



Environmental  
Protection Agency

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

4/29/2010

PAUL BENSON  
3 SIGMA CORP  
1985 WEST STANFIELD ROAD  
TROY, OH 45373

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 0855140498  
Permit Number: P0106145  
Permit Type:Renewal  
County: Miami

Certified Mail

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

Dear Permit Holder:

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

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

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

If you have any questions, please contact Regional Air Pollution Control Agency at (937)225-4435 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc), by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

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

Cc: RAPCA





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
3 SIGMA CORP**

Facility ID: 0855140498  
Permit Number: P0106145  
Permit Type: Renewal  
Issued: 4/29/2010  
Effective: 4/29/2010  
Expiration: 4/29/2015





Division of Air Pollution Control
Permit-to-Install and Operate
for
3 SIGMA CORP

Table of Contents

Authorization ..... 1
A. Standard Terms and Conditions ..... 3
1. What does this permit-to-install and operate ("PTIO") allow me to do?..... 4
2. Who is responsible for complying with this permit? ..... 4
3. What records must I keep under this permit? ..... 4
4. What are my permit fees and when do I pay them?..... 4
5. When does my PTIO expire, and when do I need to submit my renewal application? ..... 5
6. What happens to this permit if my project is delayed or I do not install or modify my source? ..... 5
7. What reports must I submit under this permit? ..... 5
8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit? ..... 5
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ... 6
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report? ..... 6
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located? ..... 6
12. What happens if one or more emissions units operated under this permit is/are shut down permanently? ..... 6
13. Can I transfer this permit to a new owner or operator?..... 7
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"? ..... 7
15. What happens if a portion of this permit is determined to be invalid? ..... 7
B. Facility-Wide Terms and Conditions..... 8
C. Emissions Unit Terms and Conditions ..... 10
1. K006, No. 11-Old Long Line..... 11



## Authorization

Facility ID: 0855140498  
Application Number(s): A0037365  
Permit Number: P0106145  
Permit Description: First issue PTIO after PTI 08-04708 issued 2/21/08 for water and solvent based coater controlled by a thermal oxidizer.  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 4/29/2010  
Effective Date: 4/29/2010  
Expiration Date: 4/29/2015  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

3 SIGMA CORP  
1985 WEST STANFIELD ROAD  
Troy, OH 45373

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

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

Regional Air Pollution Control Agency  
117 South Main Street  
Dayton, OH 45422-1280  
(937)225-4435

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Chris Korleski  
Director



## Authorization (continued)

Permit Number: P0106145  
Permit Description: First issue PTIO after PTI 08-04708 issued 2/21/08 for water and solvent based coater controlled by a thermal oxidizer.

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

<b>Emissions Unit ID:</b>	<b>K006</b>
Company Equipment ID:	No. 11-Old Long Line
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

## **A. Standard Terms and Conditions**

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

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

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

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

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

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

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

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

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

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

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

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

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

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

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

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

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

**7. What reports must I submit under this permit?**

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

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

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

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

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

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

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

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Regional Air Pollution Control Agency 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<sup>1</sup> a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

---

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

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.

## **B. Facility-Wide Terms and Conditions**

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

## **C. Emissions Unit Terms and Conditions**



1. K006, No. 11-Old Long Line

Operations, Property and/or Equipment Description:

No. 11 - Old Long Line Coater with Thermal Oxidizer

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 operations(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. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Table with 2 columns: Applicable Rules/Requirements and Applicable Emissions Limitations/Control Measures. Row a: OAC rule 3745-31-05(A)(3) with VOC emission limits and cleanup requirements. Row b: OAC rule 3745-31-05(D) (synthetic minor to avoid PSD and Title V) with total allowable emissions for units K002-K007.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		70.13 tons per rolling 12 month summation, including cleanup.  The emissions of Hazardous Air Pollutants (HAPS), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units K002, K003, K004, K005, K006 and K007, de minimis, permit exempt, and permit by rule air contaminant sources combined shall be less than 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling 12-month summation, including cleanup.
c.	OAC rule 3745-21-09(F)	When operating without the use of a control system the coatings applied shall be less than or equal to 2.9 lbs VOC/gallon of coating, excluding water and exempt solvents.
d.	OAC rule 3745-21-09(B)(6)	In lieu of complying with the VOC content specified in OAC rule 21-09(F), the permittee is employing a control system when employing solvent based coatings.  See b)(2)b.
e.	40 CFR Part 60, Subpart RR	When operating with the use of a control system, the emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).  When operating without the use of a control system, the VOC emissions from this emissions unit shall not exceed 0.2 kilogram (kg)/kg of coating solids as calculated on a weighted average basis for each calendar month.
f.	OAC rule 3745-114-01 ORC rule 3704.03(F)	See d)(8), d)(9) and e)(4).

