



Environmental  
Protection Agency

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

Certified Mail

4/28/2011

Mr. Tim More  
Masco Cabinetry Middlefield LLC, (Plant #1)  
16052 Industrial Parkway  
P.O. Box 1055  
Middlefield, OH 44062

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

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

Facility ID: 0228000186  
Permit Number: P0084563  
Permit Type: Renewal  
County: Geauga

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 EPA Weekly Review and the local newspaper, The Plain Dealer. 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 "Issued Air Pollution Control Permits" link. 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 and Ohio EPA DAPC, Northeast District Office  
Permit Review/Development Section 2110 East Aurora Road  
Ohio EPA, DAPC Twinsburg, OH 44087  
122 South Front Street  
Columbus, Ohio 43215

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 in writing 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 Ohio EPA DAPC, Northeast District Office at (330)425-9171.

Sincerely,

Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 *Via E-Mail Notification*  
Ohio EPA-NEDO; Pennsylvania; Canada





Permit Strategy Write-Up

1. Check all that apply:

XSynthetic Minor Determination

Netting Determination

2. Source Description:

Masco Cabinetry Middlefield LLC, Plant 1 operates under SIC code 2434 and manufactures wooden cabinets. This facility is located at 16052 Industrial Parkway, Middlefield Village, Geauga County, Ohio. The facility is classified as a synthetic minor facility to avoid Title V permitting requirements for VOC. The facility also operates as an area source of HAP to avoid Title V and MACT.

3. Facility Emissions and Attainment Status:

This FEPTIO (P0084563) is a renewal permit for the coating units at this facility. The PTE for VOC in this permit is 47.0 tons per rolling 12-month period. The PTE for each individual HAP is 5.50 tons per rolling 12-month period. The PTE for aggregate HAP is 13.0 tons per rolling 12-month period. This permit will not change the PTE for VOC, individual HAP and aggregate HAP at this facility. The permit will renew the current synthetic minor permit for this plant.

Gauga County is classified as nonattainment for the 8 hour ozone standard.

4. Source Emissions:

The facility operates as a synthetic minor for VOC, individual HAP and aggregate HAP. This renewal federally-enforceable-permit-to-install-and-operate addresses all of the coating operations at Plant 1. This permit will allow the facility to continue to operate as a minor facility for the purposes of Title V permitting and the MACT rule.

The synthetic minor strategy consists of locating each coating operation within a total permanent enclosure and exhausting from the enclosure into one of two regenerative thermal oxidizers. This allows for 100% capture efficiency and 99% destruction efficiency.

This permit will renew existing permit-to-install 02-18557 for emissions units K001-K025, K029 and K030. This permit also includes the requirements for new OAC rule 3745-21-15. This permit will not change the allowable emissions.

5. Conclusion:

After this permit is issued, Masco Cabinetry Middlefield LLC, Plant 1 will continue to operate as a synthetic minor facility and will not be subject to Title V permitting or the MACT rule.

6. Please provide additional notes or comments as necessary:

None

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

Table with 2 columns: Pollutant, Tons Per Year. Rows include VOC (47.0), Individual HAP (5.50), and Aggregate HAP (13.0).



PUBLIC NOTICE  
Issuance of Draft Air Pollution Permit-To-Install and Operate  
Masco Cabinetry Middlefield LLC, (Plant #1)

Issue Date: 4/28/2011  
Permit Number: P0084563  
Permit Type: Renewal  
Permit Description: FEPTIO renewal of 27 coating operations. Permit will restrict potential HAP and VOC emissions to area source levels. Coating operations are located in a permanent total enclosure and exhausted into 2 thermal incinerators.  
Facility ID: 0228000186  
Facility Location: Masco Cabinetry Middlefield LLC, (Plant #1)  
16052 INDUSTRIAL PKWY,  
Middlefield, OH 44062  
Facility Description: Wood Kitchen Cabinet and Countertop Manufacturing

Scott J. Nally, Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio has issued a draft action of an air pollution control, federally enforceable permit-to-install and operate (PTIO) for the facility at the location identified above on the date indicated. Comments concerning this draft action, or a request for a public meeting, must be sent in writing no later than thirty (30) days from the date this notice is published. All comments, questions, requests for permit applications or other pertinent documentation, and correspondence concerning this action must be directed to Bridget Byrne at Ohio EPA DAPC, Northeast District Office, 2110 East Aurora Road, Twinsburg, OH 44087 or (330)425-9171. The permit can be downloaded from the Web page: [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc)



