



State of Ohio Environmental Protection Agency

STREET ADDRESS:

Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:

P.O. Box 1049
Columbus, OH 43216-1049

1/6/2009

Mr. Tim More
MASCO Retail Cabinet Group, LLC (KraftMaid - Plant 3)
15535 South State Street
P.O. Box 1055
Middlefield, OH 44062

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0204000360
Permit Number: 02-19683
Permit Type: Initial Installation
County: Ashtabula

Certified Mail

Yes	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR
No	CEMS
No	MACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate ("PTIO") which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully.

Ohio EPA maintains a document entitled "Frequently Asked Questions about the PTIO". The document can be downloaded from the DAPC Web page, www.epa.state.oh.us/dapc, from the "Permits" link. This document contains additional information related to your permit, such as what activities are covered under the PTIO, who has enforcement authority over the permit and Ohio EPA's authorization to inspect your facility and records. Please contact the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469 if you need assistance.

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

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

If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Northeast District Office. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page www.epa.state.oh.us/dapc.

Sincerely,


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

Cc: Ohio EPA-NEDO

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director



**State of Ohio Environmental Protection Agency
Division of Air Pollution Control**

FINAL

**Air Pollution Permit-to-Install and Operate
for
MASCO Retail Cabinet Group, LLC (KraftMaid - Plant 3)**

Facility ID: 0204000360
Permit Number: 02-19683
Permit Type: Initial Installation
Issued: 1/6/2009
Effective: 1/6/2009
Expiration: 12/29/2013



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Air Pollution Permit-to-Install and Operate
for
MASCO Retail Cabinet Group, LLC (KraftMaid - Plant 3)

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Final Permit-to-Install and Operate
Permit Number: 02-19683
Facility ID: 0204000360
Effective Date: 1/6/2009

Authorization

Facility ID: 0204000360
Application Number(s): A0001844
Permit Number: 02-19683
Permit Description: Administrative modification to correct error in original PTI application, NOx and CO emissions from RTO 3.
Permit Type: Initial Installation
Permit Fee: \$1,300.00
Issue Date: 1/6/2009
Effective Date: 1/6/2009
Expiration Date: 12/29/2013
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

MASCO Retail Cabinet Group, LLC (KraftMaid - Plant 3)
150 GRAND VALLEY AVE.
ORWELL, OH 44076

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 43087
(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

Chris Korleski
Director



Authorization (continued)

Permit Number: 02-19683
 Permit Description: Administrative modification to correct error in original PTI application, NOx and CO emissions from RTO 3.

Permits for the following emissions unit(s) or groups of emissions units are in this document as indicated below:

Emissions Unit ID:	K030
Company Equipment ID:	Overhead Conveyor Line #6 - Spray Booth #1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K031
Company Equipment ID:	Overhead Conveyor Line #6 - Spray Booth #2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K032
Company Equipment ID:	Overhead Conveyor Line #6 - Spray Booth #3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K033
Company Equipment ID:	Overhead Conveyor Line #6 - Spray Booth #4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K034
Company Equipment ID:	Overhead Conveyor Line #6 - Spray Booth #5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K035
Company Equipment ID:	Overhead Conveyor Line #6 - Spray Booth #6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K036
Company Equipment ID:	Overhead Conveyor Line #6 - Spray Booth #7
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K037
Company Equipment ID:	Overhead Conveyor Line #6 - Spray Booth #8
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K038
Company Equipment ID:	Spray Booth #9- Spray Booth #9
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K039
Company Equipment ID:	Cefla #6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K040
Company Equipment ID:	Repair Booth #1



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Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: K041
Company Equipment ID: Repair Booth #2
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Emissions Unit ID: K042
Company Equipment ID: Glaze Booth #3
Superseded Permit Number:
General Permit Category and Type: Not Applicable



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Permit Number: 02-19683

Facility ID: 0204000360

Effective Date: 1/6/2009

A. Standard Terms and Conditions



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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

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

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

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



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

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

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

7. What reports must I submit under this permit?

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

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

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions 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 a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

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

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



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Final Permit-to-Install and Operate

Permit Number: 02-19683

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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.



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B. Facility-Wide Terms and Conditions



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Division of Air Pollution Control

Final Permit-to-Install and Operate

Permit Number: 02-19683

Facility ID: 0204000360

Effective Date: 1/6/2009

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.



