



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

8/31/2015

Certified Mail

Mr. Galen Dillon
 NOX US. LLC
 1602 N. Union Street
 Fostoria, OH 44830

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0374012005
 Permit Number: P0119189
 Permit Type: Initial Installation
 County: Seneca

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

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

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

How to save money, reduce pollution and reduce energy consumption

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

How to give us feedback on your permitting experience

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

How to get an electronic copy of your permit

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

If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)352-8461 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: Ohio EPA-NWDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
NOX US. LLC**

Facility ID:	0374012005
Permit Number:	P0119189
Permit Type:	Initial Installation
Issued:	8/31/2015
Effective:	8/31/2015
Expiration:	8/31/2025



**Division of Air Pollution Control
Permit-to-Install and Operate**

for
NOX US. LLC

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Final Permit-to-Install and Operate
NOX US. LLC
Permit Number: P0119189
Facility ID: 0374012005
Effective Date: 8/31/2015

Authorization

Facility ID: 0374012005
Application Number(s): A0053826
Permit Number: P0119189
Permit Description: Installation of new equipment, dust collectors and fixed bed absorbers for vinyl floor tile manufacturing process.
Permit Type: Initial Installation
Permit Fee: \$2,950.00
Issue Date: 8/31/2015
Effective Date: 8/31/2015
Expiration Date: 8/31/2025
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

NOX US. LLC
901 S. U.S. Route 23
Fostoria, OH 44830

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:

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402
(419)352-8461

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: P0119189
 Permit Description: Installation of new equipment, dust collectors and fixed bed absorbers for vinyl floor tile manufacturing process.

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

- Emissions Unit ID: P001**
 Company Equipment ID: P001
 Superseded Permit Number:
 General Permit Category and Type: Not Applicable
- Emissions Unit ID: P004**
 Company Equipment ID: P004
 Superseded Permit Number:
 General Permit Category and Type: Not Applicable
- Emissions Unit ID: P005**
 Company Equipment ID: P005
 Superseded Permit Number:
 General Permit Category and Type: Not Applicable

Group Name: Layer Lines

Emissions Unit ID:	P002
Company Equipment ID:	P002
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P003
Company Equipment ID:	P003
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
NOX US. LLC
Permit Number: P0119189
Facility ID: 0374012005
Effective Date: 8/31/2015

A. Standard Terms and Conditions

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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

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

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

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

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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



Final Permit-to-Install and Operate
NOX US. LLC
Permit Number: P0119189
Facility ID: 0374012005
Effective Date: 8/31/2015

B. Facility-Wide Terms and Conditions



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



Final Permit-to-Install and Operate
NOX US. LLC
Permit Number: P0119189
Facility ID: 0374012005
Effective Date: 8/31/2015

C. Emissions Unit Terms and Conditions



1. **P001, Wear Layer Line**

Operations, Property and/or Equipment Description:

High intensity mixer for PVC, DOTP or ESO plasticizer, pigment and stabilizer raw materials; 2 extruders, 2 mills and calendar controlled by filter bed absorber #1; and cooling and coiling

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(F)	<u>Emissions from the filter bed absorber #1 exhaust stack:</u> Particulate matter less than 10 microns in diameter (PM ₁₀) emissions shall not exceed 0.03 lb/hr and 0.13 ton/yr (tpy) Volatile organic compound (VOC) emissions shall not exceed 0.03 lb/hr and 0.13 tpy Visible particulate emissions (PE) shall not exceed 5% opacity, as a six-minute average See b)(2)a., b)(2)b. and c)(1)
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)c. and b)(2)d.



c.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM ₁₀ and VOC emissions from this air contaminant source since the potential to emit of each pollutant is less than 10 tons/yr. See b)(2)e.
d.	OAC rule 3745-17-07(A)	See b)(2)f.
e.	OAC rule 3745-17-11(B)	See b)(2)f.

(2) Additional Terms and Conditions

- a. The PM₁₀ and VOC emissions from this emissions unit are from two extruders, two mills and one calendar which are all vented to fixed bed absorber #1. All of the PM₁₀ and VOC emissions from this emissions unit shall be vented to fixed bed absorber #1 and shall meet the operational, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation. The cooling and coiling operations do not have any regulated pollutant emissions.
- b. This permit establishes the following legally and practically enforceable emission limitations. The legally and practically enforceable emission limitations are based on the operational restriction contained in c)(1) of this permit:
 - i. PM₁₀ emissions shall not exceed 0.03 lb/hr and 0.13 tpy from the filter bed absorber #1 exhaust stack;
 - ii. VOC emissions shall not exceed 0.03 lb/hr and 0.13 tpy from the filter bed absorber #1 exhaust stack; and
 - iii. Visible PE shall not exceed 5% opacity, as a six-minute average from the filter bed absorber #1 exhaust stack.
- c. The BAT requirements for PM₁₀ and VOC under OAC rule 3745-31-05(A)(3), as effective 6/30/08, have been determined to be compliance with the voluntary operational restriction contained in section c)(1) of this permit.
- d. These BAT emissions limits apply 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).

