



Environmental
Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

12/8/2010

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

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318126134
Permit Number: P0107092
Permit Type: Renewal
County: Cuyahoga

Certified Mail

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

Dear Permit Holder:

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

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

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

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

Sincerely,

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

Cc: CDAQ



FINAL

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

Facility ID: 1318126134
Permit Number: P0107092
Permit Type: Renewal
Issued: 12/8/2010
Effective: 12/8/2010
Expiration: 12/8/2020



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): M0000977

Permit Number: P0107092

Permit Description: This is an Admin mod for emissions unit P013 being processed as a renewal. (Permit # P0107092) Vesuvius has requested a change to the pressure drop range of DSC-1569 to 1.0 - 6.0 inches of water.

Permit Type: Renewal

Permit Fee: \$0.00

Issue Date: 12/8/2010

Effective Date: 12/8/2010

Expiration Date: 12/8/2020

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

This document constitutes issuance to:

Vesuvius USA Corporation - CD
20200 SHELDON ROAD
BROOK PARK, OH 44142

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

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

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

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Chris Korleski
Director



Authorization (continued)

Permit Number: P0107092
Permit Description: This is an Admin mod for emissions unit P013 being processed as a renewal. (Permit # P0107092) Vesuvius has requested a change to the pressure drop range of DSC-1569 to 1.0 - 6.0 inches of water.

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: | OVEN 5 |
| Superseded Permit Number: | 13-04538 |
| 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. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

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

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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

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

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Cleveland Division of Air Quality in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted

emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

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

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

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

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

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

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

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

under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

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

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

B. Facility-Wide Terms and Conditions

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

C. Emissions Unit Terms and Conditions



1. P013, OVEN 5

Operations, Property and/or Equipment Description:

Oven No. 5

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

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

a. None.

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

a. b(1)e., b(2)a., d(4), e(4), f(1)l. and m.

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) | <p>Particulate emissions (PE) shall not exceed 0.76 pound per hour and 3.33 tons per year.</p> <p>PM₁₀ emissions shall not exceed 0.76 pounds per hour and 3.33 tons per year.</p> <p>Organic compound (OC) emissions shall not exceed 1.53 pounds per hour and 4.32 tons per year.</p> <p>Formaldehyde emissions shall not exceed 0.25 pounds per hour and 0.71 tons per year.</p> <p>Phenol emissions shall not exceed 0.25 pounds per hour and 0.71 tons per year.</p> <p>Nitrogen Dioxide (NOx) emissions shall not exceed 0.59 pounds per hour and</p> |



| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|---|--|
| | | <p>2.58 tons per year from the combustion of natural gas.</p> <p>Carbon Monoxide (CO) emissions shall not exceed 0.49 pounds per hour and 2.15 tons per year from the combustion of natural gas.</p> <p>PE/PM₁₀ emissions shall not exceed 0.05 pounds per hour and 0.22 tons per year from the combustion of natural gas.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-31-05(D).</p> <p>See Sections b)(2)c. and b)(2)d. below.</p> |
| b. | OAC rule 3745-17-07(A) | Visible emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule. |
| c. | OAC rule 3745-17-11 | The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). |
| d. | OAC rule 3745-31-05(D) Synthetic Minor to avoid MACT and Title V | See Section b)(2)a. 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 at this facility (listed in Section b)(2)b. below) shall not exceed 9.0 tons/year for any individual HAP or 24.0 tons/year for a combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.
- b. The following list of emissions units at this facility emit HAPs: P013, P016, P017, P018, P032, P048, P050, P060, and P061.
- c. The short-term (lb/hour) and annual (tpy) emissions limitations for particulate, PM₁₀, NO_x, and CO emissions were established based on potential to emit; therefore, no record keeping and/or reporting requirements are needed for these emissions limitations.
- d. The short-term (lb/hour) emissions limitations for OC, formaldehyde, and Phenol emissions were established based on potential to emit; therefore, no record

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

c) **Operational Restrictions**

- (1) The maximum annual amount of resin, with a formaldehyde and/or phenol content of no more than 0.37 percent by weight, usage for this emissions unit shall not exceed 384,000 pounds.
- (2) The permittee shall operate the dust collectors (DSC-229 and DSC-1569) whenever this emissions unit is in operation.
- (3) The pressure drop across dust collector DSC-229 shall be maintained within the range of 0.3 – 2.0 inches of water while the emissions unit is in operation.
- (4) The pressure drop across dust collector DSC-1569 shall be maintained within the range of 1.0 – 6.0 inches of water while the emissions unit is in operation.
- (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 collectors were not in service while the emissions unit was in operation.
- (2) The permittee shall properly operate and maintain equipment to monitor the pressure drop across the dust collectors (DSC-229 and DSC-1569) while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the dust collectors on a daily basis.
- (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) and whether or not the material is a photochemically reactive material;
 - b. the resin material usage for each month, in pounds;
 - c. the maximum formaldehyde and phenol content of the resin, in percent by weight;
 - d. the OC content of each resin, in pounds OC per pound of material, as applied; and
 - e. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the resin material usage figures.