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Effective Date: 1/6/2009

C. Emissions Unit Terms and Conditions



1. Emissions Unit Group – Emissions units located within PTE #4 and controlled by RTO # 3.

EU ID	Operations, Property and/or Equipment Description
K030	Spray Booth No. 1 of Overhead Conveyor Line #6
K031	Spray Booth No. 2 of Overhead Conveyor Line #6
K032	Spray Booth No. 3 of Overhead Conveyor Line #6
K033	Spray Booth No. 4 of Overhead Conveyor Line #6
K034	Spray Booth No. 5 of Overhead Conveyor Line #6
K035	Spray Booth No. 6 of Overhead Conveyor Line #6
K036	Spray Booth No. 7 of Overhead Conveyor Line #6
K037	Spray Booth No. 8 of Overhead Conveyor Line #6
K038	Spray Booth No. 9 of Overhead Conveyor Line #6
K039	CEFLA 6 of Overhead Conveyor Line #6
K040	Repair Booth No. 1 of Overhead Conveyor Line #6
K041	Repair Booth No. 1 of Overhead Conveyor Line #6
K042	Glaze Booth No. 3 of Overhead Conveyor Line #6
	All of the terms and conditions below apply to each of the emissions units listed above.

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. d)(6), d)(7), d)(8), d)(9) and e)(3).

(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)(1)c, b)(2), c)(1), c)(2), c)(3), d)(1), d)(2), d)(3), d)(4), d)(5), d)(10), e)(1), e)(2), f)(1)a, f)(1)b, f)(1)c, f)(1)d and f)(2).

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)	Emissions of Volatile Organic Compounds (VOC) from the RTO shall not exceed 151.8 pounds per day. Emissions of Hazardous Air Pollutant (HAP) from the RTO shall not exceed 528 pounds per month for an individual HAP



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		and 1,378 pounds per month for combined HAPs. Also see b)(2) and c).
b.	OAC rule 3745-31-05(A)(3)	Emissions of nitrogen oxide (NOx) from the combustion of natural gas in the RTO shall not exceed 1.8 pounds per hour and 8.3 tons per year. Emissions of carbon monoxide (CO) from the combustion of natural gas in the RTO shall not exceed 1.5 pounds per hour and 6.9 tons per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D).
c.	OAC rule 3745-21-15	See b)(2)f and b)(2)g.
d.	OAC rule 3745-114-01	None.

(2) Additional Terms and Conditions

- a. The permittee shall design an enclosure to house emissions units K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041 and K042 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, provides for 100% capture efficiency.
- b. The permittee shall install and maintain an incineration system to control the VOC emissions from the PTE. The RTO system shall have a VOC destruction efficiency of at least 99% by weight.
- c. The 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
- d. Emissions from emissions units K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041 and K042 shall be limited as follows:
 - i. 27.7 tons VOC per rolling 12-month period;
 - ii. 3.17 tons per rolling 12-month period of any individual HAP; and
 - iii. 8.27 tons per rolling 12-month period of total aggregate HAPs.
- e. Emissions from the entire facility shall not exceed the following limits:
 - i. 83.10 tons VOC per rolling 12-month period;
 - ii. 9.5 tons per rolling 12-month period of any individual HAP; and



- iii. 24.8 tons per rolling 12-month period of total aggregate HAPs.
- f. Beginning on August 25, 2009, the permittee shall also 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;
 - iii. The VOC content of any strippable spray booth material employed for wood furniture manufacturing operations shall not exceed 0.8 pound VOC per pound of solids, as applied.
- g. The permittee shall prepare and maintain a written work practice implementation plan no more than 60 days after August 25, 2009. 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.

c) Operational Restrictions

- (1) The average combustion temperature within the RTO, 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 RTO system was in compliance with the destruction efficiency requirement.
- (2) 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 was in compliance or 0.007 inch of water as established in Method 204, whenever the emissions unit is in operation.
- (3) The permittee shall limit the total coating and solvent usage for emissions units K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041 and K042 as follows:

Coatings (including stains, toners, glazes, topcoats and sealers)	43,196 gallons/month
Solvents & Support Materials	15,300 gallons/month

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 permanent total enclosure and the surrounding area(s).
 - 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 the the RTO 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 the RTO:
- a. A log of operating time for the capture (collection) system, control device, monitoring equipment and the associated emissions units.
 - b. All 3-hour blocks of time during which the average combustion temperature within the thermal RTO, 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 RTO was in compliance with the destruction efficiency requirement.
- (4) The permittee shall collect and record the following information each day for emissions units K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041 and K042.
- a. The name and identification number of each coating, solvent and support material and cleanup material, as applied.
 - b. The VOC content of each coating, solvent and support material and cleanup material, as applied, in pounds per gallon.
 - c. The number of gallons of each coating, solvent and support material and cleanup material employed.
 - d. The content of the individual HAP (i.e. xylene, toluene, and any other HAP) in each coating, solvent and support material and cleanup material employed, in pounds per gallon.
 - e. The total uncontrolled VOC emission rate for all coatings, solvent and support materials and cleanup materials employed, in pounds per day. This calculation is the summation of the product of d)(4)b (the individual VOC content in pounds per gallon) times d)(4)c (the number of gallons per day) for each coating, solvent, support material and cleanup material employed.