It should be noted that the requirements established pursuant to OAC rule 3745-31-05(F) will remain applicable after the above SIP revision is approved by U.S. EPA.
- e. 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.

f. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).

c) Operational Restrictions

(1) The following operational restriction has been included in this permit for the purpose of establishing legally and practically enforceable requirements [See b)(2)b.]:

a. the collection and control system for the filter bed absorber #1 shall achieve a design removal efficiency of at least 99.88% control of PM₁₀ and VOC (100% capture efficiency).

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the maximum temperature of the inlet exhaust gas stream to the fixed bed absorber #1, for any 3-hour block of time when the emissions unit controlled by the absorber is in operation, shall not exceed 140 degrees Fahrenheit. Until compliance testing has been conducted, the absorber shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual.

(2) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder which measures and records the temperature of the inlet exhaust gas stream to the fixed bed absorber #1 when the emissions unit is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. Following compliance testing, the permittee shall collect and record the following information each day the emissions unit is in operation:

- a. the temperature, in degrees Fahrenheit, of the inlet exhaust gas stream to the fixed bed absorber; and
- b. a log of the downtime for the capture (collection) system, absorber, and monitoring equipment when the associated emissions unit was in operation.

These records shall be maintained at the facility for a period of three years.

(3) Whenever the monitored inlet exhaust gas stream temperature to the fixed bed absorber #1 temperature deviates from the limit 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 limit 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 inlet exhaust gas stream temperature 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.

The inlet exhaust gas stream temperature limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted inlet exhaust gas stream temperature limit based upon information obtained during future performance tests that demonstrate compliance with the allowable PM₁₀ and VOC emission rates for the controlled emissions unit. In addition, approved revisions to the inlet exhaust gas stream temperature 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.

- (4) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable ranges for the pressure drop across the filter bed absorber #1 shall be maintained in order to demonstrate compliance as follows:
 - a. Pre-filter pressure drop range of 0.25 to 2 inches of water column; and
 - b. Main filter pressure drop range of 4 to 14 inches of water column.
- (5) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across the two locations in the filter bed absorber #1 listed in terms d)(4)a. and d)(4)b. above (in inches of water column) during operation of this

emissions unit, including periods of startup and shutdown. The permittee shall record the pressure drop across the two locations in the filter bed absorber on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the 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 control equipment parameters within the acceptable ranges 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 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.

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.

These ranges for the pressure drop are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency.

The permittee may request revisions to the permitted range or limit for the pressure drop based upon information obtained during future performance tests that demonstrate

compliance with the allowable PM₁₀ and VOC emission rates for this emissions unit. In addition, approved revisions to the ranges 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.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency 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 absorber during the 12-month reporting period for this emissions unit:
 - a. each 3-hour block of time (start time and date, and end time and date) when the inlet exhaust gas stream temperature to the fixed bed absorber #1 exceeded 140 degrees Fahrenheit;
 - b. each period of time (start time and date, and end time and date) when the pressure drop across the pre-filter to the absorber was not within the established range of 0.25 to 2 inches of water column, and/or when the pressure drop across the main filter to the absorber was not within the established range of 4 to 14 inches of water column;
 - c. 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 absorber;
 - d. each incident of deviation described in e)(3)a., e)(3)b. or e)(3)c. (above) where a prompt investigation was not conducted;
 - e. each incident of deviation described in e)(3)a., e)(3)b. or e)(3)c. where prompt corrective action, that would bring the emissions unit into compliance and/or the inlet exhaust gas stream temperature and/or the pressure drop values into compliance with the acceptable ranges, was determined to be necessary and was not taken; and
 - f. each incident of deviation described in e)(3)a., e)(3)b. or e)(3)c. 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) The permittee shall conduct, or have conducted, emission testing for emissions unit P001 as a representative emissions unit for control of emissions from the fixed bed absorber#1 in accordance with the following requirements:

- a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
- b. The emission testing shall be conducted to demonstrate compliance with the following emission limitations:
 - i. PM₁₀ emissions shall not exceed 0.03 lb/hr from the filter bed absorber #1 exhaust stack; and
 - ii. VOC emissions shall not exceed 0.03 lb/hr from the filter bed absorber #1 exhaust stack.
- c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:
 - i. for PM₁₀, Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M or as amended.
 - ii. for VOC, Methods 1-4 and 18, 25 or 25A (as applicable) of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted while the emissions unit is operating under representative conditions at or near its maximum capacity, unless otherwise specified or approved by Ohio EPA or the appropriate local air agency.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

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

a. Emissions Limitations:

PM₁₀ emissions shall not exceed 0.03 lb/hr and 0.13 tpy from the filter bed absorber #1 exhaust stack

Applicable Compliance Method:

The hourly emission limitation was developed by the following equation:

PM₁₀ = (maximum raw materials throughput, in lbs/hr)(plasticizer portion of raw materials, in percent)(percent of plasticizer emitted as PM₁₀)(1 – control efficiency of filter bed absorber);

Where:

Maximum raw material throughput = 4,632 lbs/hr (design basis);

Plasticizer portion of raw materials = 22.42% (Material Safety Data Sheets and design basis);

Percent of plasticizer emitted as PM₁₀ = 2% (engineering estimate)

Control efficiency of filter bed absorber #1 = 99.88% (CECO Filter, manufacturing technical specifications)

$$PM_{10} = (4,632 \text{ lbs/hr})(0.2242)(0.02)(1 - 0.9988) = 0.03 \text{ lb PM}_{10}/\text{hr}$$

Compliance with the lb/hr emission limitation shall be determined through emissions testing conducted in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M [See f)(1)].