**Ohio**

**Environmental  
Protection Agency**

**DRAFT**

**Division of Air Pollution Control  
Permit-to-Install and Operate  
for  
Masco Cabinetry Middlefield LLC, (Plant #1)**

Facility ID:	0228000186
Permit Number:	P0084563
Permit Type:	Renewal
Issued:	4/28/2011
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
Masco Cabinetry Middlefield LLC, (Plant #1)

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## Authorization

Facility ID: 0228000186  
Application Number(s): A0015130  
Permit Number: P0084563  
Permit Description: FEPTIO renewal of 27 coating operations. Permit will restrict potential HAP and VOC emissions to area source levels. Coating operations are located in a permanent total enclosure and exhausted into 2 thermal incinerators.  
Permit Type: Renewal  
Permit Fee: \$0.00 *DO NOT send payment at this time, subject to change before final issuance*  
Issue Date: 4/28/2011  
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:

Masco Cabinetry Middlefield LLC, (Plant #1)  
16052 INDUSTRIAL PKWY  
Middlefield, OH 44062

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:

Ohio EPA DAPC, Northeast District Office  
2110 East Aurora Road  
Twinsburg, OH 44087  
(330)425-9171

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



Authorization (continued)

Permit Number: P0084563
Permit Description: FEPTIO renewal of 27 coating operations. Permit will restrict potential HAP and VOC emissions to area source levels. Coating operations are located in a permanent total enclosure and exhausted into 2 thermal incinerators.

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

Group Name: K001-K030

Table with 11 rows, each representing an Emissions Unit (K001-K011). Each row includes fields for Emissions Unit ID, Company Equipment ID, Superseded Permit Number, and General Permit Category and Type.

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

Company Equipment ID:	Off-line Spray booth #1
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K012</b>
Company Equipment ID:	Off-line Spray booth #2
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K013</b>
Company Equipment ID:	Off-line Spray booth #3 and oven
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K014</b>
Company Equipment ID:	Off-line Spray booth #4
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K015</b>
Company Equipment ID:	Off-line Spray booth #5
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K016</b>
Company Equipment ID:	Flat line #2 and oven
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K017</b>
Company Equipment ID:	Cefla #1 - 2 spray booths with ovens
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K018</b>
Company Equipment ID:	Cefla #2 - 2 spray booths with ovens
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K019</b>
Company Equipment ID:	Off-line spray booth #6
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K020</b>
Company Equipment ID:	Off-line spray booth #7
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K021</b>
Company Equipment ID:	Overhead conveyor line #2, spray booth #2
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K022</b>
Company Equipment ID:	Overhead conveyor line #2, spray booth #3
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K023</b>
Company Equipment ID:	Overhead conveyor line #2, spray booth #4
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K024</b>
Company Equipment ID:	Overhead conveyor line #2, spray booth #5
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K025</b>

**Draft Permit-to-Install and Operate**  
 Masco Cabinetry Middlefield LLC, (Plant #1)  
**Permit Number:** P0084563  
**Facility ID:** 0228000186

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

Company Equipment ID:	Overhead conveyor line #2, spray booth #6
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K029</b>
Company Equipment ID:	Overhead conveyor line #2, spray booth #10
Superseded Permit Number:	02-18557
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>K030</b>
Company Equipment ID:	Overhead Conveyor Line #1, Spray booth #6
Superseded Permit Number:	02-18557
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 Ohio EPA DAPC, Northeast District Office 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.