- f. The total uncontrolled emission rate for each individual HAP from all coatings, solvent and support materials and cleanup materials, employed, in pounds per day. This calculation is the summation of the product of d)(4)d (the individual HAP content in pounds per gallon) times d)(4)c (the number of gallons per day) for each coating, solvent, support material and cleanup material employed.
 - g. The total uncontrolled emission rate of all HAPs collectively from all coatings, solvent and support materials and cleanup materials employed, in pounds per day. This calculation is the summations of each individual HAP emission rate, as determined above in d)(4)f.
 - h. Compliance with the VOC content restrictions of each coating, solvent and support material, and cleanup material shall be based upon the use of U.S. EPA Method 24.
 - i. The calculated, controlled VOC emission rate for all coatings, solvent and support materials and cleanup materials, in pounds per day. The controlled, daily VOC emission rate shall be calculated using the overall control efficiency for the control equipment as determined during the most recent remission test that demonstrated that the emission units was in compliance. The controlled VOC emission rate is the uncontrolled VOC emission rate multiplied by (1 minus the overall control efficiency, in percentage).
 - j. The calculated, controlled emission rate for each individual HAP from all coatings, solvent and support materials and cleanup materials, in pounds per day. The controlled emission rate shall be calculated using the overall control efficiency for the control equipment as determined during the most recent emission test that demonstrated that the emissions unit was in compliance. The controlled emission rate for each individual HAP is the uncontrolled emission rate multiplied by (1 minus the overall control efficiency, in percentage).
 - k. The total controlled emission rate of all HAPs collectively from all coatings, solvent and support materials and cleanup materials employed, in pounds per day. This calculation is summation of each individual HAP controlled emission rate, as determined above in d)(4)j.
- (5) The permittee shall collect and record the following information each month for emissions units K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041 and K042.
- a. The controlled emission rate for each individual HAP from all coatings, solvent and support materials and cleanup materials, in pounds per rolling, 12-month period. This calculation is the summation of each daily emission rate, as recorded per d)(4)j, for the past twelve months and then multiplied by ton/2,000 lbs.
 - b. The controlled emission rate for all HAPs collectively from all coatings, solvent and support materials and cleanup materials, in pounds per rolling, 12-month period. This calculation is the summation of each daily emission rate, as recorded per d)(4)k, for the past twelve months and then multiplied by ton/2,000 lbs.



- c. The controlled VOC emission rate for all coatings, solvent and support materials and cleanup materials, in tons per rolling, 12-month period. This calculation is the summation of each daily emission rate, as recorded per d)(4)i, for the past twelve months and then multiplied by ton/2,000 lbs.
 - d. The coating, solvent and support materials usage rate, in gallons per month.
- (6) The permit-to-install application for these emissions units, [K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041 and K042], was evaluated based on the actual materials and the design parameters of the emissions unit's(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., 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 ³)	MAGLC = TLV/42 (ug.m ³)	Emission rate (g/s)	Predicted 1-hr max ground level conc. (ug.m ³)	MAGLC exceeded (Y/N)
formaldehyde	271	6	0.0011	0.12	N
methanol	262,086	6,240	0.23	26.43	N
acetone	1,187,116	28,264	0.01	1.15	N
MEK	589,775	14,042	0.32	35.88	N
naphthalene	52,429	1,248	0.0001	0.008	N
cumene	245,787	5,852	0.000001	0.0001	N
ethylbenzene	4343,192	10,338	0.22	25.35	N
MIBK	204,826	4,877	0.18	20.91	N
toluene	188,405	4,486	0.57	65.11	N
hexane	1,762,372	41,961	0.000001	0.0001	N
xylene	434,192	10,338	1.03	116.63	N

The permittee, has demonstrated that the above emissions from the above emissions units, 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 ΔToxic Air Contaminant Statute^Δ, ORC 3704.03(F).

- (7) 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^Δ, 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 AToxic 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 AToxic 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 PTI, PTIO, or FEPTIO (as applicable) 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.

- (8) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the AToxic 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 AToxic 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 AToxic 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 AToxic 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.
- (9) 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 AToxic 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.
- (10) Beginning on August 25, 2009, 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 D6902-04el.
 - 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.
- (11) 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.
 - 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.
 - 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)(5).
 - v. Copies of documentation such as logs developed to demonstrate that the other provisions of the work practice implementation plan are followed.