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hours/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emissions Limitations:

VOC emissions shall not exceed 0.03 lb/hr and 0.13 tpy from the filter bed absorber #1 exhaust stack

Applicable Compliance Method:

The hourly emission limitation was developed by the following equation:

VOC = (maximum raw materials throughput, in lbs/hr)(plasticizer portion of raw materials, in percent)(percent of plasticizer emitted as VOC)(1 – control efficiency of filter bed absorber #1);

Where:

Maximum raw material throughput = 4,632 lbs/hr (design basis);

Plasticizer portion of raw materials = 22.42% (Material Safety Data Sheets and design basis);

Percent of plasticizer emitted as VOC = 2% (engineering estimate)

Control efficiency of filter bed absorber #1 = 99.88% (CECO Filter, manufacturing technical specifications)

VOC = (4,632 lbs/hr)(0.2242)(0.02)(1 – 0.9988) = 0.03 lb VOC/hr

Compliance with the lb/hr emission limitation shall be determined through emissions testing conducted in accordance with Methods 1-4 and Methods 18, 25 or 25A (as applicable) of 40 CFR, Part 60, Appendix A [See f)(1)].

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hours/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

c. Emission Limitation:

Visible PE shall not exceed 5% opacity, as a six-minute average from the filter bed absorber #1 exhaust stack

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

(1) None.

2. Emissions Group, Layer Lines - P002, P003

EU ID	Operations, Property and/or Equipment Description
P002	Core Layer Line - Banbury mixer for PVC, calcium carbonate filler, DOTP plasticizer, pigment and stabilizer controlled by cartridge dust collector #1; skip hopper, extruder, mill and calendar controlled by filter bed absorber #2; and cooling and coiling
P003	Backing Layer Line - Banbury mixer for PVC, calcium carbonate filler, DOTP plasticizer, pigment and stabilizer controlled by cartridge dust collector #1; skip hopper, extruder, mill and calendar controlled by filter bed absorber #2; and cooling and coiling

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(F)	<p>The following emissions limitations are for each emissions unit P002 and P003, individually:</p> <p><u>Emissions from the cartridge dust collector #1 exhaust stack:</u></p> <p>Particulate matter less than 10 microns in diameter (PM₁₀) emissions shall not exceed 0.08 lb/hr and 0.35 ton/yr (tpy)</p> <p>Visible particulate emissions (PE) shall not exceed 5% opacity, as a six-minute</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		average <u>Emissions from the filter bed absorber #2 exhaust stack:</u> PM ₁₀ emissions shall not exceed 0.02 lb/hr and 0.08 tpy Volatile organic compound (VOC) emissions shall not exceed 0.02 lb/hr and 0.08 tpy Visible PE shall not exceed 5% opacity, as a six-minute average See b)(2)a., b)(2)b. and c)(1)
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)c. and b)(2)d.
c.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM ₁₀ and VOC emissions from this air contaminant source since the potential to emit of each pollutant is less than 10 tons/yr. See b)(2)e.
d.	OAC rule 3745-17-07(A)	See b)(2)f.
e.	OAC rule 3745-17-11(B)	See b)(2)f.

(2) Additional Terms and Conditions

- a. The PM₁₀ emissions from these emissions units are from two exhaust stacks: the Banbury mixer vents to cartridge dust collector #1; and the skip hopper, extruder, mill and calendar all are vented to fixed bed absorber #2. The VOC emissions are from the skip hopper, extruder, mill and calendar and are vented to fixed bed absorber #2. All of the PM₁₀ and VOC emissions from these emissions units shall be vented to the dust collector and absorber and shall meet the operational, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation. The cooling and coiling operations do not have any regulated pollutant emissions.

Emissions units P002 – Core Layer Line and P003 – Backing Layer Line, use the same equipment at the facility. Although the amount of emissions from each operation are the same, the core layer and backing layer cannot operate simultaneously.

- b. This permit establishes the following legally and practically enforceable emission limitations for each emissions unit P002 and P003, individually. The legally and practically enforceable emission limitations are based on the operational restrictions contained in c)(1) of this permit:
 - i. PM₁₀ emissions shall not exceed 0.08 lb/hr and 0.35 tpy from the cartridge dust collector #1 exhaust stack;
 - ii. Visible PE shall not exceed 5% opacity, as a six-minute average from the cartridge dust collector #1 exhaust stack;
 - iii. PM₁₀ emissions shall not exceed 0.02 lb/hr and 0.08 tpy from the filter bed absorber #2 exhaust stack;
 - iv. VOC emissions shall not exceed 0.02 lb/hr and 0.08 tpy from the filter bed absorber #2 exhaust stack; and
 - v. Visible PE shall not exceed 5% opacity, as a six-minute average from the filter bed absorber #2 exhaust stack.
- c. The BAT requirements for PM₁₀ and VOC under OAC rule 3745-31-05(A)(3), as effective 6/30/08, have been determined to be compliance with the voluntary operational restrictions contained in section c)(1) of this permit.
- d. These BAT emissions limits apply 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).