[Note: The material information must be for the materials as employed, including any thinning solvents added at the emissions unit. Also, the definition of “photochemically reactive” and “non-photochemically reactive” are based upon OAC rule 3745-21-01(C)(5).]

- (4) The permittee shall collect and record and record the following information each month for the entire facility:
- a. the name and identification number of each HAP containing material employed;
 - b. the individual HAP content for each HAP, in pounds of individual HAP per pound of material;
 - c. the total combined HAP content, in pounds of combined HAPs per pound of material [sum all the individual HAP contents from (b)];
 - d. the number of pounds of each HAP containing material employed;
 - e. the total individual HAP emissions from all HAP containing materials, in pounds or tons per month [for each HAP the sum of (b) times (d) for each material];
 - f. the total combined HAP emissions from all HAP containing materials, in pounds or tons per month [the sum of (c) times (d) for each material];
 - g. the updated rolling, 12-month summation of emissions for each individual HAP, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of this permit, this shall be a cumulative total for all months since the issuance of the PTI; and
 - h. the updated rolling, 12-month summation of emissions for total combined HAPs, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months. For the first twelve months following the issuance of this permit, this shall be a cumulative total for all months since the issuance of the PTI.

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

- (5) 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) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

- (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (3) The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency)
 - (4) The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month individual HAP material usage and/or 12-month combined HAPs material usage for the list of emissions units referenced in Section b)(2)b and, for the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative HAPs material usage.
 - (5) The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on resin usage; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative resin usage levels.
 - (6) The permittee shall notify the Cleveland DAQ in writing of any record showing the use of any resin with a formaldehyde and/or phenol content greater than 0.37 percent by weight. The notification shall include a copy of such record and shall be sent to the Cleveland DAQ within 30 days after the event occurs.
 - (7) The permittee shall identify in the annual PER any record showing that any dust collector (DSC-229 or DSC -1569) was not in service when the emissions unit was in operation.
 - (8) The permittee shall identify in the annual PER each day when a fuel other than natural gas was burned in this emissions unit.
- f) **Testing Requirements**
- (1) Compliance with the emissions limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):
 - a. **Emission Limitation:**
20% opacity, as a 6-minute average, except as provided by rule

Applicable Compliance Method:
If required by the Ohio EPA or Cleveland DAQ, compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA Reference Method 9.
 - b. **Emission Limitation:**
0.76 pounds per hour of PE (from dust collectors DSC-229 and DSC-1569 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:

$$\text{Max} \times [(EF_{\text{PM}}) \times (1 - \text{CE}) + \text{Oven}_{\text{PM}}] = 0.76 \text{ lbs/hr}$$

where:

Max = 0.85 tons/hr = maximum hourly throughput

$EF_{\text{PM}} = 7.01 \text{ lbs/ton}^*$

CE = 99% = control efficiency of each dust collector

$\text{Oven}_{\text{PM}} = 0.82 \text{ lbs/ton}$ (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 lbs/ton from engineering judgement (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.

c. Emission Limitation:

3.33 tons per year of PE (from dust collectors DSC-229 and DSC-1569 and oven vents)

Applicable Compliance Method:

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

d. Emission Limitation:

0.76 pounds per hour of PM_{10} emissions (from dust collectors DSC-229 and DSC-1569 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:

$$\text{Max} \times [(EF_{\text{PM-10}}) \times (1 - \text{CE}) + \text{Oven}_{\text{PM-10}}] = 0.76 \text{ lbs/hr}$$

where:

Max = 0.85 tons/hr = maximum hourly throughput

$EF_{\text{PM-10}} = 7.01 \text{ lbs/ton}^*$

CE = 99% = control efficiency of each dust collector

$\text{Oven}_{\text{PM-10}} = 0.82 \text{ lbs/ton}$ (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 lbs/ton from engineering judgement (for tray cleaning)

If required by the Ohio EPA or Cleveland DAQ, compliance with the allowable PM₁₀ emission limit shall be determined in accordance with U.S. EPA Reference Methods 201, 201A, and 202, as applicable.