- e) Reporting Requirements
 - (1) The permittee shall submit quarterly summaries of the following records:
 - a. A log of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
 - b. All 3-hour blocks of time during which the average combustion temperature within the RTO does not comply with the temperature limitation specified above.
 - c. All periods of time during which the permanent total enclosure was not maintained at the required differential pressure specified above.
 - d. A list of all days when the daily VOC emission rate from the RTO exceeded 151.8 pounds.
 - e. A list of any days when noncomplying coatings were used.
 - f. A list of all months when the amount of coatings (including stains, toners, glazes, topcoats and sealers) exceeded 43,196 gallons, and the amount of solvent and support materials exceeded 15,300 gallons.
 - (2) The permittee shall also submit a quarterly deviation report when the total controlled emissions of VOC, individual HAPs, and/or the total aggregate HAPs from RTO exceed the limits listed in b)(2)d and b)(2)e respectively.
 - (3) The permittee shall submit annual reports to the Ohio EPA, Northeast District Office documenting any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the AToxic Air Contaminant Statute[@], ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. This information shall be included in the annual Permit Evaluation Report.
 - (4) The permittee shall submit an initial compliance status report within 60 calendar days after August 25, 2009, as follows:



- a. For any finishing operation as specified in b)(2)f the permittee shall state in the initial compliance status report which paragraph of paragraphs (D)(1) to (D)(5) of OAC rule 3745-21-15 is elected to be met.
 - b. The permittee shall state in the initial compliance status report that compliant coatings for the topcoats and sealers, as applicable, are being used.
 - c. The permittee shall state in the initial compliance status report that compliant coatings for strippable spray booth materials are being used.
 - d. The permittee shall state in the initial compliance status report that the work practice implementation plan has been developed and that procedures have been established for implementing the provisions of the plan.
- (5) 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. The first report shall be submitted no later than 30 calendar days after the end of the first 6-month period following the compliance date (August 25, 2009). Subsequent reports shall be submitted no later than 30 calendar days after the end of each 6-month period otherwise established within a permit issue for the wood furniture manufacturing operation. 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 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.

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

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:
151.8 lbs VOC /day and 27.7 tons VOC per rolling, 12-month period from RTO

Applicable Compliance Method:
Compliance shall be based upon the record keeping specified in d)(4) and d)(5).

b. Emission Limitation:
528 lbs/month and 3.17 tons per rolling, 12-month period of an individual HAP from RTO

Applicable Compliance Method:
Compliance shall be based upon the record keeping specified in d)(5).

c. Emission Limitation:
1,378 lbs/month and 8.27 tons per rolling, 12-month period of all HAPs from RTO

Applicable Compliance Method:
Compliance shall be based upon the record keeping specified in d)(5).

d. Compliance with the VOC content restrictions of each coating, solvent and support material, and cleanup material shall be based upon the use of U.S. EPA Method 24.

e. Emission Limitation:
1.8 lbs NOx/hr and 8.3 tons NOx/year from the combustion of natural gas in the thermal RTO.

Applicable Compliance Method:
The following equation shall be used to determine the hourly emission rate.

$$E = EF \times R \times 1/H$$

where:

E = Emission rate, in lbs/hr;
EF = Emission factor (AP-42, Section 1.4) for NOx is 100 lbs/mm cf;
R = Maximum rating of the thermal RTO reported to be 7.5 mm Btu/hr; and



H = Heating value of the natural gas, in Btu/cf. 1,020 Btu/cf was used in the emission calculation for this permit.

The yearly rate, in tons/year, shall be determined by multiplying the hourly rate (lbs/hr) as calculated above, by (# hrs of operation/year) and (ton/2,000 lbs).

- f. Emission Limitation:
 1.5 lbs CO/hr and 6.9 tons CO/year from the combustion of natural gas in the thermal RTO.

Applicable Compliance Method:

The following equation shall be used to determine the hourly emission rate.

$$E = EF \times R \times 1/H$$

where:

E = Emission rate, in lbs/hr;

EF = Emission factor (AP-42, Section 1.4) for CO is 84 lbs/mm cf;

R = Maximum rating of the thermal RTO reported to be 7.5 mm Btu/hr; and

H = Heating value of the natural gas, in Btu/cf. 1,020 Btu/cf was used in the emission calculation for this permit.

The yearly rate (tons/year) shall be determined by multiplying the hourly rate (lbs/hr), as calculated above, by (# hrs of operation/year) and (ton/2,000 lbs).

- (2) The permittee shall conduct, or have conducted, emission testing for this emission unit in accordance with the following requirements:
 - a. This emissions unit was tested and demonstrated compliance on March 15, 2005. The emissions unit shall be tested again within 6 months of March 15, 2010.
 - b. The emission testing shall be conducted to demonstrate compliance with the VOC capture efficiency and control efficiency requirement specified in Section b)(2)a. Emission testing shall also be conducted to establish the average combustion temperature within the RTO, as specified in Section c)(1), and to establish the minimum pressure differential within the permanent total enclosure, as specified in Section c)(2).
 - 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. 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.)



- e. 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.
- f. 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 4.3 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.
- g. 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).
- h. 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.
- i. 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.