It should be noted that the requirements established pursuant to OAC rule 3745-31-05(F) will remain applicable after the above SIP revision is approved by U.S. EPA.
- e. 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.
- f. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing legally and practically enforceable requirements [See b)(2)b.):
 - a. the collection and control system for the cartridge dust collector #1 shall achieve an outlet grain loading of 0.002 grain/dry standard cubic foot; and
 - b. the collection and control system for the filter bed absorber #2 shall achieve a design removal efficiency of at least 99.88% control of PM₁₀ and VOC (100% capture efficiency).

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall perform weekly* checks when each emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the cartridge dust collector #1 stack serving these emissions units.

The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the date and time of the visible emission observation;
- b. the identification of the stack observed;
- c. the color of the emissions;
- d. the total duration of any visible emission observation; and
- e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week

- (2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the maximum temperature of the inlet exhaust gas stream to the fixed bed absorber #2, for any 3-hour block of time when the emissions unit controlled by the absorber is in operation, shall not exceed 140 degrees Fahrenheit. Until compliance testing has been conducted, the absorber shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual.

- (3) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder which measures and records the temperature of the inlet exhaust gas stream to the fixed bed absorber #2 when the emissions unit is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit.

The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. Following compliance testing, the permittee shall collect and record the following information each day the emissions unit is in operation:

- a. the temperature, in degrees Fahrenheit, of the inlet exhaust gas stream to the fixed bed absorber; and
- b. a log of the downtime for the capture (collection) system, absorber, and monitoring equipment when the associated emissions unit was in operation.

These records shall be maintained at the facility for a period of three years.

- (4) Whenever the monitored inlet exhaust gas stream temperature to the fixed bed absorber #2 temperature deviates from the limit 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 limit 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 inlet exhaust gas stream temperature 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.

The inlet exhaust gas stream temperature limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted inlet exhaust gas stream temperature limit based upon information obtained during future performance tests that demonstrate compliance with the allowable PM₁₀ and VOC emission rates for the controlled emissions unit. In addition, approved revisions to the inlet exhaust gas stream temperature 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.

- (5) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable ranges for the pressure drop across the filter bed absorber #2 shall be maintained in order to demonstrate compliance as follows:
- a. Pre-filter pressure drop range of 0.25 to 2 inches of water column; and
 - b. Main filter pressure drop range of 4 to 14 inches of water column.
- (6) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across the two locations in the filter bed absorber #2 listed in terms d)(5)a. and d)(5)b. above (in inches of water column) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the pressure drop across the two locations in the filter bed absorber on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the 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 control equipment parameters within the acceptable ranges 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 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.

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.

These ranges for the pressure drop are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency.

The permittee may request revisions to the permitted range or limit for the pressure drop based upon information obtained during future performance tests that demonstrate compliance with the allowable PM₁₀ and VOC emission rates for this emissions unit. In addition, approved revisions to the ranges 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.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency 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 cartridge dust collector #1 and fixed bed absorber #2 during the 12-month reporting period for this emissions unit:
 - a. all days during which any visible particulate emissions were observed from the dust collector #1 and/or the fixed bed absorber #2 exhaust stacks serving this emissions unit; and
 - b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.
 - c. each 3-hour block of time (start time and date, and end time and date) when the inlet exhaust gas stream temperature to the fixed bed absorber #2 exceeded 140 degrees Fahrenheit;
 - d. each period of time (start time and date, and end time and date) when the pressure drop across the pre-filter to the absorber was not within the established range of 0.25 to 2 inches of water column, and/or when the pressure drop across the main filter to the absorber was not within the established range of 4 to 14 inches of water column;
 - e. 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 absorber;

- f. each incident of deviation described in e)(3)a., e)(3)b. or e)(3)c. (above) where a prompt investigation was not conducted;
- g. each incident of deviation described in e)(3)a., e)(3)b. or e)(3)c. where prompt corrective action, that would bring the emissions unit into compliance and/or the inlet exhaust gas stream temperature and/or the pressure drop values into compliance with the acceptable ranges, was determined to be necessary and was not taken; and
- h. each incident of deviation described in e)(3)a., e)(3)b. or e)(3)c. 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 section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations:

PM₁₀ emissions shall not exceed 0.08 lb/hr and 0.35 tpy from the cartridge dust collector #1 exhaust stack from each emissions unit P002 and P003, individually

Applicable Compliance Method:

The hourly emission limitation was developed by the following equation:

$PM_{10} = (\text{dust collector grain loading, in grain/dscf})(\text{dust collector flow rate, in scfm})(1 \text{ lb}/7,000 \text{ grains})(60 \text{ min}/\text{hr});$

Where:

Dust collector grain loading = 0.002 grain/dscf; and

Dust collector flow rate = 4,700 scfm

$PM_{10} = (0.002 \text{ grain/dscf})(4,700 \text{ scfm})(1 \text{ lb}/7,000 \text{ grains})(60 \text{ min}/\text{hr}) = 0.08 \text{ lb}/\text{hr}$

