



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

3/13/2013

Certified Mail

Ms. Renee Copsey  
3 SIGMA CORP  
1985 West Stanfield Road  
Troy, OH 45373

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

Facility ID: 0855140498  
Permit Number: P0112140  
Permit Type: Initial Installation  
County: Miami

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

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, Troy Daily News. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall  
Permit Review/Development Section  
Ohio EPA, DAPC  
122 South Front Street  
Columbus, Ohio 43215

and Regional Air Pollution Control Agency  
117 South Main Street  
Dayton, OH 45422-1280

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Regional Air Pollution Control Agency at (937)225-4435.

Sincerely,

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

Cc: U.S. EPA Region 5 Via E-Mail Notification  
RAPCA; Indiana





## Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2. Source Description:

3 Sigma Corporation is a manufacturer of pressure sensitive tapes and labels. Current manufacturing operations include application of water based or thermoplastic adhesive coatings to continuous paper or film web.

3. Facility Emissions and Attainment Status:

3 Sigma currently has five permitted emissions units (K002 through K006) at this facility. Emissions units K002, K003, and K004 are waterborne coating lines. K005 and K006 are web coaters controlled by separate permanent total enclosures and thermal oxidizers when applying solvent-based coatings. K005 and K006 are permitted to operate without the oxidizer control when compliant materials are used. With the installation of emissions unit K008 in this permit, the following table represents 3 Sigma's facility wide volatile organic compound emissions.

	VOC PTE (uncontrolled & unrestricted) (tpy)	VOC PTE after control & unrestricted) (tpy)	VOC (actual & restricted) (tpy) <sup>1</sup>
K002	8.28	n/a	8.28
K003	8.28	n/a	8.28
K004	8.28	n/a	8.28
K005 <sup>2</sup>	1111.64	33.35	15.23
K006 <sup>2</sup>	1111.64	33.35	15.23
K008 <sup>3</sup>	9.38	n/a	9.38
Total	2257.50	66.70	70.13 <sup>4</sup>

<sup>1</sup> Established federally enforceable limitations (Synthetic Minor Limitations). Facility is accepting further emissions limitations to restrict their facility-wide individual HAP emissions to 9.9 tpy and combined HAPs emissions to 24.7 tpy based on rolling, 12-month period.

<sup>2</sup> controlled with permanent total enclosures and thermal oxidizer when using solvent based coatings; 97% overall control.

<sup>3</sup> includes emissions coatings and emissions from natural gas combustion for driers

<sup>4</sup> Limitation for K002 – K006 and K008, combined, to restrict facility-wide VOC emissions.

3 Sigma is subject to 40 CFR Part 60, Subpart RR, New Source Performance Standards for Pressure Sensitive Tape and Label Surface Coating Operations. The coating lines at the facility exceeds the threshold in the subpart of 50 tons of VOC input per 12 month period; therefore, they are subject to the emissions limitations of subpart RR. Subpart RR limits VOC emissions to 0.20 kg VOC/kg of coating



solids applied averaged over a month or requires 90% overall control of VOC emissions. K002, K003, K004 and K008 will comply with the coating material limit at all times. K005 and K006 will vent to their respective thermal oxidizer control and comply with the 90% overall control requirement when using solvent based materials. When K005 or K006 is not vented to their control devices (i.e., when using waterborne coatings) they will comply with the Subpart RR coating material limitation.

3 Sigma Corporation is located in Miami County which is in attainment for all criteria pollutants.

4. Source Emissions:

K008 incorporates three drying ovens with a total heating capacity of 38 mmBTU/hr. Based upon 8760 hours/year operation the maximum emissions from the combustion of natural gas for K008 are 16.32 tpyNO<sub>x</sub>, 13.71 tpy CO, 1.24 tpy PM<sub>10</sub>, 0.90 tpy VOC and 0.10 tpy SO<sub>2</sub>. Taking into account inherent limitations caused by downtime to replace paper webs and for cleaning and maintenance, the worst case maximum emissions from coating operations for K008 are 8.48 tpy VOC. With the synthetic minor limitations the VOC emissions, with the inclusion of VOC emissions from the dryers, will be 9.38 tpy per rolling, 12-month period.

