



Environmental Protection Agency

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

5/3/2011

Certified Mail

Aaron Cheney
Whirlpool Findlay Division
4901 N. Main St
Findlay, OH 45840

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0332010170
Permit Number: 03-17356
Permit Type: Initial Installation
County: Hancock

Dear Permit Holder:

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

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

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

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Northwest District Office. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

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

Cc: U.S. EPA
Ohio EPA-NWDO; Michigan; Indiana; Canada



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
Whirlpool Findlay Division**

Facility ID:	0332010170
Permit Number:	03-17356
Permit Type:	Initial Installation
Issued:	5/3/2011
Effective:	5/3/2011



Division of Air Pollution Control
Permit-to-Install
for
Whirlpool Findlay Division

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Authorization

Facility ID: 0332010170

Facility Description: Household Appliances

Application Number(s): A0004078

Permit Number: 03-17356

Permit Description: Modification of two dishrack coating lines to address the following enforcement-related issues: installation of a thermal oxidizer; rule citation revisions; and the switch to acetone as an adhesion promoter. This permit also addresses the installation of a cyclonic scrubber/mist eliminator.

Permit Type: Initial Installation

Permit Fee: \$400.00

Issue Date: 5/3/2011

Effective Date: 5/3/2011

This document constitutes issuance to:

Whirlpool Findlay Division
4901 North Main Street
Findlay, OH 45840

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

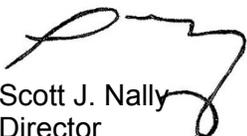
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

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

The above named entity is hereby granted a Permit-to-Install for the 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 emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Scott J. Nally
Director



Authorization (continued)

Permit Number: 03-17356

Permit Description: Modification of two dishrack coating lines to address the following enforcement-related issues: installation of a thermal oxidizer; rule citation revisions; and the switch to acetone as an adhesion promoter. This permit also addresses the installation of a cyclonic scrubber/mist eliminator.

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

Emissions Unit ID:	K007
Company Equipment ID:	East Dishrack Powder Coating Line
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	K008
Company Equipment ID:	West Dishrack Powder Coating Line
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
 - (1) Standard Term and Condition A.2.a), Severability Clause
 - (2) Standard Term and Condition A.3.c) through A. 3.e)General Requirements
 - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

- a) The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.

- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northwest District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
 - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Ohio EPA DAPC, Northwest District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Northwest District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.
- b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- c) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- d) The permittee shall submit progress reports to the Ohio EPA DAPC, Northwest District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have

been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northwest District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

11. Construction of New Sources(s) and Authorization to Install

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., 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) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" 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).

- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (i.e., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

18. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
2. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subpart NNNN: K007 and K008. The complete MACT requirements, including the MACT General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website at <http://ecfr.gpoaccess.gov> or by contacting the Northwest District Office.

C. Emissions Unit Terms and Conditions



1. **K007, East Dishrack Powder Coating Line (Modification of PTI #03-3658 issued on 10/05/88 to correct rule applicability and to reflect installation of the thermal oxidizer and the switch from MEK to acetone)**

Operations, Property and/or Equipment Description:

Dishrack Powder Coating Line (East) with control system consisting of a thermal oxidizer, two-stage packed bed scrubber, and a cyclonic scrubber/mist eliminator