(2) Additional Terms and Conditions

- a. The 7.61 pounds VOC per hour emission limit was established for PTI purposes to reflect the potential to emit for the emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limitation.

- b. The VOC emissions from the use of solvent-based coatings shall be controlled through the application of a permanent total enclosure (PTE) with a 100 percent capture efficiency and a thermal oxidizer system, operating at a minimum of 97% overall VOC removal/destruction efficiency.

c) Operational Restrictions

- (1) The maximum annual volatile organic material usage for emission units K002, K003, K004, K005, K006 and K007 shall not exceed 70.13 tons per year, based upon a rolling, 12-month summation of the monthly volatile organic material usage figures from a combination of coatings and cleanup. The annual volatile organic material usage in this term equates to the annual VOC emission rate in b)(1) based upon the premise that 100% of all the solvents contained within the material usage is emitted and therefore all the record keeping and reporting requirements of this permit for the VOC emissions will be sufficient to verify the annual volatile organic material usage rate of this term.

To ensure enforceability during the first twelve calendar months of operation following the issuance of this permit, the actual volatile organic material usage records over the previous 12 calendar months of operation shall be used to calculate the rolling, 12-month summation from the facility.

- (2) The maximum annual HAPs material usage for emissions units K002, K003, K004, K005, K006 and K007, de minimis, permit exempt, and permit by rule air contaminant sources combined shall not exceed 9.9 tons for any single HAP and 24.9 tons for any combination of HAPs, per rolling 12-month summation, including cleanup.

To ensure enforceability during the first twelve calendar months of operation following the issuance of this permit, the actual individual and combined HAPs material usage records over the previous 12 calendar months of operation shall be used to calculate the rolling, 12-month summation from the facility.

- (3) Except where employing only compliant materials, all of the VOC emissions from this emissions unit shall be vented to a thermal oxidizer that shall meet the operational, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation.
- (4) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit(s) controlled by the thermal oxidizer is/are in operation, shall not be more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance. Until compliance testing has been conducted, the thermal oxidizer shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manual.
- (5) The permanent total enclosure shall be constructed to totally enclose the application stations, coating reservoirs, and all areas from the application station to the oven and the control device, such that all volatile organic compound emissions are captured, contained, and directed to the control device.

- (6) The permanent total enclosure shall be maintained under negative pressure whenever the emissions unit is in operation, and shall be designed and maintained to have an average facial velocity of air through each natural draft opening of at least 200 feet per minute (3,600 m/hr). Compliance with the average facial velocity shall be demonstrated during the compliance test, by either using an air flow monitor or a differential pressure gauge at each natural draft opening, and maintaining the required facial velocity or the corresponding negative pressure. The permanent total enclosure shall meet all of the following criteria if the capture efficiency of the enclosure and control device is to be assumed to be 100%:
- Any natural draft opening shall be at least four equivalent opening diameters, or 4 times the diameter of the opening, from each VOC emitting point. An equivalent diameter is the diameter of a circle that has the same area as the opening. If the opening is not circular the equivalent diameter (ED) is calculated as follows:
$$ED = (4 \text{ area}/\pi)^{0.5}$$
  - The total area of all natural draft openings ( $A_N$ ) shall not exceed 5 percent of the total surface area of the enclosure ( $A_T$ ), i.e, the four walls, floor, and ceiling. The natural draft opening to enclosure area ratio (NEAR) is calculated as follows:
$$NEAR = A_N / A_T$$
  - The direction of air flow through all natural draft openings shall be into the enclosure, with an average facial velocity of no less than 200 feet per minute (3,600 m/hr) or a pressure drop of 0.013 mm Hg (0.007 in. H<sub>2</sub>O).
  - All access doors and windows to the enclosure that do not meet the requirements of a natural draft opening and whose surface areas are not included in the 5 percent surface area determination in "b", shall be completely closed to any air movement during process operations.
  - All VOC emissions shall be captured and contained for discharge through the control device.
- (7) The permanent total enclosure (PTE) serving this emissions unit shall be maintained in such a manner as to meet the criteria established for a permanent total enclosure in 40 CFR, Part 51, Appendix M, Reference Method 204, and shall capture all of the VOC emissions from this emissions unit.
- (8) The permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than 0.013 mm Hg (0.007 in. H<sub>2</sub>O), whenever the emissions unit is in operation.
- d) Monitoring and/or Recordkeeping Requirements
- For each coating employed on this emissions unit, the company shall record whether it is vented to the atmosphere or thermal oxidizer.

