vents serving this emissions unit.<br><br>Volatile organic compound (VOC) emissions shall not exceed 0.93 lb/hr and 4.08 tons per year.<br><br>Nitrogen Oxides ($NO_x$) emissions shall not exceed 2.57 lbs/hr and 11.26 tons per year. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| | | Carbon Monoxide (CO) emissions shall not exceed 17.35 lbs/hr and 76.0 tons per year.<br>PE/$PM_{10}$ emissions shall not exceed 0.087 lb/hr and 0.38 ton per year from the combustion of natural gas.<br>Sulfur dioxide ($SO_2$) emissions shall not exceed 5.51 lbs/hr and 24.13 tons/yr from kiln firing.<br>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-31-05(D).<br>See b)(2)a. below. |
| b. | OAC rule 3745-17-07(A) | Visible particulate emissions from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| c. | OAC rule 3745-17-11 | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-21-07(M)(4) | See b)(2)b. below. |
| e. | OAC rule 3745-31-05(D)<br>FEPTIO to avoid MACT and Title V | See Section B. |

(2) Additional Terms and Conditions

a. The short-term (lb/hour) and annual (tpy) emission limitations for particulate, $PM_{10}$, VOC, $NO_x$, CO, and $SO_2$ were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emission limitations.

b. The provisions of paragraph (M) of this rule do not apply according to the exemption under rule 21-07(M)(5)(d) which states:

i. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule consists only of water and liquid organic material, and the liquid organic

material comprises no more than twenty percent, by volume, of said volatile content; or

ii. The volatile content of the material used in any article, machine, equipment, or other contrivance described in paragraph (M)(4) of this rule does not exceed twenty percent by volume of said material.

c) Operational Restrictions

(1) The permittee shall operate the dust collectors (DSC#0164 and DSC#1810) whenever this emissions unit is in operation.

(2) The pressure drop across dust collector DSC#0164 shall be maintained within the range of 1.0 – 6.0 inches of water while the emissions unit is in operation.

(3) The pressure drop across dust collector DSC#1810 shall be maintained within the range of 1.0 – 6.0 inches of water while the emissions unit is in operation.

(4) The average temperature of the exhaust gases from the thermal oxidizer, for any 3-hour block of time, shall not be less than 1,420 degrees Fahrenheit.

(5) The permittee shall only burn natural gas as fuel in this emissions unit.

(6) Foam usage shall not exceed 86.5 lbs/hr.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dust collectors and/or thermal oxidizer were not in service while the emissions unit was in operation.

(2) The permittee shall properly operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across each dust collector when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across each dust collector on a daily basis. The monitoring equipment shall be 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of 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 reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

f. a description of the corrective action;

g. the date 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.

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

This range or limit on the pressure drop across the dust collector 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. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

(3) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

(4) The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time (eight 3-hour blocks per day) during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, 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, control device, and monitoring equipment when the associated emission unit was in operation.

(5) The permittee shall maintain daily records that document hourly foam usage rate, in lbs/hr.

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 identify in the annual permit evaluation report the following information concerning the operations 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 dust collector was outside of the acceptable range;

b. any 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 dust collectors (DSC#0164 and DSC#1810);

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.

(4) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the thermal oxidizer during the 12-month reporting period for this/these emissions unit(s):

a. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range; and

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 thermal oxidizer.

(5) The permittee shall identify in the annual permit evaluation report the following information concerning the foam usage rate during the 12-month reporting period for this/these emissions unit(s):

a. any period of time (start time and date, and end time and date) when the hourly foam usage rate was exceed.

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. <u>Emission Limitation</u>:
Particulate emissions shall not exceed 0.5 lb/hr from the dust collector and oven stacks serving this emissions unit.

<u>Applicable Compliance Method</u>:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$$\text{Max} \times [(EF_{PM}) \times (1 - CE) + Oven_{PM}] = 0.5 \text{ lb/hr}$$

where:

Max = 0.58 ton/hr = maximum hourly throughput
$EF_{PM}$ = 7.01 lbs PE/ton*
CE = 98% = overall control efficiency of the dust collectors (99% control for each of the two dust collectors)
$Oven_{PM}$ = 0.69 lb PE/ton

* 7.01 lbs PE/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

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

b. Emission Limitation:
Particulate emissions shall not exceed 2.19 tons/year from the dust collector stacks and oven vents serving this emissions unit.

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

c. Emission Limitation:
$PM_{10}$ emissions shall not exceed 0.4 lb/hr from the dust collector stacks and oven vents serving this emissions unit.