If required, compliance with the lb/hr emission limitation shall be determined through emissions testing conducted in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hours/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.



b. Emission Limitation:

Visible PE shall not exceed 5% opacity, as a six-minute average from the cartridge dust collector #1 exhaust stack from each emissions unit P002 and P003, individually

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

c. Emissions Limitations:

PM₁₀ emissions shall not exceed 0.02 lb/hr and 0.08 tpy from the filter bed absorber #2 exhaust stack from each emissions unit P002 and P003, individually

Applicable Compliance Method:

The hourly emission limitation was developed by the following equation:

PM₁₀ = (maximum raw materials throughput, in lbs/hr)(plasticizer portion of raw materials, in percent)(percent of plasticizer emitted as PM₁₀)(1 – control efficiency of filter bed absorber);

Where:

Maximum raw material throughput = 8,940 lbs/hr (design basis);

Plasticizer portion of raw materials = 8% (Material Safety Data Sheets and design basis);

Percent of plasticizer emitted as PM₁₀ = 2% (engineering estimate)

Control efficiency of filter bed absorber #2 = 99.88% (CECO Filter, manufacturing technical specifications)

$$PM_{10} = (8,940 \text{ lbs/hr})(0.08)(0.02)(1 - 0.9988) = 0.02 \text{ lb PM}_{10}/\text{hr}$$

If required, compliance with the lb/hr emission limitation shall be determined through emissions testing conducted in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hours/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

d. Emissions Limitations:

VOC emissions shall not exceed 0.02 lb/hr and 0.08 tpy from the filter bed absorber #2 exhaust stack from each emissions unit P002 and P003, individually

Applicable Compliance Method:

The hourly emission limitation was developed by the following equation:

VOC = (maximum raw materials throughput, in lbs/hr)(plasticizer portion of raw materials, in percent)(percent of plasticizer emitted as VOC)(1 – control efficiency of filter bed absorber);

Where:

Maximum raw material throughput = 8,940 lbs/hr (design basis);

Plasticizer portion of raw materials = 8% (Material Safety Data Sheets and design basis);

Percent of plasticizer emitted as PM₁₀ = 2% (engineering estimate)

Control efficiency of filter bed absorber #2 = 99.88% (CECO Filter, manufacturing technical specifications)

$$\text{VOC} = (8,940 \text{ lbs/hr})(0.08)(0.02)(1 - 0.9988) = 0.02 \text{ lb VOC/hr}$$

If required, compliance with the lb/hr emission limitation shall be determined through emissions testing conducted in accordance with Methods 1-4 and Methods 18, 25 or 25A (as applicable) of 40 CFR, Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hours/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

e. Emission Limitation:

Visible PE shall not exceed 5% opacity, as a six-minute average from the filter bed absorber #2 exhaust stack from each emissions unit P002 and P003, individually

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) None.

3. P004, Lamination Line

Operations, Property and/or Equipment Description:

Banbury mixer for PVC, calcium carbonate filler, DOTP plasticizer, pigment and stabilizer controlled by cartridge dust collector #2; extruder, calendar mill and lamination equipment for coils from wear layer, print layer and core/backing controlled by filter bed absorber #3; and die cut, annealing water bath, cooling, ultraviolet clear coat and finished goods packaging

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)f. and d)(8).

(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(F)	<u>Emissions from the cartridge dust collector #2 exhaust stack:</u> Particulate matter less than 10 microns in diameter (PM ₁₀) emissions shall not exceed 0.08 lb/hr and 0.35 ton/yr (tpy) Visible particulate emissions (PE) shall not exceed 5% opacity, as a six-minute average <u>Emissions from the filter bed absorber #3 exhaust stack:</u> PM ₁₀ emissions shall not exceed 0.02 lb/hr and 0.08 tpy



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Volatile organic compound (VOC) emissions shall not exceed 0.02 lb/hr and 0.08 tpy Visible PE shall not exceed 5% opacity, as a six-minute average <u>Emissions from ultra violet clear coat clean-up operations:</u> VOC emissions shall not exceed 166.6 lbs/month and 0.99 tpy from use of clean-up solvent See b)(2)a., b)(2)b., c)(1) and c)(2)
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)c. and b)(2)d.
c.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM ₁₀ and VOC emissions from this air contaminant source since the potential to emit of each pollutant is less than 10 tons/yr. See b)(2)e.
d.	OAC rule 3745-17-07(A)	See b)(2)f.
e.	OAC rule 3745-17-11(B)	See b)(2)f.
f.	OAC rule 3745-114-01 ORC 3704.03(F)	See d)(8)

(2) Additional Terms and Conditions

- a. The PM₁₀ emissions from this emissions unit are from two exhaust stacks: the Banbury mixer vents to cartridge dust collector #2; and the extruder, calendar mill and lamination equipment for coils from wear layer, print layer and core/backing all are vented to fixed bed absorber #3. The VOC emissions are from the extruder, calendar mill and lamination equipment for coils from wear layer, print layer and core/backing and are vented to fixed bed absorber #3. All of the PM₁₀ and VOC emissions from this emissions unit shall be vented to the dust collector and absorber and shall meet the operational, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation. The die cut, annealing water bath, cooling and finished goods packaging operations do not have any regulated pollutant emissions.