- (2) The permittee shall collect and record the following information for each month that this emissions unit is operating:
- a. The name and identification of each surface coating and cleanup material employed.
  - b. The number of gallons of each surface coating and cleanup material employed.
  - c. The weight, in pounds per month, of each surface coating and cleanup material employed, as applied.
  - d. The VOC content for each surface coating and cleanup material employed, in pounds per gallon.
  - e. The VOC content of each surface coating and cleanup material, as applied, in percent by weight.
  - f. The VOC content, in pounds per gallon (excluding water and exempt solvents), of each surface coating vented directly to the atmosphere.
  - g. The individual HAP content for each surface coating and cleanup material employed, in pounds per gallon.
  - h. The combined HAP content for each surface coating and cleanup material employed, in pounds per gallon.
  - i. The total volatile organic material usage from all surface coating and cleanup material, in pounds.
  - j. The VOC emission rate from each cleanup material employed (d)(2)b. x d)(2)d.), in pounds.
  - k. The individual HAP emission rate from each cleanup material employed (d)(2)b. x d)(2)g.), in pounds.
  - l. The combined HAP emission rate from each cleanup material employed (d)(2)b. x d)(2)h.), in pounds.
  - m. The uncontrolled VOC emission rate from each surface coating employed (d)(2)b. x d)(2)d.), in pounds.
  - n. The uncontrolled individual HAP emission rate from each surface coating employed (d)(2)b x d)(2)g), in pounds.
  - o. The uncontrolled combined HAP emission rate from each surface coating employed (d)(2)b. x d)(2)h.), in pounds.
  - p. The total VOC emission rate from any surface coatings vented directly to the atmosphere, in pounds (the portion of d)(2)m. which is vented to the atmosphere based on d)(1)).

- q. The total uncontrolled VOC emission rate from all the surface coatings vented to the thermal oxidizer, in pounds (the portion of d)(2)m. which is vented to the thermal oxidizer based on d)(1)).
- r. The total individual HAP emission rate from any surface coatings vented directly to the atmosphere, in pounds (the portion of (d)(2)n. which is vented to the atmosphere based on d)(1)).
- s. The total uncontrolled individual HAP emission rate from all the surface coatings vented to the thermal oxidizer, in pounds (the portion of d)(2)n. which is vented to the thermal oxidizer based on d)(1)).
- t. The total combined HAP emission rate from any surface coatings vented directly to the atmosphere, in pounds (the portion of d)(2)o. which is vented to the atmosphere based on d)(1)).
- u. The total uncontrolled combined HAP emission rate from all the surface coatings vented to the thermal oxidizer, in pounds (the portion of d)(2)o. which is vented to the thermal oxidizer based on d)(1)).
- v. The total controlled VOC emission rate from all the surface coatings vented to the thermal oxidizer, in pounds, i.e., the value from d)(2)q. multiplied by the overall efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance.
- w. The total controlled individual HAP emission rate from all the surface coatings vented to the thermal oxidizer, in pounds, i.e., the value from d)(2)s. multiplied by the overall efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance.
- x. The total controlled combined HAP emission rate from all the surface coatings vented to the thermal oxidizer, in pounds, i.e., the value from d)(2)u. multiplied by the overall efficiency from the most recent performance test that demonstrated that the emissions unit was in compliance.
- y. The total actual VOC emissions from all coatings and cleanup materials employed, in pounds (i.e., the sum of d)(2)j., d)(2)p. and d)(2)v.).
- z. The total actual individual HAP emissions from all coatings and cleanup materials employed, in pounds (i.e., the sum of d)(2)k., d)(2)r. and d)(2)w.).
- aa. The total actual combined HAP emissions from all coatings and cleanup materials employed, in pounds (i.e., the sum of d)(2)l., d)(2)t. and d)(2)x.).
- bb. The rolling, 12-month summation of the volatile organic material usage from all surface coating and cleanup material.
- cc. The rolling, 12-month summation of the VOC emissions from this emissions unit, in tons, i.e., the summation of d)(2)y. for the previous 12-month period divided by 2000 lbs/ton.