Applicable Compliance Method:
Compliance with the hourly emission limitation shall be determined by using the following one-time calculation for potential to emit:

$$Max \times [(EF_{PM\text{-}10}) \times (1 - CE) + Oven_{PM\text{-}10}] = 0.4 \text{ lb/hr}$$

where:

Max = 0.58 ton/hr = maximum hourly throughput
$EF_{PM\text{-}10}$ = 7.01 lbs $PM_{10}$/ton*
CE = 98% = overall control efficiency of the dust collectors (99% control for each of the two dust collectors)
$Oven_{PM\text{-}10}$ = 0.59 lb $PM_{10}$/ton

* 7.01 lbs $PM_{10}$/ton = 7 lbs/ton from AP-42 (Table 10.2-1 for pulping) + 0.01 lb/ton from engineering judgment (for tray cleaning)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable $PM_{10}$ emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable, of 40 CFR Part 51, Appendix M.

d. Emission Limitation:
$PM_{10}$ emissions shall not exceed 1.8 tons/year from the dust collector stacks and oven vents serving this emissions unit.

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

e. Emission Limitation:
Volatile organic compound emissions shall not exceed 0.93 lb/hr: 0.10 lb/hr from the thermal oxidizer stack (foam usage) serving this emissions unit; 0.25 lb/hr from kiln firing; and 0.58 lb/hr from the curing oven.

Applicable Compliance Method:
Compliance with the hourly thermal oxidizer stack emission limitation (foam usage) may be determined by using the following one-time calculation for potential to emit:

$E = RU \times EF_{VOC} \times (1 - CE) = 0.10$ lb/hr

E = maximum hourly VOC emission rate
RU = 86.5 lbs/hour = maximum hourly foam usage
$EF_{VOC}$ = 0.06 lb VOC/lb foam employed
CE = 98% control efficiency of the thermal oxidizer

Compliance with emissions from kiln firing shall be determined by multiplying the ton/hr rate of material processed (max = 0.58 ton/hr) by the kiln firing emission factor (0.43 lb/ton) located in Table 11.7-2 of AP-42.

Compliance with emissions from the curing oven shall be determined by multiplying the ton/hr rate of material processed (max = 0.58 ton/hr) by the curing oven emission factor (1.0 lb/ton).

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 25 or 25A (if applicable), or an alternative method approved by Ohio EPA.

f. Emission Limitation:
Volatile organic compound emissions shall not exceed 4.08 tons/yr: 0.44 ton/yr from the thermal oxidizer stack (foam usage) serving this emissions unit; 1.1 tons/yr from kiln firing; and 2.54 tons/yr from the curing oven.

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

g. Emission Limitation:
$NO_x$ emissions shall not exceed 2.57 lbs/hr: 1.13 lbs/hr from the combustion of natural gas; 0.31 lb/hr from kiln firing; 1.04 lbs/hr from foam usage; and 0.09 lb/hr from the curing oven.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.098 lb $NO_x$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (11.57 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

Compliance with emissions from kiln firing shall be determined by multiplying the ton/hr rate of material processed (max = 0.58 ton/hr) by the emission factor (0.54 lb/ton) located in Table 11.7-2 of AP-42.

Compliance with emissions from foam usage shall be determined by multiplying the actual foam usage (max = 86.5 lbs/hr) by the normalized foam emission factor (0.012) obtained from the thermal degradation of polyurethane foam DuPont study (1973) based on the combustion of 1.0 gram of foam.

Compliance with emissions from the curing oven shall be determined by multiplying the ton/hr rate of material processed (max = 0.58 ton/hr) by the curing oven emission factor (0.1600 lb/ton).

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 7, or an alternative method approved by Ohio EPA.

h. Emission Limitation:
$NO_x$ emissions shall not exceed 11.26 tons/yr: 4.95 tons/yr from the combustion of natural gas; 1.36 tons/yr from kiln firing; 4.56 tons/yr from foam usage; and 0.39 tons/yr from the curing oven.

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

i. Emission Limitation:
CO emissions shall not exceed 17.35 lbs/hr: 0.95 lb/hr from the combustion of natural gas; 1.9 lbs/hr from kiln firing; and 14.5 lbs/hr from foam usage.

Applicable Compliance Method:
Compliance with the combustion of natural gas pounds per hour limitation shall be determined by multiplying the emission factor (0.082 lb CO/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (11.57 mmBtu/hr) of the natural gas-fired burner. Since the emissions factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

Compliance with emissions from kiln firing shall be determined by multiplying the ton/hr rate of material processed (max = 0.58 ton/hr) by the emission factor (3.3 lbs/ton) located in Table 11.7-2 of AP-42.