- b. This permit establishes the following legally and practically enforceable emission limitations. The legally and practically enforceable emission limitations are based on the operational restrictions contained in c)(1) and c)(2) of this permit:
 - i. PM₁₀ emissions shall not exceed 0.08 lb/hr and 0.35 tpy from the cartridge dust collector #2 exhaust stack;
 - ii. Visible PE shall not exceed 5% opacity, as a six-minute average from the cartridge dust collector #2 exhaust stack;
 - iii. PM₁₀ emissions shall not exceed 0.02 lb/hr and 0.08 tpy from the filter bed absorber #3 exhaust stack;
 - iv. VOC emissions shall not exceed 0.02 lb/hr and 0.08 tpy from the filter bed absorber #3 exhaust stack;
 - v. Visible PE shall not exceed 5% opacity, as a six-minute average from the filter bed absorber #3 exhaust stack; and
 - vi. VOC emissions shall not exceed 166.6 lbs/month and 0.99 tpy from use of clean-up solvent.
- c. The BAT requirements for PM₁₀ and VOC under OAC rule 3745-31-05(A)(3), as effective 6/30/08, have been determined to be compliance with the voluntary operational restrictions contained in section c)(1) and c)(2) of this permit.
- d. These BAT emissions limits apply 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).

It should be noted that the requirements established pursuant to OAC rule 3745-31-05(F) will remain applicable after the above SIP revision is approved by U.S. EPA.
- e. 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.
- f. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing legally and practically enforceable requirements [See b)(2)b.]:
 - a. the collection and control system for the cartridge dust collector #2 shall achieve an outlet grain loading of 0.002 grain/dry standard cubic foot; and

- b. the collection and control system for the filter bed absorber #3 shall achieve a design removal efficiency of at least 99.88% control of PM₁₀ and VOC (100% capture efficiency).
- (2) The maximum quantity of clean-up solvent MIBK [or other equivalent VOC containing material(s)] used for the ultra violet clear coat operations shall not exceed 24.9 gallons per month and 299 gallons per year.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall perform weekly* checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the cartridge dust collector #2 stack serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the date and time of the visible emission observation;
 - b. the identification of the stack observed;
 - c. the color of the emissions;
 - d. the total duration of any visible emission observation; and
 - e. the corrective actions, if any, taken to eliminate the visible emissions.
- *once during each normal calendar week
- (2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the maximum temperature of the inlet exhaust gas stream to the fixed bed absorber #3, for any 3-hour block of time when the emissions unit controlled by the absorber is in operation, shall not exceed 140 degrees Fahrenheit. Until compliance testing has been conducted, the absorber shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual.
 - (3) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder which measures and records the temperature of the inlet exhaust gas stream to the fixed bed absorber #3 when the emissions unit is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit.

The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. Following compliance testing, the permittee shall collect and record the following information each day the emissions unit is in operation:

- a. the temperature, in degrees Fahrenheit, of the inlet exhaust gas stream to the fixed bed absorber; and
- b. a log of the downtime for the capture (collection) system, absorber, and monitoring equipment when the associated emissions unit was in operation.

These records shall be maintained at the facility for a period of three years.

- (4) Whenever the monitored inlet exhaust gas stream temperature to the fixed bed absorber #3 temperature deviates from the limit 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 limit 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 inlet exhaust gas stream temperature 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.

The inlet exhaust gas stream temperature limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted inlet exhaust gas stream temperature limit based upon

information obtained during future performance tests that demonstrate compliance with the allowable PM₁₀ and VOC emission rates for the controlled emissions unit. In addition, approved revisions to the inlet exhaust gas stream temperature 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.

- (5) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable ranges for the pressure drop across the filter bed absorber #3 shall be maintained in order to demonstrate compliance as follows:
- a. Pre-filter pressure drop range of 0.25 to 2 inches of water column; and
 - b. Main filter pressure drop range of 4 to 14 inches of water column.
- (6) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop across the two locations in the filter bed absorber #3 listed in terms d)(5)a. and d)(5)b. above (in inches of water column) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the pressure drop across the two locations in the filter bed absorber on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the 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 control equipment parameters within the acceptable ranges 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 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.

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.

These ranges for the pressure drop are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency.

The permittee may request revisions to the permitted range or limit for the pressure drop based upon information obtained during future performance tests that demonstrate compliance with the allowable PM₁₀ and VOC emission rates for this emissions unit. In addition, approved revisions to the ranges 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.