## **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. Emissions Unit Group -K001-K030: K001, K002, K003, K004, K005, K006, K007, K008, K009, K010, K011, K012, K013, K014, K015, K016, K017, K018, K019, K020, K021, K022, K023, K024, K025, K029 and K030**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
K001	Spray paint recirculation booth 1 of overhead conveyor line
K002	Spray paint recirculation booth 2 of overhead conveyor line 1
K003	Spray paint recirculation booth 3 of overhead conveyor line 1
K004	Spray paint recirculation booth 1 of overhead conveyor line 2
K005	Spray paint recirculation booth 4 of overhead conveyor line 1
K006	Spray paint recirculation booth 5 of overhead conveyor line 1
K007	Spatter booth of overhead conveyor line 1
K008	Spindle spray booth
K009	Off-line spatter spray booth
K010	Flat line booth 1 and oven
K011	Off-line spray paint booth 1
K012	Off-line spray paint booth 2
K013	Off-line spray paint booth 3 and electric oven
K014	Off-line spray paint booth 4
K015	Off-line spray paint booth 5
K016	Flat-line 2 and oven
K017	Cefla 1--Two spray paint booths with dedicated natural gas ovens
K018	Cefla 2--Two spray paint booths with dedicated natural gas ovens
K019	Off-line spray paint booth 6
K020	Off-line spray paint booth 7
K021	Spray paint booth 2 of overhead conveyor line 2
K022	Spray paint booth 3 of overhead conveyor line 2
K023	Spray paint booth 4 of overhead conveyor line 2
K024	Spray paint booth 5 of overhead conveyor line 2
K025	Spray paint booth 6 of overhead conveyor line 2
K029	Spatter paint booth 10 of overhead conveyor line 2
K030	Auxiliary paint booth 1

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - a. b)(1)e, d)(8), d)(9), d)(10), d)(11) and e)(1)f
  - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
    - a. b)(1)a

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.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)(1)(b)	See b)(2)a, b)(2)b, b)(2)c, c)(1), c)(2), c)(3) and c)(4).
b.	OAC rule 3745-31-05(A)(3)	Nitrogen oxides (NO <sub>x</sub> ) emissions from the combustion of natural gas in each thermal oxidizer (TO) shall not exceed 2.5 lbs/hr and 10.7 tpy.  Carbon monoxide (CO) emissions from the combustion of natural gas in each TO shall not exceed 2.1 lbs/hr and 9.0 tpy.  See b)(2)d.
c.	OAC rule 3745-21-15	See b)(2)e and b)(2)f.
d.	40 CFR Part 63, Subpart JJ- National Emissions Standards for Wood Furniture Manufacturing Operations	See b)(2)g.
e.	ORC 3704.03(F)(4)(c)	See d)(8), d)(9), d)(10) and d)(11).
f.	OAC rule 3745-21-07(G)(2)	The emission limitations required by this applicable rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(D)(1)(b).

(2) Additional Terms and Conditions

- a. The permittee shall design an enclosure to house emissions units K001, K002, K003, K004, K005, K006, K007, K008, K009, K010, K011, K012, K013, K014, K015, K016, K017, K018, K019, K020, K021, K022, K023, K024, K025, K029 and K030 in such a manner as to function as a permanent total enclosure (PTE) as defined by U.S. EPA Method 204. The use of the PTE, as defined in Method 204, shall provide for 100% capture efficiency.
- b. The permittee shall install and maintain TOs to control the VOC emissions from the PTE. Each emissions unit in the PTE shall exhaust into a TO. Each TO shall have a VOC destruction efficiency of at least 99%, by weight.

- c. Emissions from all the emissions units in the PTE shall be limited as follows:
  - i. 47.0tons VOC per rolling, 12-month period;
  - ii. 5.50tons per rolling, 12-month period of any individual Hazardous Air Pollutant (HAP); and
  - iii. 13.0tons per rolling, 12-month period of total combined HAPs.
- d. The emission limitations specified in b)(1)b are based upon the emissions units' potential to emit. Therefore, no monitoring, record keeping and reporting requirements are necessary to ensure ongoing compliance with these emission limitations.
- e. The permittee shall comply with the following limitations:
  - i. the VOC content of any acid-cured alkyd amino conversion varnish topcoat shall not exceed 2.0 pounds of VOC per pound of solids, as applied;
  - ii. the VOC content of any acid-cured alkyd amino sealer shall not exceed 2.3 pounds of VOC per pound of solids, as applied; and
  - iii. the VOC content of any strippable spray booth material employed for wood furniture manufacturing operations shall not exceed 0.8 pound of VOC per pound of solids, as applied.
- f. The permittee shall prepare and maintain a written work practice implementation plan. The plan shall define environmentally desirable work practices for each wood furniture manufacturing operation and address each of the work practices contained in paragraphs (b) to (d) and (f) to (k) of 40 CFR 63.803.
- g. This facility is not an affected source subject to the requirements of 40 CFR Part 63, Subpart JJ because it is not a major source, as defined in 40 CFR 63.2, for individual or total combined HAPs. The permittee shall not exceed the HAP emission limitations contained in this permit, without first obtaining a permit modification.