Compliance with emissions from foam usage shall be determined by multiplying the actual foam usage (max = 86.5 lbs/hr) by the normalized foam emission factor (0.1675) obtained from the thermal degradation of polyurethane foam DuPont study (1973) based on the combustion of 1.0 gram of foam.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 10, or an alternative method approved by Ohio EPA.

j. Emission Limitation:
CO emissions shall not exceed 76.0 tons/yr: 4.16 tons/yr from the combustion of natural gas; 8.32 tons/yr from kiln firing; and 63.51 tons/yr from foam usage.

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

k. Emission Limitation:
PE/$PM_{10}$ emissions shall not exceed 0.087 lb/hr from the combustion of natural gas.

Applicable Compliance Method:
Compliance with the pound per hour limitation shall be determined by multiplying the emission factor (0.0075 lb PE/$PM_{10}$/mmBtu) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the maximum rated capacity (11.57 mmBtu/hr) of the natural gas-fired burner. Since the emission factor is given in a volume format, it was converted to an energy basis by dividing the given factor by 1,020 mmBtu/mmscf.

If required by the Ohio EPA or the Cleveland DAQ, compliance with the allowable particulate emission limit shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A (Total PE are equivalent to total $PM_{10}$ emissions).

l. Emission Limitation:
PE/$PM_{10}$ emissions shall not exceed 0.38 ton/year from the combustion of natural gas.

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

m. Emission Limitation:
$SO_2$ emissions shall not exceed 5.51 lbs/hr from kiln firing.

Applicable Compliance Method:
Compliance with emissions from kiln firing shall be determined by multiplying the ton/hr rate of material processed (max = 0.58 ton/hr) by the emission factor (9.5 lbs/ton) located in Table 11.7-2 of AP-42.

If required by the Ohio EPA or the Cleveland DAQ, compliance shall be determined through stack testing in accordance with 40 CFR Part 60, Appendix A, Method 6, or an alternative method approved by Ohio EPA.

n. Emission Limitation:
$SO_2$ emissions shall not exceed 24.13 tons/yr from kiln firing.

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

o. Emission Limitation:
Visible particulate emissions from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method:
If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

g) Miscellaneous Requirements

(1) This emissions unit was installed in January 1999 and modified in April 2006.

(2) Superseded permits include 13-04538 issued final 4/4/2006; P0095240 issued final 4/22/2011; and P0118161 issued final 2/24/2016.

## 11. P062, Cowles Mixer

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

Cowles coatings mixer associated with dust collector DSC#1757.

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. b)(1)c., and b)(2)b.

(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), as effective 6/30/2008 | Volatile organic compound (VOC) emissions shall not exceed 2.42 tons/month averaged over a 12-month rolling period from this emissions unit. |
| b. | OAC Rule 3745-31-05(A)(3), as effective 6/30/2008 | Particulate matter (PM) shall not exceed 0.2 ton/month averaged over a 12-month rolling period from the stack serving this emissions unit.<br>Particulate matter less than or equal to 10 microns in size ($PM_{10}$) from material handling shall not exceed 0.1 ton/month averaged over a 12-month rolling period from the stack serving this emissions unit.<br>See b)(2)a. below. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| c. | OAC Rule 3745-31-05(A)(3)(a)(ii), as effective 6/30/2008 | See b)(2)b. below. |
| d. | OAC Rule 3745-17-07(A) | Visible particulate emissions shall not exceed 20% opacity as a six-minute average, from the stack serving this emissions unit, except as provided by the rule. |
| e. | OAC Rule 3745-17-07(B) | Visible particulate emissions of fugitive dust shall not exceed 20% opacity as a three-minute average. |
| f. | OAC Rule 3745-17-08(B) | Reasonably available control measures (RACM) must be employed to sufficiently minimize or eliminate visible emissions of fugitive dust.<br>See c)(1) below. |
| g. | OAC Rule 3745-17-11(B) | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3) and OAC rule 3745-31-05(F). |
| h. | OAC Rule 3745-31-05(F) | Particulate matter (PM) shall not exceed 0.2 ton/month averaged over a 12-month rolling period from the stack serving this emissions unit.<br>Particulate matter less than or equal to 10 microns in size ($PM_{10}$) from material handling shall not exceed 0.1 ton/month averaged over a 12-month rolling period from the stack serving this emissions unit.<br>See b)(2)c. below. |

(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.

Permit to install and operate P0120644 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Control requirements for particulate emissions under OAC Rule 3745-31-05(A)(3):

i. the emissions from this unit shall be vented to the baghouse (DSC#1757) at all times when the unit is in operation.

c. These emission limitations apply once U.S. EPA approves the OAC paragraph 3745-31-05(A)(3)(a)(ii) as part of the Ohio SIP.

c) Operational Restrictions

(1) The emissions from this emissions unit shall be vented to the baghouse (DSC#1757) 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 (DSC#1757) is between 0.2 and 6.0 inches of water.