- e. Emission Limitation:
3.33 tons per year of PM₁₀ emissions (from dust collectors DSC-229 and DSC-1569 and oven vents)

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.

- f. Emission Limitation:
1.53 pounds of OC per hour (total from 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:

$$E = RU \times EF$$

E = maximum hourly OC emissions

RU = 68.0 lbs/hour maximum resin usage

EF = 0.0225 lbs OC/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.

- g. Emission Limitation:
4.32 tons per year of OC emissions (total from oven vents)

Applicable Compliance Method:

Compliance with this emission limitation may be based on the record keeping in d)(3) and the following equation:

$$E = RU \times EF$$

E = annual OC emissions

RU = annual resin usage from records (see Section d)(3)e.)

EF = OC content, 0.0225 lbs OC/lb resin employed

- h. Emission Limitation:
0.25 pounds per hour of formaldehyde emissions

Applicable Compliance Method:

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

$$RU \times EF_F = 0.25 \text{ lbs/hr}$$

$$RU = 68.0 \text{ lbs/hr} = \text{maximum hourly resin usage}$$
$$EF_F = 0.0037 \text{ lb formaldehyde}$$

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.

- i. Emission Limitation:
0.71 tons per year of formaldehyde emissions

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

$$E = RU \times EF_F$$

$$E = \text{annual formaldehyde emissions}$$
$$RU = \text{annual resin usage from records (see d)(3)e.)}$$
$$EF_F = 0.0037 \text{ lb formaldehyde/lb resin employed}$$

- j. Emission Limitation:
0.25 pounds per hour of phenol emissions

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

$$RU \times EF_P = 0.25 \text{ lbs/hr}$$

$$RU = 68.0 \text{ lbs/hr} = \text{maximum hourly resin usage}$$
$$EF_P = 0.0037 \text{ lb phenol/lb resin employed}$$

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.

- k. Emission Limitation:
0.71 tons per year of phenol emissions

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

$$E = RU \times EF_P$$

$$E = \text{annual phenol emissions}$$
$$RU = \text{annual resin usage from records (see Section d)(3)e.)}$$
$$EF_P = 0.0037 \text{ lb phenol/lb resin employed}$$

- l. Emission Limitation:
9.0 tons individual HAPs/year for the list of emissions units in Section b)(2)b, as a 12-month, rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in Section d)(4).

- m. Emission Limitation:
24.0 tons combined HAPs/year for the list of emissions units in Section b)(2)b, as a 12-month, rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in Section d)(4).

- n. Emission Limitation:
0.58 pounds per hour of NO_x 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 (0.098) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the mmBtu/hour rating (6.0) 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/10⁶ scf.

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.

- o. Emission Limitation:
2.54 tons per year of NO_x 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.

- p. Emission Limitation:
0.49 pound per hour of CO 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 (0.082) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the mmBtu/hour rating (6.0) 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/10⁶ scf.

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.

- q. Emission Limitation:
2.15 tons per year 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.

- r. Emission Limitation:
0.05 pounds per hour of PE/PM₁₀ 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) from Section 1.4 ("Natural Gas Consumption") of AP-42, Fifth Edition, Volume 1, Chapter 1 by the mmBtu/hour rating (6.0) 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/10⁶ scf.

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 PM₁₀ emissions).

- s. Emission Limitation:
0.22 tons per year of PE/PM₁₀ 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.

g) **Miscellaneous Requirements**

- (1) The permittee shall conduct, or have conducted, a detailed pollution prevention project to determine the technical and economic feasibility of reducing OC emissions from the sources at the facility. The detailed pollution prevention project shall research and determine the technical and economic feasibility of converting the current binders and release agents to lower emitting materials. This project shall include, at the minimum, the following steps:

- a. Researching the availability of lower emitting acceptable binders, resins and release agents.

- b. Determine if lower emitting materials can be economically developed.
- c. Conducting trials of available materials to determine if the use of the materials are technically feasible, and to determine if the use of the materials is economically reasonable.

The work on the pollution prevention project shall continue for at least three years.

The permittee shall submit an annual report and supporting information that describes the work performed and the results obtained from the above described project during the most recent year. This report shall be submitted to the Cleveland DAQ.