c) Operational Restrictions

- (1) The volatile organic compound (VOC) content of the coatings (including stains, toners, glazes, topcoats and sealers) and solvents and support materials used by the permittee at this emissions unit shall not exceed the following VOC content:

Coatings	7.5 lbs VOC/gallon
Solvents & Support Materials	9.0 lbs VOC/gallon
- (2) The permittee shall limit the total coating and solvent/support materials use from all the emissions units exhausting from the PTE as follows:

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Coatings (including stains, toners,  
glazes, topcoats and sealers) 1,073,334 gallons/month

Solvents & Support Materials 150,000 gallons/month

- (3) The PTE shall be maintained under negative pressure, at a minimum pressure differential that is not less than the minimum pressure differential (inches of water) established during the most recent emission test that demonstrated the emissions unit(s) was/were in compliance or 0.007 inch of water as established in Method 204, whenever any emissions unit is in operation.
- (4) The average combustion temperature within the TO, for any 3-hour block of time when an associated emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the TO was in compliance with the destruction efficiency requirement.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall install, maintain and operate monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the PTE.

The monitoring and recording devices shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall record and maintain the following information on a daily basis:

- a. the difference in pressure between the PTE and the surrounding area(s); and
  - b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment and the associated emissions unit.
- (2) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within each TO when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
  - (3) The permittee shall collect and record the following information for each day for each TO:
    - a. a log of operating time for the capture (collection) system, control device, monitoring equipment and the associated emissions units; and
    - b. all 3-hour blocks of time during which the average combustion temperature within the TO, when any of the associated emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the TO was in compliance with the destruction efficiency requirement.

- (4) The permittee shall employ the following procedures for determining the VOC content and solids content of a coating.
- a. The VOC content and solids content of a coating (finishing material or a strippable spray booth material) shall be determined in accordance with paragraph (B) of OAC rule 3745-21-10 wherein formulation data or USEPA method 24 procedures (which include various ASTM measurement methods) may be employed.
  - b. For a finishing material containing styrene, the VOC content and VOC emissions associated with styrene shall be based on an estimate of the unreacted styrene, which shall be calculated by multiplying the amount of styrene monomer in the finishing material, when it is applied, by a factor of 0.16.
  - c. For a finishing material containing formaldehyde, the VOC content and VOC emissions associated with formaldehyde shall be based on the amount of free formaldehyde present in the finishing material when it is applied. The free formaldehyde content shall be determined in accordance with ASTM D1979-97, D5910-05, D6169-97(2003), or D6902-04e1.
  - d. A certified product data sheet that provides data on VOC content and solids content shall be used by the permittee provided that any data based upon a measurement method shall be a measurement method that meets paragraph (I) of OAC rule 3745-21-15.
- (5) All records required under OAC rule 3745-21-15(K) shall be retained for a period of not less than five years and shall be made available to the Director or any authorized representative of the director for review during normal business hours. The following types of records are to be maintained.
- a. Compliance demonstration records for finishing operations:
    - i. a record of the VOC emission requirement elected to be met under any one paragraph of paragraphs (D)(1) to (D)(5) of OAC rule 3745-21-15 for each day of operation of the finishing operation;
    - ii. a certified product data sheet for each finishing material that is subject to a VOC emission requirement elected to be met under paragraph (K)(2)(a) of OAC rule 3745-21-15, and a certified product data sheet for any thinners or other VOC material added to the finishing materials before application; and
    - iii. a record of the VOC content, in pounds of VOC per pound of solids, as applied, of each finishing material, other than a stain, that is subject to a VOC content limit or a daily VOC emissions limit under paragraph (D) of OAC rule 3745-21-15, including documentation on any thinner or other VOC added to the finishing material before application.