In addition to the coating material limitation of 40 CFR Part 60, Subpart RR noted above, K008 is subject to OAC rule 3745-21-09(F)(1) which requires the coatings used must comply with a VOC content limit of 2.9 lbs-VOC/gallon of coating.

The facility has chosen to include K008 in, and continue to comply with, the existing synthetic minor limits established in their earlier permits limiting their VOC and HAP emissions to avoid Title V. Compliance with the VOC and HAPs limitations will be demonstrated through recordkeeping.

5. Conclusion:

3 Sigma is a synthetic minor facility by which federally enforceable restrictions and control requirements that limit the facility PTE for VOC and HAPs below Title V permitting threshold level. Monthly monitoring, record keeping and reporting requirements are required to ensure compliance. Therefore, through federally enforceable terms and conditions, 3 Sigma will not trigger Title V permitting requirements.

6. Please provide additional notes or comments as necessary:

None



7. Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	9.38
NOx	16.32
CO	13.71
Facility-wide VOC	70.13
Facility-wide Individual HAP	9.9
Facility-wide Combined HAP	24.9



PUBLIC NOTICE  
3/13/2013 Issuance of Draft Air Pollution Permit-To-Install and Operate

3 SIGMA CORP  
1985 WEST STANFIELD ROAD,  
Troy, OH 45373  
Miami County  
FACILITY DESC.: Coated and Laminated Paper Manufacturing  
PERMIT #: P0112140  
PERMIT TYPE: Initial Installation  
PERMIT DESC: Installation FEPTIO for waterborne paper coating line with three (3) natural gas- fired drying ovens.

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the permit # or: Dale Davidson, Regional Air Pollution Control Agency, 117 South Main Street, Dayton, OH 45422-1280. Ph: (937)225-4435





**DRAFT**

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

Facility ID:	0855140498
Permit Number:	P0112140
Permit Type:	Initial Installation
Issued:	3/13/2013
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance





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

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**Draft Permit-to-Install and Operate**

3 SIGMA CORP

**Permit Number:** P0112140

**Facility ID:** 0855140498

**Effective Date:** To be entered upon final issuance

## Authorization

Facility ID: 0855140498  
Application Number(s): A0046082  
Permit Number: P0112140  
Permit Description: Installation FEPTIO for waterborne paper coating line with three (3) natural gas- fired drying ovens.  
Permit Type: Initial Installation  
Permit Fee: \$400.00 *DO NOT send payment at this time, subject to change before final issuance*  
Issue Date: 3/13/2013  
Effective Date: To be entered upon final issuance  
Expiration Date: To be entered upon final issuance  
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

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 Environmental Protection Agency (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

Scott J. Nally  
Director



**Draft Permit-to-Install and Operate**

3 SIGMA CORP

**Permit Number:** P0112140

**Facility ID:** 0855140498

**Effective Date:** To be entered upon final issuance

## Authorization (continued)

Permit Number: P0112140

Permit Description: Installation FEPTIO for waterborne paper coating line with three (3) natural gas- fired drying ovens.

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>K008</b>
Company Equipment ID:	Line No. 14, waterborne paper coating line
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Draft Permit-to-Install and Operate**

**3 SIGMA CORP**

**Permit Number: P0112140**

**Facility ID: 0855140498**

**Effective Date:** To be entered upon final issuance

## **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.

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.

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<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).



**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.



**Draft Permit-to-Install and Operate**

**3 SIGMA CORP**

**Permit Number: P0112140**

**Facility ID: 0855140498**

**Effective Date:** To be entered upon final issuance

## **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.

2. 40 CFR Part 60, Subpart A, General Provisions of the Standards of Performance for New Stationary Sources

The permittee is subject to the requirements specified in 40 CFR Part 60, Subpart A, General Provisions of the Standards of Performance for New Stationary Sources (NSPS), including notification and recordkeeping, testing, and monitoring requirements (including the table(s) and appendices referenced in Subpart A).

The permittee shall comply with the applicable provisions of 60.1 – 60.19 of 40 CFR Part 60, Subpart A, and the requirements referenced therein. The complete NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulation (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Division of Air Pollution Control or the Regional Air Pollution Control Agency.