- (7) The permittee shall record on a monthly basis, the amount of MIBK clean-up solvent (or other equivalent VOC containing materials) used, in gallons, and the annual year-to-date amount of MIBK clean-up solvent (or other equivalent VOC containing materials) used, in gallons, for ultra violet clear coat operations.
- (8) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified PTI 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 to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency 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 cartridge dust collector #2 and fixed bed absorber #3 during the 12-month reporting period for this emissions unit:
- a. all days during which any visible particulate emissions were observed from the dust collector #2 and/or the fixed bed absorber #3 exhaust stacks serving this emissions unit; and
 - b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.
 - c. each 3-hour block of time (start time and date, and end time and date) when the inlet exhaust gas stream temperature to the fixed bed absorber #3 exceeded 140 degrees Fahrenheit;
 - d. any exceedance of the MIBK (or other equivalent VOC containing materials) clean-up solvent usage operational restrictions of 24.9 gallons per month and 299 gallons per year for ultra violet clear coat operations.
 - e. each period of time (start time and date, and end time and date) when the pressure drop across the pre-filter to the absorber was not within the established range of 0.25 to 2 inches of water column, and/or when the pressure drop across the main filter to the absorber was not within the established range of 4 to 14 inches of water column;
 - f. 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 absorber;
 - g. each incident of deviation described in e)(3)a., e)(3)b. or e)(3)c. (above) where a prompt investigation was not conducted;
 - h. each incident of deviation described in e)(3)a., e)(3)b. or e)(3)c. where prompt corrective action, that would bring the emissions unit into compliance and/or the inlet exhaust gas stream temperature and/or the pressure drop values into compliance with the acceptable ranges, was determined to be necessary and was not taken; and
 - i. each incident of deviation described in e)(3)a., e)(3)b. or e)(3)c. 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 section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

PM₁₀ emissions shall not exceed 0.08 lb/hr and 0.35 tpy from the cartridge dust collector #2 exhaust stack

Applicable Compliance Method:

The hourly emission limitation was developed by the following equation:

PM₁₀ = (dust collector grain loading, in grain/dscf)(dust collector flow rate, in scfm)(1 lb/7,000 grains)(60 min/hr);

Where:

Dust collector grain loading = 0.002 grain/dscf; and

Dust collector flow rate = 4,700 scfm

PM₁₀ = (0.002 grain/dscf)(4,700 scfm)(1 lb/7,000 grains)(60 min/hr) = 0.08 lb/hr

If required, compliance with the lb/hr emission limitation shall be determined through emissions testing conducted in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hours/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emission Limitation:

Visible PE shall not exceed 5% opacity, as a six-minute average from the cartridge dust collector #2 exhaust stack

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

c. Emissions Limitations:

PM₁₀ emissions shall not exceed 0.02 lb/hr and 0.08 tpy from the filter bed absorber #3 exhaust stack

Applicable Compliance Method:

The hourly emission limitation was developed by the following equation:

$PM_{10} = (\text{maximum raw materials throughput, in lbs/hr})(\text{plasticizer portion of raw materials, in percent})(\text{percent of plasticizer emitted as } PM_{10})(1 - \text{control efficiency of filter bed absorber});$

Where:

Maximum raw material throughput = 8,940 lbs/hr (design basis);

Plasticizer portion of raw materials = 8% (Material Safety Data Sheets and design basis);

Percent of plasticizer emitted as PM_{10} = 2% (engineering estimate)

Control efficiency of filter bed absorber #3 = 99.88% (CECO Filter, manufacturing technical specifications)

$PM_{10} = (8,940 \text{ lbs/hr})(0.08)(0.02)(1 - 0.9988) = 0.02 \text{ lb } PM_{10}/\text{hr}$

If required, compliance with the lb/hr emission limitation shall be determined through emissions testing conducted in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hours/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

d. Emissions Limitations:

VOC emissions shall not exceed 0.02 lb/hr and 0.08 tpy from the filter bed absorber #3 exhaust stack

Applicable Compliance Method:

The hourly emission limitation was developed by the following equation:

$VOC = (\text{maximum raw materials throughput, in lbs/hr})(\text{plasticizer portion of raw materials, in percent})(\text{percent of plasticizer emitted as VOC})(1 - \text{control efficiency of filter bed absorber});$



Where:

Maximum raw material throughput = 8,940 lbs/hr (design basis);

Plasticizer portion of raw materials = 8% (Material Safety Data Sheets and design basis);

Percent of plasticizer emitted as PM₁₀ = 2% (engineering estimate)

Control efficiency of filter bed absorber #3 = 99.88% (CECO Filter, manufacturing technical specifications)

$$\text{VOC} = (8,940 \text{ lbs/hr})(0.08)(0.02)(1 - 0.9988) = 0.02 \text{ lb VOC/hr}$$

If required, compliance with the lb/hr emission limitation shall be determined through emissions testing conducted in accordance with Methods 1-4 and Methods 18, 25 or 25A (as applicable) of 40 CFR, Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hours/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

e. Emission Limitation:

Visible PE shall not exceed 5% opacity, as a six-minute average from the filter bed absorber #3 exhaust stack

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

f. Emission Limitation:

VOC emissions shall not exceed 166.6 lbs/month and 0.99 tpy from ultra violet clear coat clean-up operations.

Applicable Compliance Method:

The monthly emission limitation was developed by the following equation:

$$\text{VOC} = (\text{maximum monthly clean-up solvent usage, in gallons/month})(\text{specific gravity of clean-up solvent})(\text{density of water, in lbs/gallon});$$



Where:

Maximum monthly clean-up solvent usage = 24.9 gallons;

Specific gravity of MIBK = 0.802; and

Density of water = 8.34 lb/gallon

VOC = (24.9 gallons)(0.802)(8.34 lbs/gallon) = 166.6 lbs/month

The annual emission limitation was developed by multiplying the monthly emission limitation by 12 months/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the monthly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

g) Miscellaneous Requirements

(1) None.