- dd. The rolling, 12-month summation of the individual HAP emissions from this emissions unit, in tons, i.e., the summation of d)(2)z. for the previous 12-month period divided by 2000 lbs/ton.
  - ee. The rolling, 12-month summation of the combined HAP emissions from this emissions unit, in tons, i.e., the summation of d)(2)aa. for the previous 12-month period divided by 2000 lbs/ton.
- (3) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) 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  $\pm 1$  percent of the temperature being measured or  $\pm 5$  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. The acceptable temperature setting shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate temperature range is established to demonstrate compliance. Following compliance testing, the permittee shall collect and record the following information each day the thermal oxidizer is required to demonstrate compliance with the VOC limitation contained in this permit:
- a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and
  - b. a log or record of the operating time for the capture (collection) system, thermal oxidizer, monitoring equipment, and the associated emissions unit(s).
- These records shall be maintained at the facility for a period of three years.
- (4) When the emissions unit is operating and NOT venting to a control device, the permittee shall collect and record the following information for each month:
- a. The company identification of each surface coating employed.
  - b. The number of gallons of each surface coating employed.
  - c. The VOC content for each surface coating employed, in pounds per gallon.
  - d. The VOC content for each surface coating employed, in pounds per gallon, excluding water and exempt solvents.
  - e. The VOC content for each surface coating employed, in kilograms per gallon ((d)(5)c./2.20 lbs/kg).

- f. The total mass of VOC applied, in kilograms (the sum of the product d)(5)e. x d)(5)b. for all coatings applied).
  - g. The solids content for each surface coating employed, in pounds per gallon.
  - h. The solids content for each surface coating employed, in pounds per gallon kilograms per gallon ((d)(5)g./2.20 lbs/kg).
  - i. The total mass of solids applied, in kilograms (the sum of the product d)(5)h. x d)(5)b. for all coatings applied).
  - j. The uncontrolled VOC emissions, in kg VOC/kg solids ((d)(5)f./ (d)(5)i.).
- (5) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or 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 range/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:

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the temperature readings immediately after the corrective action was implemented; and
- f. 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 temperature range/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 temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/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.

- (6) The permittee shall measure, document/calculate, and maintain a permanent record of the following information for the permanent total enclosure, which may be the same record documented during the compliance test(s):
- a. the measured diameter of each natural draft opening;
  - b. the distance measured from each natural draft opening to each VOC emitting point;
  - c. the total calculated surface area of all natural draft openings and the surface area of the enclosure's four walls, floor, and ceiling;
  - d. the calculation or demonstration that the distance from each VOC emitting point to each natural draft opening is at least 4 times the diameter of the opening; and
  - e. the calculation demonstrating that the sum of the surface areas of all of the natural draft openings to the enclosure is not more than 5 percent of the sum of the surface areas of the enclosure's four walls, floor, and ceiling.
- (7) The permittee shall install, operate, and maintain monitoring devices and a recorder that continuously monitor and record the differential pressure between the inside and outside of the permanent total enclosure when the emissions unit is in operation. The monitoring and recording devices shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information each day:

- a. all three-hour blocks of time during which the difference in pressure between the permanent total enclosure and the surrounding areas is not maintained at or above the minimum pressure differential of 0.007 inches of water, as a three-hour average; and
  - b. a log or record of downtime for the capture (collection) system when the emissions unit was in operation.
- (8) The permit to install for this emissions unit K006 was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install applications, for K002, K003, K004, K005, K006 and K007. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application

and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant(s):