3. 40 CFR Part 60, Subpart RR, Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations

3 Sigma is subject to 40 CFR Part 60, Subpart RR, NSPS for pressure sensitive tape and label surface coating operations. The coating lines at the facility exceeds the threshold in the subpart RR of 50 tons of VOC input per 12 month period; therefore, they are subject to the emission limits of Section 60.442(a) and other sections of this subpart.

Subpart RR limits VOC emissions to 0.20 kg VOC/kg of coating solids applied averaged over a month or requires 90% overall control of VOC emissions. K002, K003, K004 and K008 will comply with the coating material limit at all times. K005 and K006 will vent to their respective thermal oxidizer control and comply with the 90% overall control requirement when using solvent based materials. When K005 or K006 is not vented to their control devices (i.e., when using waterborne coatings) they will comply with the Subpart RR coating material limitation. The permittee shall determine compliance with these standards in accordance with provisions specified in the subpart that are applicable to each standard.

The complete requirements, including the NSPS General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulation (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the Ohio EPA Division of Air Pollution Control or the Regional Air Pollution Control Agency.



4. The emissions of Hazardous Air Pollutants (HAPS), as identified in Section 112(b) of Title III of the Clean Air Act, from this facility shall (includes permitted, 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.

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.

5. The permittee shall collect and record the following information each month for the entire facility:
- a) The name and identification number of each coating and cleanup employed.
  - b) The individual hazardous air pollutant (HAP)\* content for each HAP of each coating and cleanup, in pounds of individual HAP per gallon, as applied.
  - c) The total combined HAPS content of each coating and cleanup, in pounds of combined HAPS per gallon, as applied [the sum of all the individual HAP contents from B.5.b)].
  - d) The number of gallons of each coating and cleanup employed.
  - e) The total individual HAP emissions for each HAP from all coating materials and cleanup materials employed, in tons per month [for each HAP, the sum of B.5.b) times B.5.d) for each coating and cleanup material].
  - f) The total combined HAPS emissions from all coating materials and cleanup materials employed, in tons per month [the sum of B.5.c) times B.5.d) for each coating and cleanup material].
  - g) The rolling, 12-month summation of the total combined HAPS emissions from all coating materials and cleanup materials employed, in tons [the sum of B.4.c) times B.4.d) for each coating and cleanup material].

\* A listing of the Hazardous Air Pollutants (HAPS) can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA District Office or local air agency contact. Material Safety Data Sheets typically include a listing of the solvents contained in the coatings or cleanup materials. This information does not have to be kept on a line by line basis.

6. The permittee shall submit quarterly deviation (excursion) reports that identify:
- a) all exceedances of the rolling, 12-month emission limitation for each individual HAP;
  - b) all exceedances of the rolling, 12-month emission limitation for combined HAP;
  - c) the probable cause of each deviation (excursion);
  - d) any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
  - e) the magnitude and duration of each deviation (excursion).



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

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

7. The permittee shall also submit annual reports that specify the total individual HAP and combined HAP emissions from the facility for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.
8. Compliance with the emission limitations in B.4 shall be determined in accordance with the following methods:

a) Emissions Limitation:

Individual HAP emissions from this facility shall not exceed 9.9 TPY, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based on the record keeping specified in B.5 for each individual HAP.

b) Emissions Limitation:

Combined HAP emissions from this facility shall not exceed 24.9 TPY, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be based on the record keeping specified in B.5 for combined HAP.



**Draft Permit-to-Install and Operate**

**3 SIGMA CORP**

**Permit Number: P0112140**

**Facility ID: 0855140498**

**Effective Date:** To be entered upon final issuance

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



**1. K008, Line No. 14, waterborne paper coating line**

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

waterborne paper coating line with 3 natural gas fired drying ovens

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

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

a. b)(1)c., b)(1)g.