4. P005, Reclaim/Recycle

Operations, Property and/or Equipment Description:

Receiving and grinding of reclaim materials from wear layer line, core layer line and backing layer line controlled by cartridge dust collector #3; and hoppers vented to cartridge dust collector #1

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(F)	<u>Emissions from the cartridge dust collector #3 exhaust stack:</u> Particulate matter less than 10 microns in diameter (PM ₁₀) emissions shall not exceed 0.03 lb/hr and 0.13 ton/yr (tpy) Visible particulate emissions (PE) shall not exceed 5% opacity, as a six-minute average See b)(2)a., b)(2)b. and c)(1)
b.	OAC rule 3745-31-05(A)(3) June 30, 2008	See b)(2)c. and b)(2)d.

c.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM ₁₀ emissions from this air contaminant source since the potential to emit is less than 10 tons/yr. See b)(2)e.
d.	OAC rule 3745-17-07(A)	See b)(2)f.
e.	OAC rule 3745-17-11(B)	See b)(2)f.

(2) Additional Terms and Conditions

- a. The PM₁₀ emissions from this emissions unit are from receiving and grinding of reclaim materials from the wear layer, core layer and backing layer lines controlled by cartridge dust collector #3. All of the PM₁₀ emissions from this emissions unit (with the exception of the hoppers which vent to cartridge dust collector #1) shall be vented to dust collector #3 and shall meet the operational, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation. The PM₁₀ emissions from the hoppers which are vented to cartridge dust collector #1 are all accounted for as part of emissions units P002 and P003.
- b. This permit establishes the following legally and practically enforceable emission limitations. The legally and practically enforceable emission limitations are based on the operational restrictions contained in c)(1) of this permit:
 - i. PM₁₀ emissions shall not exceed 0.03 lb/hr and 0.13 tpy; and
 - ii. Visible PE shall not exceed 5% opacity, as a six-minute average from the cartridge dust collector #3 exhaust stack.
- c. The BAT requirements for PM₁₀ under OAC rule 3745-31-05(A)(3), as effective 6/30/08, have been determined to be compliance with the voluntary operational restriction contained in section c)(1) of this permit.
- d. These BAT emissions limits apply 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).

It should be noted that the requirements established pursuant to OAC rule 3745-31-05(F) will remain applicable after the above SIP revision is approved by U.S. EPA.
- e. 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.

- f. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).
- c) **Operational Restrictions**
 - (1) The following operational restriction has been included in this permit for the purpose of establishing legally and practically enforceable requirements [See b)(2)b.):
 - a. the collection and control system for the cartridge dust collector #3 shall achieve an outlet grain loading of 0.002 grain/dry standard cubic foot.
- d) **Monitoring and/or Recordkeeping Requirements**
 - (1) The permittee shall perform weekly* checks when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the cartridge dust collector #3 stack serving this emissions unit. The presence or absence of any visible emissions, excluding water vapor, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the date and time of the visible emission observation;
 - b. the identification of the stack observed;
 - c. the color of the emissions;
 - d. the total duration of any visible emission observation; and
 - e. the corrective actions, if any, taken to eliminate the visible emissions.

*once during each normal calendar week
- e) **Reporting Requirements**
 - (1) The reports required by this permit may be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal; or they may be mailed as a hard copy to the appropriate district office or local air agency.
 - (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency 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 cartridge dust collector #3 during the 12-month reporting period for this emissions unit:
 - a. all days during which any visible particulate emissions were observed from the cartridge dust collector #3 exhaust stack serving this emissions unit; and

- b. the root cause and any corrective actions taken to minimize or eliminate the visible particulate emissions.

f) Testing Requirements

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

a. Emissions Limitations:

PM₁₀ emissions shall not exceed 0.03 lb/hr and 0.13 tpy from the cartridge dust collector #3 exhaust stack

Applicable Compliance Method:

The hourly emission limitation was developed by the following equation:

PM₁₀ = (dust collector grain loading, in grain/dscf)(dust collector flow rate, in scfm)(1 lb/7,000 grains)(60 min/hr);

Where:

Dust collector grain loading = 0.002 grain/dscf; and

Dust collector flow rate = 1,500 scfm

PM₁₀ = (0.002 grain/dscf)(1,500 scfm)(1 lb/7,000 grains)(60 min/hr) = 0.03 lb/hr

If required, compliance with the lb/hr emission limitation shall be determined through emissions testing conducted in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

The annual emission limitation was developed by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hours/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emission Limitation:

Visible PE shall not exceed 5% opacity, as a six-minute average from the cartridge dust collector #3 exhaust stack

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined in accordance with Method 9 of 40 CFR, Part 60, Appendix A.



Final Permit-to-Install and Operate
NOX US. LLC
Permit Number: P0119189
Facility ID: 0374012005
Effective Date: 8/31/2015

- g) Miscellaneous Requirements
 - (1) None.