Pollutant: Hexane

TLV (mg/m<sup>3</sup>): 176

Maximum Hourly Emission Rate (lbs/hr): 28.31

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 1679

MAGLC (ug/m<sup>3</sup>): 1762

Pollutant: N-Butyl Acrylate

TLV (mg/m<sup>3</sup>): 10

Maximum Hourly Emission Rate (lbs/hr): 0.660

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 39.14

MAGLC (ug/m<sup>3</sup>): 105

Pollutant: Vinyl Acetate

TLV (mg/m<sup>3</sup>): 35

Maximum Hourly Emission Rate (lbs/hr): 3.342

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 198.18

MAGLC (ug/m<sup>3</sup>): 352

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the “Air Toxic Policy” is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the “Air Toxic Policy” will still be still satisfied. If, upon evaluation, the permittee determines that the “Air Toxic Policy” will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most

recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled.

- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled.
- c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

- (9) The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy."
  - a. A description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.).
  - b. Documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy".
  - c. Where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

- (1) The permittee shall submit annual reports which specify the VOC emissions, in tons, from all emissions units. The permittee shall also submit annual reports which specify the individual HAP and total combined HAP emissions, in tons, from all emissions units at the facility. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
  - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
    - i. all exceedances of the rolling, 12- month emission limitation for VOC;
    - ii. all exceedances of the rolling, 12-month individual HAP emission limitation for each HAP for all the coatings, thinners, additives, and cleanup materials employed;

- iii. all exceedances of the rolling, 12-month total combined HAPs emission limitation for all the coatings, thinners, additives, and cleanup materials employed;
  - iv. all 3-hour blocks of time when the emissions unit was in operation during which the average combustion temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature maintained during the most recent performance test that demonstrated the emissions unit was in compliance;
  - v. any records of downtime (date and length of time) for the capture (collection) system, the thermal oxidizer, and/or the monitoring equipment when the emissions unit(s) was/were in operation;
  - vi. all three-hour blocks of time, when the emissions unit was in operation, during which the permanent total enclosure was not maintained at the minimum pressure differential of 0.007 inches of water; and
  - vii. when the emissions unit is operating and NOT venting to a control device for purposes of complying with 40 CFR Part 60, Subpart RR, any monthly record showing the use of noncomplying coatings.
- b. the probable cause of each deviation (excursion);
  - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
  - d. the magnitude and duration of each deviation (excursion).

The report shall include the date and number of hours that the emissions unit was operating under each non-compliant scenario.

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

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

- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the thermal oxidizer during the 12-month reporting period for this/these emissions unit(s):
  - a. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the range specified by the manufacturer and/or outside of the acceptable range following any required compliance demonstration;

- b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the thermal oxidizer;
  - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
  - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the emissions unit(s) into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s).
- (4) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.
  - (5) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
  - (6) When the emissions unit is operating and NOT venting to a control device for purposes of complying with OAC rule 3745-21-09(B) requirements, the permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing of any monthly record showing the use of noncomplying coatings. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days following the end of the calendar month.
- f) Testing Requirements
- (1) Compliance with the emission limitation(s) in b)(1) of these terms and conditions shall be determined in accordance with the following method(s):
    - a. Emission Limitation

VOC emissions from this emissions unit shall not exceed 7.61 lbs/hr, excluding cleanup.

Applicable Compliance Method:

Compliance shall be determined by multiplying the maximum hourly coating usage rate (47 gals ctg) by the maximum VOC content (5.4 lbs VOC/gal ctg) and

then multiplying the result by a factor of 1 minus the overall control efficiency of 97%, by weight.

b. Emission Limitation

VOC emissions from this emissions unit shall not exceed 15.23 tons per rolling 12-month summation, including cleanup

Applicable Compliance Method

Compliance shall based upon the record keeping specified in d)(2).

c. Emission Limitation

The emissions of Hazardous Air Pollutants (HAPS), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units K002, K003, K004, K005, K006 and K007, de minimis, permit exempt, and permit by rule air contaminant sources combined shall be less than 9.9 tons for any single HAP and 24.9 tons for any combination of HAPS, per rolling 12-month summation, including cleanup.