(3) The permittee shall not employ more than 46,272 pounds of dry materials per day in this emissions unit.

(4) The permittee shall not employ more than 15,384 pounds of liquid materials per day in this emissions unit.

(5) Any mixing or blending tank containing material shall be equipped with a cover that completely covers the tank opening except for an opening no larger than necessary to allow for safe clearance of the mixing shaft.

(6) The tanks shall be kept covered at all times except when production, sampling, and inspection procedures require access.

(7) The cleaning of the tanks with organic solvents shall be done with the mixing tank completely covered and enclosed to the extent possible.

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 shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring

equipment shall 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of 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 emissions 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.

(3) The permittee shall collect and record the following information each month that this emissions unit is in operation:

a. the name and identification number of each material produced in this emissions unit;

b. the total amount, in pounds, of dry materials used in this emissions unit each month;

c. the total amount, in pounds, of liquid materials used in this emissions unit each month;

d. the VOC content (in pounds) of each material used in this emissions unit;

e. the particulate and VOC emission rates, in pounds per month, calculated in accordance with the equations located in f)(1)a. through f)(1)c. below; and

f. the particulate and VOC emission rates, in ton/month as a rolling 12-month average, calculated in accordance with the equations located in f)(1)a. through f)(1)c. below.

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 identify in the annual permit evaluation report the following information concerning the operations of the baghouse during the 12-month reporting period for this emissions unit:

a. any 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 baghouse (DSC#1757);

b. each incident of deviation described in "a" above where a prompt investigation was not conducted; and

c. 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 recordkeeping requirements of this permit.

(4) The permittee shall identify in the annual permit evaluation report any record showing a deviation of the allowable production limitations. Such information shall include the following:

a. an identification of each day when the dry materials employed exceeds the 46,272 pounds per day limitation;

b. an identification of each day when the liquid materials employed exceeds the 15,384 pounds per day limitation; and

c. a description of any corrective actions taken to address the exceedances identified above.

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. <u>Emissions Limitation</u>:
VOC emissions shall not exceed 2.42 tons/month averaged over a 12-month rolling period.

<u>Applicable Compliance Method</u>:
Compliance shall be determined through the recordkeeping requirements located in d)(3) and the following equation:

(lbs of liquid material/month) x (30 lbs of VOC/ton)* x (1-0.20) x (1 ton/2,000 lbs) = lbs VOC/day

Sum the monthly emissions to determine the rolling 12-month summation of emissions in lbs VOC/year (current month plus the 11 previous months).

(lbs VOC/year) / (2,000 lbs/ton) = tons of VOC/year (TPY)

(tons VOC/year) / (12 months/year) = tons VOC/12-month average

A 20% control efficiency is included for use of the covers on the mixers.

* Emission factor (30 lbs VOC/ton material) obtained from AP-42, Chapter 6.4, Table 1.

b. Emission Limitation:
PM emissions shall not exceed 0.2 ton/month averaged over a 12-month rolling period.

Applicable Compliance Method:
Compliance shall be determined through the recordkeeping requirements located in d)(3) and the following equation:

Mixing = (lbs dry of material/month) x (20 lbs of PM/ton)* x (1-0.98) x (1 ton/2,000 lbs) = lbs PM/month from mixing

* Emission factor for mixing (20 lbs of PM/ton material) obtained from AP-42, Chapter 6.4, Table 1.

Material Handling = (lbs dry of material/day) x (34 lbs of PM/ton)* x (1-0.98) x (1 ton/2,000 lbs) = lbs PM/day from material handling

* Emission factor for material handling (34 lbs of PM/ton material) obtained from WebFIRE (SCC 30500303).

Total PM = (lbs PM/month mixing) + (lbs PM/month material handling)

Sum the monthly emissions to determine the rolling 12-month summation of emissions in lbs PM/year (current month plus the 11 previous months).

(lbs PM/year) / (2,000 lbs/ton) = tons of PM/year (TPY)

(tons PM/year) / (12 months/year) = tons PM/12-month average

c. Emission Limitation:
$PM_{10}$ emissions shall not exceed 0.11 ton/month averaged over a 12-month rolling period from material handling.