(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.	ORC 3704.03(T)	<p>The nitrogen oxides (NOx) emissions from the combustion of natural gas in the dryers for this emissions unit shall not exceed 100 lb/MMft<sup>3</sup> natural gas burned.</p> <p>The carbon monoxide (CO) emissions from the combustion of natural gas in the dryers for this emissions unit shall not exceed 84 lb/MMft<sup>3</sup> natural gas burned.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-05(D), 3745-21-09(F)(1) and 40 CFR Part 60, Subpart RR.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	The volatile organic compound (VOC) emissions from this emissions unit shall not exceed 4.44 pounds per hour and 9.38 tons per rolling, 12-month period.  See b)(2)a. and c.
c.	OAC rule 3745-31-05(A)(3)(ii), as effective 12/01/06	See b)(2)b.
d.	OAC rule 3745-31-05(D) (synthetic minor to avoid PSD and Title V)	The VOC emissions from units K002, K003, K004, K005, K006, and K008 combined shall not exceed 70.13 tons per rolling, 12 month period, including cleanup.  The emissions of Hazardous Air Pollutants (HAPS) from emissions units K002, K003, K004, K005, K006 and K008, 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. See B.4. through B.7. of Section B. Facility-Wide Terms and Conditions.
e.	OAC rule 3745-21-09(F)(1)	The VOC content of coatings applied shall not exceed 2.9 per gallon of coating, excluding water and exempt solvents.
f.	40 CFR Part 60, Subpart RR	The VOC emissions from this emissions unit shall not exceed 0.2 kilogram per kilogram of coating solids applied as calculated on a weighted average basis for each calendar month.
g.	OAC rule 3745-114-01 and ORC rule 3704.03(F)	See d)(5) through d)(8) and e)(5).

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule



revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, these emission limitations/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the potential to emit for VOC is less than 10 tons/yr.

- c. Based on the information contained in the application submitted for this permit, the hourly potential to emit was established to be 4.44 pounds VOC per hour and is based on a maximum coating usage capacity of 53 gallons per hour, and includes adding 0.20 pounds VOC per hour emissions from the combustion of natural gas in the dryers. The 12-month rolling emissions limitation is based on a maximum annual coating usage of 212,000 gallons per year which takes into account inherent limitations caused by operating down time to replace paper webs, and for cleaning and maintenance of the coating machine, and including VOC emissions from the combustion of natural gas in the dryers.

c) **Operational Restrictions**

- (1) The maximum volatile organic material usage for emission units K002, K003, K004, K005, K006 and K008 combined 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, and the inclusion of K008 dryer emissions. 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, 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 of the emissions unit in 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.

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

- (1) The permittee shall collect and record the following information each month for the coating line for purpose of determining compliance with the 2.9 pounds VOC per gallon of coating limitation, and shall maintain this information at the facility for a period of three years:



- a. the name and identification number of each coating, as applied;
- b. the mass of VOC per volume of each coating, excluding water and exempt solvents, as applied

This information does not have to be kept on a line-by-line basis. If the permittee mixes complying coatings at a line, it is not necessary to record the VOC content of the resulting mixture.

- (2) The permittee shall collect and record the following information for each month that this emissions unit is operating for purpose of determining compliance with the 0.2 kilogram VOC per kilogram of coating solids applied limitation:

- 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 kilograms per gallon [(2)c./2.20 lbs/kg];
- e. the total mass of VOC applied, in kilograms [the sum of(2)d. x (2)b. for all coatings applied];
- f. the solids content for each surface coating employed, in pounds per gallon;
- g. the solids content for each surface coating employed, in kilograms per gallon [(2)f./2.20 lbs/kg];
- h. the total mass of solids applied, in kilograms (the sum of the product [(2)g. x (2)b. for all coatings applied]; and
- i. the VOC emissions, in kg VOC/kg solids [(2)e./(2)h.].

- (3) The permittee shall collect and record the following information for each month this emissions unit is operating for the purpose of determining annual VOC emissions for the emissions unit:

- a. the name and identification of each surface coating and cleanup material employed.
- b. the number of gallons of each coating applied or the number of gallons of all coatings applied;
- c. the maximum VOC content (excluding water and exempt solvents) of each coating applied; or the maximum VOC content (excluding water and exempt solvents) for any coating applied, in pounds per gallon;



- d. the total VOC emissions from all coatings applied [i.e., the summation of the products of (2)b. times (2)c. for all the individual coatings applied]; or the product of the maximum VOC content of any coating applied times the total gallons of coating employed [i.e., (2)b. times (2)c. for worst case coating];
- e. the name and identification of each cleanup material employed;
- f. the VOC content of each cleanup material, in pounds per gallon;
- g. the number of gallons of each cleanup material employed;
- h. the total VOC emission rate from all cleanup materials, in pounds or tons [i.e., the summation of the products of (2)f. times (2)g. for all cleanup materials employed]; and
- i. the total VOC emissions from all coatings and cleanup materials employed, in tons [the sum of (2)d and (2)h.].
- j. the total VOC emissions from this emissions unit, in tons [i.e., the sum (2)i. plus 0.08 tons VOC per month for combustion of natural gas\*].