Applicable Compliance Method

Compliance shall based upon the record keeping specified in d)(2).

d. Emission Limitation

VOC emissions from this emissions unit shall not exceed 2.9 lbs/gallon of coating, excluding water and exempt solvents when operating without the use of a control system.

Applicable Compliance Method

Compliance shall based upon the record keeping specified in d)(5).

e. Emission Limitation

VOC emissions from this emissions unit shall not exceed 0.2 kg/kg of coating solids as calculated on a weighted average basis for each calendar month when operating without the use of a control system.

Applicable Compliance Method

Compliance shall based upon the record keeping specified in d)(5).

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements::

a. The emission testing shall be conducted 6 months prior to permit renewal.

b. Emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate and overall control system efficiency for VOCs,

which shall include determinations of the capture efficiency and the thermal oxidizer control efficiency of 97%. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Method 18 of 40 CFR Part 60, Appendix A and Method 25 or 25A of 40 CFR Part 60, Appendix A, as appropriate, before and after the thermal oxidizer, to demonstrate compliance with the destruction efficiency for volatile organic compounds. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- c. The emission testing shall be conducted to demonstrate compliance with the 100% capture efficiency requirement for the permanent total enclosure. The following test methods shall be employed:

Method 204 from 40 CFR Part 51 Appendix M; and

Method 2 from 40 CFR Part 60, Appendix A.

- d. During the compliance demonstration for the permanent total enclosure, monitoring devices shall be installed to measure the average facial velocity of the air flow through each natural draft opening.

- e. Method 2 from 40 CFR Part 60, Appendix A shall be conducted to determine the volumetric flow rate of the exhaust stream(s) exiting the permanent total enclosure, corrected to standard conditions. If the building is being used as the permanent total enclosure, it may be necessary to measure the volumetric flow, corrected to standard conditions, of each gas stream entering the "enclosure" through a forced makeup air duct, using Method 2. The facial velocity (FV) shall be calculated using the following equation:

$$FV = (Q_o - Q_i) / A_n$$

where:

$Q_o$  is the sum of the volumetric flow from all gas streams exiting the enclosure through an exhaust duct or hood;

$Q_i$  is the sum of the volumetric flow from all gas streams into the enclosure through a forced makeup air duct, and is equal to zero if there is no forced makeup air into the enclosure; and

$A_n$  is the total area of all natural draft openings in the enclosure.

- f. If the average facial velocity is measured at greater than 500 feet per minute (9,000 m/hr), the direction of air flow shall be assumed to be inward at all times during the compliance demonstration. If the average facial velocity is measured at less than 500 feet per minute, the continuous inward flow of air shall be verified at least once every 10 minutes for a minimum of 1 hour during the compliance demonstration, either by checking the flow or pressure meter(s) or through the use of streamers, smoke tubes, or tracer gases. All closed access doors and windows that are not considered natural draft openings shall also be

checked once during the compliance demonstration for leakage around their perimeters using smoke tubes or tracer gases.

- g. The permittee shall also measure and record the following information for the permanent total enclosure and each natural draft opening:
- i. the diameter of each natural draft opening;
  - ii. the distance measured from each natural draft opening to each VOC emitting point in the process;
  - iii. the distance measured from each exhaust duct or hood in the enclosure to each natural draft opening;
  - iv. the total surface area of each natural draft opening and the surface area of the enclosure's four walls, floor, and ceiling; and
  - v. the ratio of the total surface area (sum) of all natural draft openings to the total surface area of the permanent total enclosure.
- h. The testing shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA.
- i. Not later than 60 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).
- j. Personnel from the appropriate Ohio EPA District Office or Local Air Agency shall be permitted to witness the tests, 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.
- k. A comprehensive written report on the results of the emissions tests 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.

Formulation data shall be used to determine the HAP contents of the coating and cleanup materials.

g) Miscellaneous Requirements

- (1) The terms and conditions of this permit to install and operate shall supersede all terms and conditions for emissions unit K006 in PTI 08-04708 issued February 21, 2008 and represents no increase in emissions.