- b. Compliance demonstration records for strippable spray booth materials:
    - i. a certified product data sheet for each strippable spray booth material as received and a certified product data sheet for any thinner added to a strippable spray booth material; and
    - ii. the VOC content, in pounds of VOC per pound of solids, as applied, of each strippable spray booth material employed.
  - c. Work practice implementation plan records:
    - i. records demonstrating that the operator training program required by 40 CFR 63.803(b) is in place;
    - ii. records collected in accordance with the inspection and maintenance plan required by 40 CFR 63.803(h)(5);
    - iii. records associated with the cleaning solvent accounting system required by 40 CFR 63.803(d);
    - iv. records associated with the limitation on the use of conventional air spray guns showing total finishing material usage and the percentage of finishing materials applied with conventional air spray guns for each semi-annual period as required by 40 CFR 63.803(h)(4); and
    - v. copies of documentation such as logs developed to demonstrate that the other provisions of the work practice implementation plan are followed.
- (6) The permittee shall collect and record the following information each month for all emissions units contained in the PTE:
- a. the name and identification number/code of each coating (stain, toner, glazes, topcoats, wash, spatter, and sealers) and solvent and support material (cleanup materials and booth buffer);
  - b. the VOC content of each coating and solvent and support material identified in (a) in pounds per gallon or percent by weight;
  - c. the individual HAP (from Section 112(b), list of hazardous air pollutants, 1990 Clean Air Act, Title III) content of each coating and solvent and support material identified in (a), in pounds per gallon or percent by weight;
  - d. the number of gallons or weight density of each VOC-containing material applied, as identified in (a);
  - e. the total uncontrolled VOC emissions rate from all coatings and solvent/support materials applied, i.e., (b x d) for all materials, in pounds per month;
  - f. the total uncontrolled emission rates of each individual HAP from all coatings and solvent/support materials employed, i.e., (c x d) for all materials, in pounds per month;

- g. the total uncontrolled emission rate of all HAPs collectively from all coatings and solvent/support materials employed, i.e.,(f) for all HAPs from all materials, in pounds per month;
  - h. the controlled emission rate shall be calculated using the overall control efficiency for each TO as determined during the most recent emission test that demonstrated that the emissions unit was in compliance;
  - i. the calculated, controlled VOC emission rate for all coatings and solvent/support materials employed;
  - j. the calculated, controlled emission rate of each individual HAP for all coatings and solvent/support materials employed in the emissions units, in pounds per month; and
  - k. the calculated, controlled emission rate for all HAPs summed collectively, for all coatings and solvent/support materials, in pounds per month.
- (7) The permittee shall collect and record the following information at the end of each month for all emissions units contained in the PTE, calculated from the sum of the daily records maintained during each month of record:
- a. the sum of the daily controlled VOC emissions from all coatings, solvent and support materials applied in the PTE during the month of record;
  - b. if a solvent recovery credit is to be applied, the number of gallons or weight density of the VOC-containing materials collected (at the end of each day) for recovery, recycle, and/or disposal at an outside facility; and the lowest VOC content, in pounds per gallon or percent by weight, of the all materials making up the volume of the recovered materials, or the VOC content of the material making up at least 90% of the recovered material. The credit shall be applied during the month the material is shipped, using the weight or volume, of record, shipped, less the weight of the drum or container.
  - c. if a solvent recovery credit is to be applied, the net VOC emissions for the month, i.e., (a –b);
  - d. the total rolling, 12-month controlled VOC emissions from all the materials employed in the emissions units contained in the PTE;
  - e. the total rolling, 12-month controlled individual HAP emissions from all coatings, solvent and support materials applied in the PTE;
  - f. the total rolling, 12-month controlled total combined HAP emissions from all coatings, solvent and support materials applied in the PTE;
  - g. the total rolling, 12-month number of gallons of coating (including stains, toners, glazes, topcoats, wash, spatter, and sealers) employed; and
  - h. the total rolling, 12-month total number of gallons of solvent and support material usage (including cleanup materials and booth buffer) employed.