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>See b)(2)a. and b)(2)i.</p> <p><u>Adhesion Promoter Emissions</u> 0.89 lb of volatile organic compounds (VOC)/hour; 3.90 tons of VOC/year</p> <p>4.02 lbs of organic compounds (OC)/hour; 17.60 tons of OC/year</p> <p><u>Powder Coating Emissions</u> 0.17 lb of VOC/hour; 0.74 ton of VOC/year</p> <p>0.17 lb of particulate matter 10 microns or less in size (PM10)/hour; 0.74 ton of PM10/year (see b)(2)d.)</p> <p><u>Combustion Emissions from Ovens and Thermal Oxidizer</u> Combined emissions from K007 & K008 shall not exceed 3.19 lbs of carbon monoxide (CO)/hour and 13.97 tons of CO/year</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Combined emissions from K007 & K008 shall not exceed 4.23 lbs of nitrogen oxides (NOx)/hour and 18.53 tons of NOx/year</p> <p>Combined emissions from K007 & K008 shall not exceed 0.18 lb of VOC/hour and 0.79 ton of VOC/year</p> <p>Combined emissions from K007 & K008 shall not exceed 0.24 lb of PM10/hour and 1.05 tons of PM10/year</p>
b.	OAC rule 3745-21-09(K)(1)	See b)(2)e.
c.	OAC rule 3745-21-09(B)(6)	See b)(2)f.
d.	OAC rule 3745-17-11(A)	None (see b)(2)g.)
e.	OAC rule 3745-17-07(A)	None (see b)(2)h.)
f.	40 CFR Part 60 Subpart SS	No owner or operator shall discharge or cause the discharge of VOC emissions that exceed 0.90 kilogram of VOCs per liter of applied coating solids [7.51 lbs of VOC/gallon of applied coating solids] from any surface coating operation on a large appliance surface coating line (see b)(2)k.)
g.	<p><u>40 CFR Part 63 Subpart NNNN</u> 40 CFR Part 63.4090(a)</p> <p>40 CFR Part 63.1-15</p>	<p>Organic hazardous air pollutants shall not exceed 0.13 kg/liter (1.10 pounds per gallon) of coating solids used during each compliance period (see facility-wide requirements).</p> <p>Table 2 to Subpart NNNN of 40 CFR Part 63 – Applicability of General Provisions to Subpart NNNN shows which parts of the General Provisions in 40 CFR 63.1-15 apply.</p>

(2) Additional Terms and Conditions

- a. Best Available Technology (BAT) control requirements for this emissions unit has been determined to be the following:
 - i. use of a thermal oxidizer achieving a minimum overall control efficiency of 87% (minimum of 90% destruction) for OC emissions from adhesion promoter coating and drying operations; and

- ii. use of a 2-stage packed bed wet scrubber followed by a cyclonic scrubber/mist eliminator achieving a 95% control efficiency for particulate matter and VOC emissions from post-cure powder coat curing oven.
- b. When the cyclonic scrubber/mist eliminator is shutdown for unscheduled maintenance* or other operational reasons while this emissions unit is in operation, the emissions unit shall be controlled by the 2-stage packed bed scrubber. Downtime of the cyclonic scrubber/mist eliminator while this emissions unit is in operation shall not exceed 72 hours per year.
- c. All OC emission limitations are inclusive of VOC emissions.
- d. All emissions of particulate matter are PM10.
- e. The requirements of OAC rule 3745-21-09(K)(1) apply to the powder coating operations of the dishrack coating line. OAC rule 3745-21-09(K)(1) requires that VOC emissions shall not exceed 2.8 lbs per gallon of coating, excluding water and exempt solvents.
- f. The requirements of OAC rule 3745-21-09(B)(6) apply to the adhesion promoter operations of the dishrack coating line. In lieu of complying with the pounds of VOC per gallon of solids limitation contained in paragraph (K) of OAC rule 3745-21-09, the permittee has elected to demonstrate that the capture and control equipment meet the requirements contained in OAC rule 3745-21-09(B)(6). The capture and control requirements specified in OAC rule 3745-21-09(B)(6) are less stringent than the capture and control requirements established pursuant to OAC rule 3745-31-05(A)(3).
- g. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. Also, Table I does not apply because the facility is located in Hancock County.
- h. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.
- i. The requirements of this rule also include compliance with 40 CFR Part 60 Subpart SS and 40 CFR Part 63 Subpart NNNN.
- j. The following emission limitations represent the potential to emit for this emissions unit from the respective processes. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with these limitations:
 - i. Adhesion Promoter Operations:
 - (a) 0.89 lb of VOC/hour
 - (b) 4.02 lbs of OC/hour

ii. Combustion Emissions from Ovens and Thermal Oxidizer from emissions unit K007 & K008 combined:

- (a) 3.19 lbs of CO/hour
- (b) 4.23 lbs of NOx/hour

k. The emission limitation of 0.90 kg of VOC/liter of applied coating solids applies only to the portion of the dishrack coating line associated with adhesion promoter coating operations. The powder coating operations of the dishrack coating line are exempt from the requirements of 40 CFR Part 60 Subpart SS.

c) Operational Restrictions

- (1) The unscheduled downtime of the cyclonic scrubber/mist eliminator shall not exceed 72 hours per year (while this emissions unit is operating).
- (2) The permittee shall comply with the application restrictions required under 40 CFR Part 63 Subpart NNNN, including the following sections:

63.4100(a) – (e)	general compliance requirements
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d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure of the feed water for the 2-stage packed bed scrubber and the pressure drop across the cyclonic scrubber/mist eliminator (in inches of water) during operation of this emissions unit. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer’s recommendations, instructions, and operating manual(s). The permittee shall record the the following ranges/values: the pressure of the feed water for the 2-stage packed bed scrubber and the pressure drop across the cyclonic scrubber/mist eliminator once each day that the line is operating.

Whenever the monitored value deviates from the ranges/values specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at the time; the date(s) the investigation was conducted; the name(s) of the personnel who conducted the investigation; and the findings and recommendations.

In response to each required investigation to determine the cause of the deviation, the permittee shall take prompt corrective action to bring the control equipment within the acceptable ranges/values specified below unless the permittee determines the corrective action is not necessary and documents the reasons for that determination, along with the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action; the date it was completed; the date and time the deviation ended; the total period of time (in minutes) during which there was a deviation; the feed water pressure and/or pressure

drop reading immediately after the corrective action was taken; and the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The acceptable ranges/values for the 2-stage packed bed scrubber and cyclonic scrubber/mist eliminator are as follows:

2-stage packed bed scrubber:	feed water pressure shall not exceed 20 psi at any time
cyclonic scrubber/mist eliminator:	- 25 inches of water

The ranges/values are effective for the duration of this permit unless revisions are requested by the permittee and approved in writing by the Northwest District Office. The permittee may request revisions to the permitted feed water pressure and pressure drop ranges/values based upon information obtained during future emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges/values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (2) The permittee shall maintain monthly records of the number of hours the cyclonic scrubber/mist eliminator was shutdown while this emissions unit was in operation (in hours per month and total hours, to date, for the calendar year).
- (3) The permit shall perform daily checks of emissions of the bypass vent serving the 2-stage packed bed scrubber when the cyclonic scrubber/mist eliminator is shutdown and the emissions unit is operating. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emissions incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item d. above or continue the daily check until the incident has ended.

The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (4) The owner or operator of an affected facility shall conduct an initial performance test as required under 40 CFR Part 60.8(a) and thereafter a performance test each calendar month for each affected facility according to the procedures in d)(3) below. [40 CFR Part 60.453(b)]
- (5) An owner or operator shall use the following procedures for any affected facility that uses a capture system and a control device that destroys VOCs to comply with the emission limit of 0.90 kilogram of VOC per liter of applied coating solids:
 - a. Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test the overall reduction efficiency (R) shall be determined as prescribed in i., ii., and iii. below, shall be repeated when directed by the Administrator or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.
 - i. Determine the fraction (F) of total VOCs emitted by an affected facility that enters the control device using equation (6) in 40 CFR Part 60.453(b)(2)(i)(A).
 - ii. Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by using equation (7) in 40 CFR Part 60.453(b)(2)(i)(B).
 - iii. Determine overall reduction efficiency (R) using the equation in 40 CFR Part 60.453(b)(2)(i)(C).
 - b. Calculate the volume-weighted average of the total mass of VOCs per unit of volume of applied coating solids (G) during each calendar month for each affected facility using equations (1), (2), (3) if applicable, and (4) in 40 CFR Part 60.453(b)(1).
 - c. Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by using equation (9) of 40 CFR Part 60.453(b)(2)(iii) as follows:

$$N=G(1-R)$$

Note: G is equal to equation (4), as per 40 CFR Part 60.453(b)(1)(i)(D)