Applicable Compliance Method:
Compliance shall be determined through the recordkeeping requirements located in d)(3) and the following equation:

Material Handling = (lbs dry of material/month) x (12 lbs of $PM_{10}$/ton)* x (1-0.98) x (1 ton/2,000 lbs) = lbs $PM_{10}$/month from material handling

Sum the monthly emissions to determine the rolling 12-month summation of emissions in lbs $PM_{10}$/year (current month plus the 11 previous months).

(lbs $PM_{10}$/year) / (2,000 lbs/ton) = tons of $PM_{10}$/year (TPY)

(tons $PM_{10}$/year) / (12 months/year) = tons $PM_{10}$/12-month average

d. Emissions Limitation:
Visible PE from the 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 the results of visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

e. Emissions Limitation:
Fugitive PE shall not exceed 20% opacity as a three-minute average.

Applicable Compliance Method:
If required, compliance shall be determined through the results of visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9. The visible emissions observations shall be made at the non-stack egress points (i.e. building windows, doors, roof monitors, etc.) serving this emissions unit.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emission units maximum annual emissions for each air toxic contaminant, as identified in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified PTIO prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials or use of new materials, that would cause the emissions of any toxic air contaminant to increase above 1.0 tons per year, may require the permittee to apply for and obtain a new PTIO.

(2) This emissions unit was installed in September of 2009.

(3) Superseded permits include P0118198 issued final 6/15/2015.

## 12. P065, Filter Insertion Machine

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

Filter insertion machine controlled by dust collector DSC#2058.

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| a. | OAC rule 3745-31-05(A)(3) | Particulate matter (PM) shall not exceed 5.52 lbs/day and 1.01 tons/year from the stack serving this emissions unit.<br>Particulate matter less than or equal to 10 microns is size ($PM_{10}$) from material handling shall not exceed 4.8 lbs of $PM_{10}$/day and 0.88 ton/year from the stack serving this emissions unit. |
| b. | OAC Rule 3745-17-07(A) | Visible particulate emissions shall not exceed 20% opacity as a six-minute average, from the stack serving this emissions unit, except as provided by the rule. |

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|---|---|---|
| c. | OAC Rule 3745-17-07(B) | Visible particulate 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 emissions of fugitive dust.<br>See b)(2)a. below. |
| e. | OAC Rule 3745-17-11(B) | The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |

(2) Additional Terms and Conditions

a. The permittee shall employ reasonably available control measures for the above-identified material handling operation(s) for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to perform the following control measure(s) to ensure compliance:

i. the emissions from this unit shall be vented to the baghouse (DSC#2058) at all times when the unit is in operation.

b. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-17-08(B).

c) Operational Restrictions

(1) 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 (DSC#2058) is between 0.2 and 6.0 inches of water.

d) Monitoring and/or Recordkeeping Requirements

(1) 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 shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall 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 name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of 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 durations 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 emissions 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) 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 identify in the annual PER the following information concerning the operation of the baghouse 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 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 was 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 actions, 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 corrective actions, as identified in the monitoring and recordkeeping 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. Emissions Limitation:
PM emissions shall not exceed 5.52 lbs/day and 1.01 tons/year.

Applicable Compliance Method:
Compliance with the daily emission limitation shall be determined by multiplying the uncontrolled emission factor of 76 lbs PM/ton of material processed (taken from WebFIRE SCC 30500802) by the actual tons per day processed through the emissions unit, then multiply by (1 – 0.98) for the control efficiency of the baghouse.

The annual emission limitation was established by multiplying the daily emission rate by 365 days per year and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pounds per day limitation.

b. Emissions Limitation:
$PM_{10}$ emissions shall not exceed 4.8 lbs/day and 0.88 ton/year.

Applicable Compliance Method:
Compliance with the daily emission limitation shall be determined by multiplying the uncontrolled emission factor of 64.6 lbs $PM_{10}$/ton of material processed (taken from WebFIRE SCC 30500802) by the actual tons per day processed through the emissions unit, then multiply by (1 – 0.98) for the control efficiency of the baghouse.

The annual emission limitation was established by multiplying the daily emission rate by 365 days per year and dividing by 2,000 pounds per ton. Therefore, compliance with the annual emission limitation shall be assumed provided compliance is maintained with the pounds per day limitation.

c. Emissions Limitation:
Visible PE from the 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 the results of visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

d. Emissions Limitation:
Fugitive PE shall not exceed 20% opacity as a three-minute average.

Applicable Compliance Method:
If required, compliance shall be determined through the results of visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9. The visible emissions observations shall be made at the non-stack egress points (i.e. building windows, doors, roof monitors, etc.) serving this emissions unit.

g) Miscellaneous Requirements

(1) This emissions unit was installed in June of 1994.

(2) Superseded permits include P0118198 issued final 6/15/2015.