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(8) The federally enforceable permit-to-install-and-operate (FEPTIO) application for these emissions units, K001-K025, K029 and K030, was evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to these emissions units 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 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 results 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 emitted from the emissions units, (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 was divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard was then adjusted to account for the duration of the exposure or the operating hours of the emissions units, i.e., "X" hours per day and "Y" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

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

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

Compound	TLV (ug/m <sup>3</sup> )	MAGLC TLV/42 (ug/m <sup>3</sup> )	=	Emission Rate (grams/sec)	Predicted 1-hr max ground level conc. (ug/m <sup>3</sup> )	MAGLC exceeded (Y/N)

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formaldehyde	271	6	0.00003	0.03	N
methanol	262,086	6,240	0.04	3.77	N
acetone	1,187,116	28,264	0.0018	0.18	N
MEK	589,775	14,042	0.11	11.18	N
Dibutyl Phthalate	5,000	119	0.00000003	0.0000003	N
naphthalene	52,429	1,248	0.00002	0.02	N
Cumene	245,787	5,852	0.00000003	0.00003	N
Ethylbenzene	434,192	10,338	0.05	5.38	N
MIBK	204,826	4,877	0.02	2.30	N
Toluene	188,405	4,486	0.10	9.95	N
Hexane	1,762,372	41,961	0.0002	0.00002	N
Xylene	434,192	10,338	0.24	24.14	N

The permittee, has demonstrated that emissions of HAP, from emissions unit(s) K001-K030, 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).

- (9) Prior to making any physical changes to or changes in the method of operation of the emissions units 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, from that which was modeled from the initial (or last) application; and

- c. physical changes to the emissions units or 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.

- (10) 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.
- (11) 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.
- (12) If one of the TOs becomes inoperable during otherwise normal operations, the permittee shall record the VOC use during the downtime and the capacity of the TO in operation. The record shall also note whether the damper was closed to the inoperable unit. The

permittee shall maintain records of the loading of VOC into each TO to demonstrate the oxidizer is not operating over capacity.

e) Reporting Requirements

(1) The permittee shall submit written quarterly deviation reports that identify the following information:

a. For each TO:

- i. all 3-hour blocks of time during which the average combustion temperatures within each TO did not comply with the temperature limitation specified in this permit;
- ii. all periods of downtime for the capture (collection) system, TO, and/or monitoring equipment when any emissions units are in operation, including cleanup and mixing operations; and
- iii. all periods of time when the stack that bypasses the TOs is used while coating, mixing, and or cleanup operations are in process.

The report shall include the number of hours or 3-hour blocks of time ("a") and the date of each occurrence.

- b. any period of time during which this emissions unit was in operation without exhausting into an operating TO;
- c. any month during which the coating and/or the solvent/material support usage for all the emissions units in the PTE exceeded the rolling, 12-month usage limits of 1,073,334 gallons and 150,000 gallons respectively;
- d. any month during which the rolling, 12-month VOCs, individual HAP, or total combined HAPs from the PTE exceeded the rolling, 12-month limits of 47.0 tons, 5.5 tons and 13.0 tons, respectively;
- e. a list of any days when noncomplying coatings were used;
- f. 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; or if no changes to the emissions, emissions unit(s), or the exhaust stack have been made, a statement to this effect;
- g. any of the following scenarios in the PTE when the emissions unit was in operation:
  - i. any period of time in which a natural draft opening to the enclosure was located at a distance of less than four equivalent opening diameters, or less than 4 times the diameter of the opening, from any VOC emitting point;

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- ii. any period of time in which the total area of all natural draft openings exceeded 5 percent of the surface area of the enclosure's four walls, floor, and ceiling;
- iii. any day in which the difference in pressure between the PTE and the surrounding area(s) was measured at less than 0.013 mm Hg (0.007 in H<sub>2</sub>O), or the average facial velocity of the air through any natural draft openings was measured at less than 200 feet per minute (3,600 meters per hour), as a 3-hour average;
- iv. any period of time in which an access door or window to the enclosure, that does not meet the requirements of a natural draft opening and whose surface area was not included in the 5 percent surface area determination, was not completely closed to air movement, unless a negative pressure was demonstrated and maintained;
- v. any period of time in which any access door or window was opened during process operations, causing a deviation from the differential pressure requirement, measured as a 3-hour average; and
- vi. anything less than 100% of the VOC emissions were captured for discharge through the control device.

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

- h. the date and number of hours during which the operating TO's capacity was exceeded.