\*The monthly emissions rate of 0.08 tons was developed to represent the potential emissions for combustion of natural gas in the dryers in lieu of keeping monthly records.

- (4) The permittee shall calculate and maintain monthly records of the VOC emissions for each emissions unit K002 through K006 and K008, and the rolling 12-month emissions of VOC for emissions units K002 through K006 and K008 combined.
- (5) The FETIO application for this emissions unit, K008, was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:
  - a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):



- i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
  - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
  - c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "8" hours per day and "5" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

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

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

Toxic Contaminant: vinyl acetate

TLV (mg/m3): 35

Maximum Hourly Emission Rate (lbs/hr): 2.30

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 100.8

MAGLC (ug/m3): 837

The permittee, has demonstrated that emissions of vinyl acetate, from emissions unit K008, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

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



- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
- c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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

- (7) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
  - a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - d. the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.



- (8) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

e) Reporting Requirements

- (1) The permittee shall notify the Director (appropriate District Office or local air agency) in writing of each monthly record showing the use of any coatings greater than 2.9 pounds VOC per gallon of coating, excluding water and exempt solvents. 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.

- (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 for this emission unit;
- ii. all exceedances of the rolling, 12- month emission limitation for VOC for emissions units K002 through K006 and K008 combined; and
- iii. any monthly record showing the use of noncomplying coatings pursuant to the requirements in 40 CFR Part 60, Subpart RR.

- b. the probable cause of each deviation (excursion);

- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

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

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

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



- (3) The permittee shall submit annual reports which specify the VOC, NO<sub>x</sub> and CO emissions from this emissions unit for the calendar year, and the VOC emissions for K002, K003, K004, K005, K006, and K008 combined. These reports shall be submitted by April 15 of each year. This requirement may be satisfied by including and identifying the specific emission data from these emissions units in the annual Fee Emissions Report.
  - (4) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA e-Business Center: Air Services 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.
  - (5) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.
  - (6) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- 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. Emission Limitation

The NO<sub>x</sub> emissions from the combustion of natural gas in the dryers for this emissions unit shall not exceed 100 lb/MMft<sup>3</sup> natural gas burned.

Applicable Compliance Method:

Compliance with the lb/MMft<sup>3</sup>NO<sub>x</sub> emissions limitation shall be based upon using emissions factors from Table 1.4-1 (7/98) of AP-42, Compilation of Air Pollution Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition.
    - a. Emission Limitation

The CO emissions from the combustion of natural gas in the dryers for this emissions unit shall not exceed 84 lb/MMft<sup>3</sup> natural gas burned.



Applicable Compliance Method:

Compliance with the lb/MMft<sup>3</sup> CO emissions limitation shall be based upon using emissions factors from Table 1.4-1 (7/98) of AP-42, Compilation of Air Pollution Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition.

b. Emission Limitation

The VOC emissions from this emissions unit shall not exceed 4.44 pounds per hour.

Applicable Compliance Method:

The hourly emissions rate was established by multiplying the maximum hourly coating usage rate (53 gal/hour) by the maximum VOC content (0.08 lbs-VOC/gal), and includes adding 0.20 pounds VOC per hour emissions from the combustion of natural gas in the dryers. This limit reflects 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.

c. Emission Limitation

The VOC emissions from this emissions unit shall not exceed 9.38 tons per rolling, 12-month period.

Applicable Compliance Method

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

d. Emission Limitation

The VOC content of coatings applied shall not exceed 2.9 pounds volatile organic compounds per gallon of coating, excluding water and exempt solvents.

Applicable Compliance Method

Compliance shall be based upon the record keeping specified in d)(1).

e. Emission Limitation

The VOC emissions from this emissions unit shall not exceed 0.2 kilogram per kilogram of coating solids applied as calculated on a weighted average basis for each calendar month.

Applicable Compliance Method

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

g) Miscellaneous Requirements

- (1) None.