The quarterly reports shall be submitted each year by the 31st of January (covering October to December), the 30th of April (covering January to March), the 31st of July (covering April to June), and the 31st of October (covering July to September), unless an alternative schedule has been established and approved by the Director (the Ohio EPA Northeast District Office).

- (2) The permittee shall submit semiannual compliance status reports no later than 30 calendar days after the end of each 6-month period to the Ohio EPA. For each semiannual compliance status report, the permittee shall submit the following information for the 6-month period covered by the report.
  - a. The permittee shall state in the semi-annual compliance status report any changes to the previous reporting of which paragraph of paragraphs (D)(1) to (D)(5) of OAC rule 3745-21-15 is elected to be met.
  - b. The compliance certification shall state that compliant coatings for topcoats and sealers, as applicable, have been used each operating day in the semi-annual reporting period, or should otherwise identify the periods of use of noncompliant coatings for topcoats and sealers, as applicable, the reasons for the use of noncompliant coatings, and the amounts of VOC contents of each noncompliant

coating used. Use of a noncompliant coating is a separate violation for each day the noncompliant coating is used.

- c. The compliance certification shall state that compliant coatings for strippable spray booth materials have been used each operating day in the semi-annual reporting period, or should otherwise identify the periods of use of noncompliant coatings for strippable spray booth materials, the reasons for the use of noncompliant coatings, and the amounts of VOC contents of each noncompliant coating used. Use of a noncompliant coating is a separate violation for each day the noncompliant coating is used.
  - d. The compliance certification shall state that the work practice implementation plan is being followed or should otherwise identify the provisions of the plan that have not been implemented and each day the provisions were not implemented.
  - e. The compliance certification shall identify and describe any corrective actions considered and implemented for any noncompliance being reported in the compliance certification.
  - f. The compliance certification shall be signed by a responsible official of the company that owns or operates the wood furniture manufacturing operations.
- (3) 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 PER shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.

f) Testing Requirements

- (1) Compliance with the emission limitations and operational restrictions in b)(1), b)(2) and c) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
The use of a PTE which conforms to U.S. EPA Method 204 for 100% capture.  
Applicable Compliance Method:  
Compliance shall be demonstrated through the monitoring and record keeping requirements specified in d)(1) and the emissions testing specified in f)(3).
  - b. Emission Limitation:  
Each TO shall have a VOC destruction efficiency of at least 99%, by weight.

Applicable Compliance Method:

Compliance shall be demonstrated through the monitoring and record keeping requirements specified in d)(2) and the emissions testing specified in f)(2).

c. Emission Limitations:

- i. VOC content of the coatings employed shall not exceed 7.5 lbs/gal.
- ii. VOC content of solvents and support materials employed shall not exceed 9.0 lbs/gal.

Applicable Compliance Method:

Compliance shall be demonstrated through the record keeping requirements specified in d)(6)b.

d. Emission Limitations:

Emissions from the PTE shall be limited as follows:

- i. 47.0 tons VOC per rolling, 12-month period;
- ii. 5.50 tons per rolling, 12-month period of any individual HAP; and
- iii. 13.0 tons per rolling, 12-month period of total combined HAPs.

Applicable Compliance Method:

Compliance shall be demonstrated through the monitoring and record keeping requirements specified in d)(7)d, d)(7)e and d)(7)f, respectively. Each month these daily emissions shall be summed and then added to the emissions from the previous 11 calendar months.

e. Emission Limitations:

The VOC content of any acid-cured alkyd amino conversion varnish topcoat shall not exceed 2.0 pounds of VOC per pound of solids, as applied;

The VOC content of any acid-cured alkyd amino sealer shall not exceed 2.3 pounds of VOC per pound of solids, as applied.

The VOC content of any strippable spray booth material employed for wood furniture manufacturing operations shall not exceed 0.8 pound of VOC per pound of solids, as applied.

Applicable Compliance Method:

Compliance shall be demonstrated through the monitoring and record keeping requirements specified in d)(4) and d)(5).

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f. Emission Limitation:

The permittee shall prepare and maintain a written work practice implementation plan.

Applicable Compliance Method:

Compliance shall be demonstrated through the monitoring and record keeping requirements specified in d)(5)c.

g. Emission Limitation:

NO<sub>x</sub> emissions from the combustion of natural gas in each TO shall not exceed 2.5 lbs/hr and 10.7 tpy.

Applicable Compliance Method:

The NO<sub>x</sub> emission limitation is based upon the emission factor from AP-42 "Compilation of Air Pollutant Emission Factors", 5<sup>th</sup> Edition, Section 1.4-6, Table 1.4-2 (9/98). Compliance with the hourly limitation may be determined by converting the 100 lb/10<sup>6</sup> scf emission factor into lb/hr by multiplying the emission factor (100 lb/mm scf/hr) times the total burner capacity (10<sup>6</sup> scf/hr).

The tpy emission limitation was developed by multiplying the short-term allowable NO<sub>x</sub> emission limitation (2.5 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

CO emissions from the combustion of natural gas in each TO shall not exceed 2.1 lbs/hr and 9.0 tpy.

Applicable Compliance Method:

The CO emission limitation is based upon the emission factor from AP-42 "Compilation of Air Pollutant Emission Factors", 5<sup>th</sup> Edition, Section 1.4-6, Table 1.4-2 (9/98). Compliance with the hourly limitation may be determined by converting the 84 lb/10<sup>6</sup> scf emission factor into lb/hr by multiplying the emission factor (100 lb/mm scf/hr) times the total burner capacity (10<sup>6</sup> scf/hr).

The tpy emission limitation was developed by multiplying the short-term allowable CO emission limitation (2.1 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

i. Emission Limitation:

The permittee shall limit the total coating and solvent/support materials use from all of the emissions units exhausting from the PTE (K001 –K025, K029 and K030) as follows:

i.	Coatings (including stains, toners, glazes, topcoats and sealers)	1,073,334 gallons/month
ii.	Solvents & Support Materials	150,000 gallons/month

Applicable Compliance Method:

Compliance shall be demonstrated through the record keeping requirements specified in d)(7)g and d)(7)h.

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

- a. The emissions units exhausting into TO1 were tested and demonstrated compliance on November 12, 2010. These emissions units shall be tested again within 6 months of November 12, 2013.

The emissions units exhausting into TO2 were tested and demonstrated compliance on October 13, 2009. These emissions units shall be tested again within 6 months of November 12, 2013.

The emissions units shall be retested every 3 years thereafter.

- b. The emission testing shall be conducted to demonstrate compliance with the VOC capture efficiency and control efficiency requirement specified in b)(2)a and b)(2)b. Emission testing shall also be conducted to establish the average combustion temperature within the RTO, as specified in c)(4), and to establish the minimum pressure differential within the permanent total enclosure, as specified in c)(3). The following test methods shall be employed:

- i. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the U.S. EPA's "Guideline for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.) See f)(3).

- ii. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or an approved alternative test protocol. The test methods

and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

- iii. U.S. EPA Method 24 shall be used, in accordance with OAC rule 3745-21-04(B)(5), to determine the VOC contents for all coatings, solvent and support materials, and cleanup materials used during the performance test(s). If, pursuant to section 11.4 of Method 24, 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 cannot be used for a particular coating, solvent and support material, or cleanup material, the permittee shall so notify the Administrator of the U.S. EPA and shall use formulation data for that coating, solvent and support material, or cleanup material to demonstrate compliance until the U.S. EPA provides alternative analytical procedures or alternative precision statements for Method 24.
  - c. The test(s) shall be conducted while the emissions units are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA Northeast District Office.
  - d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. 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 Northeast District Office's refusal to accept the results of the emission test(s).
  - e. Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the test(s).
- (3) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. This emissions testing shall be conducted concurrently with the testing specified in f)(2).
  - b. The emission testing shall be conducted to demonstrate compliance with the 100% capture efficiency requirement for eachPTE. 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.

- c. 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.
- d. 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:

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

$Q_i$  = 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

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

- e. 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.
- f. 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.
- g. The test(s) shall be conducted while the emissions units are operating at or near their maximum capacities, unless otherwise specified or approved by the Ohio EPA Northeast District Office.
- h. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. 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 Northeast District Office's refusal to accept the results of the emission test(s).
- i. Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- j. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following completion of the test(s).
- g) Miscellaneous Requirements
- (1) None.