- d. If the volume-weighted average mass of VOCs emitted to the atmosphere for each calendar month (N) is equal to or less than 0.90 kilogram per liter of applied coating solids, the affected facility is in compliance.
- (6) The permittee shall demonstrate compliance with the 2.8 lbs of VOC/gallon of coating, excluding water and exempt solvents, by collecting and recording the following information each month for the powder coating operations, as per OAC rule 3745-21-10(B)(8):

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

$C_{VOC,2}$ is the VOC content in pounds of VOC per gallon of coating, excluding water and exempt solvents calculated as follows:

$$C_{VOC,2} = (D_c)(W_{VOC})/V_S + V_{VOC}$$

where

D_c = the density of the coating, in pounds per gallon of coating

$$W_{VOC} = W_{VM} - W_W - W_{ES}$$

V_S = the volume fraction of solids in coating, in gallons of solids per gallon of coating

$$V_{VOC} = V_{VM} - V_W - V_{ES}$$

W_{VM} = weight fraction of volatile matter in coating, in pound of volatile matter per pound of coating

W_W = weight fraction of water in coating, in pound of water per pound of coating

W_{ES} = weight fraction of exempt solvent in coating, in pound of exempt solvent per pound of coating

V_{VM} = volume fraction of volatile matter in coating, in gallon of volatile matter per gallon of coating

V_W = volume fraction of water in coating, in gallon of water per gallon of coating

V_{ES} = volume fraction of exempt solvent in coating, in gallon of exempt solvent per gallon of coating

- (7) The permittee shall determine the annual OC and VOC emissions from the adhesion promoter coating operations by collecting and recording the following information each month for adhesion promoter coating operations:

- a. The name and identification number of each coating, as applied;
 - b. The number of gallons of each coating employed;
 - c. The OC and VOC contents of each coating employed, in pounds per gallon, as applied;
 - d. The total uncontrolled OC and VOC emission rate for all coatings, in pounds per month, calculated using the overall control efficiency from the most recent performance test demonstrating that the emissions unit was in compliance $\{[\text{summation of } (b \times c) \text{ for all coatings}] \times (1 - \text{overall control efficiency})\}$; and
 - e. The annual, year-to-date, OC and VOC emissions from all coatings employed [sum of (d) for each calendar month to date from January to December].
- (8) The permittee shall determine the annual VOC emissions from the powder coating operations by collecting and recording the following information each month:
- a. The name and identification number of each powder coating employed;
 - b. The number of gallons of each powder coating employed;
 - c. The VOC content, in pounds per gallon, of each powder coating employed;
 - d. The total controlled VOC emission rate for all powder coatings, in pounds per month, calculated using the overall control efficiency from the most recent performance test demonstrating that the emissions unit was in compliance $\{[\text{summations of } (b \times c) \text{ for all powder coatings}] \times (1 - \text{overall control efficiency})\}$; and
 - e. The annual, year-to-date, VOC emissions from all coatings employed [sum of (d) for each calendar month to date from January to December].
- (9) Each owner or operator that uses a capture system and an incinerator to comply with the emission limits specified in 40 CFR 60.452 shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below:
- a. A temperature measurement device shall be installed in the firebox.
 - b. Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. The device shall have an accuracy of 0.75 percent of the temperature being measured, expressed in degrees Celsius, or +/- 2.5 degrees Celsius, whichever is greater.
 - c. Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.
- [40 CFR 60.454(a)(1) – (3)]
- (10) The permittee shall collect and record the following information for the thermal oxidizer:

- a. All 3-hour blocks of time when the operation(s) controlled by the thermal oxidizer was/were in operation during which the average temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature measured during the most recent emissions tests that demonstrated the operation(s) was/were in compliance.
 - b. A log or record of the downtime for the capture (collection) system, thermal oxidizer, monitoring equipment, and the associated operation(s).
- (11) The permittee shall comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 63 Subpart NNNN, including the following sections:

63.4130(a)	record of notification reports
63.4130(b)	record of manufacturer's data
63.4130(c)	record of HAP emission calculations
63.4130(d)	record of coating, thinner, and cleaning material
63.4130(e)	record of mass fraction of organic HAP for each coating, thinner, and cleaning material
63.4130(f)	record of volume fraction of coating solids
63.4130(g)	record of the density of each coating, thinner, and cleaning material
63.4130(h)	records of waste materials
63.4130(j)	records of deviations
63.4131(a) – (c)	maintenance of records

e) Reporting Requirements

- (1) The permittee shall submit annual reports that summarize the following:
 - a. the total number of hours this emissions unit was in operation when the cyclonic scrubber/mist eliminator was shutdown;
 - b. the total annual VOC emissions from the powder coating operations;

- c. the total annual actual OC emissions from adhesion promoter coating operations; and
- d. the total annual actual VOC emissions from adhesion promoter coating operations.

These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

- (2) The permittee shall submit quarterly reports that identify the following information concerning the operation of the 2-stage packed bed scrubber and cyclonic scrubber/mist eliminator during the operation of the controlled emissions unit:

- a. each period of time when the pressure of the feed water for the 2-stage packed bed scrubber and the pressure drop across the cyclonic scrubber/mist eliminator were not within the acceptable ranges/values contained in this permit;
- b. an identification of each incident of deviation described in "a" above where a prompt investigation was not conducted;
- c. an identification of each incident of deviation described in "a" where prompt corrective action that would bring the feed water pressure and/or pressure drop into compliance with the acceptable ranges/values contained in this permit was determined to be necessary but was not taken; and
- d. an identification of each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s).

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (3) The permittee shall submit quarterly reports that identify the following information concerning the operation of the thermal oxidizer during the operation of the emissions unit(s):

- a. each period of time when the average combustion temperature within the thermal oxidizer was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
- b. an identification of each incident of deviation described in "a" above where a prompt investigation was not conducted;
- c. an identification of each incident of deviation described in "a" where prompt corrective action that would bring the temperature into compliance with the acceptable range was determined to be necessary and was not taken; and
- d. an identification of each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s).

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (4) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the bypass vent of the 2-stage packed bed scrubbers when the cyclonic scrubber/mist eliminator was shutdown while the emissions unit was operating and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Northwest District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
- (5) The permittee shall notify the Northwest District Office in writing of any monthly record showing the use of any noncomplying powder coating in this emissions unit. The notification shall include a copy of such record and shall be sent to the Northwest District Office within 45 days after the exceedance occurs.
- (6) The permittee shall submit quarterly reports identifying each instance in which the volume-weighted average of the total mass of VOCs emitted to the atmosphere per volume of applied coating solids (N) is greater than 0.90 kilogram of VOC per liter of applied coating solids from the adhesion promoter coating operation on a large appliance surface coating line. If no such instances have occurred, a report stating this shall be submitted to the Northwest District Office on a quarterly basis. [40 CFR 60.455(b)]
- (7) The owner or operator shall submit semiannual reports in accordance with 40 CFR 60.7(c) identifying each 3-hour period of coating operation during which the average temperature of the thermal oxidizer was more than 28°C (50°F) below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under 60.453. [40 CFR 60.455(c)]
- (8) Each owner or operator shall maintain for a period of at least 2 years records of all data and calculations used to determine VOC emissions from K007. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain daily records of the incinerator combustion chamber temperature. [40 CFR 60.455(d)]
- (9) The permittee shall submit semiannual reports and other such notifications and reports to the Northwest District Office as are required pursuant to 40 CFR Part 63 Subpart NNNN, per the following sections:

.4120(a)	miannual compliance report
.4120(b)	ntent of semiannual reports
.4120(c)	omission of deviation reports
.4120(d)	Submission of deviation reports

- (10) All quarterly reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (11) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the emission limitations in section b)(1) of this permit shall be determined in accordance with the following methods:

Adhesion Promoter Emissions

a. Emission Limitation

0.89 lb of volatile organic compounds (VOC)/hour;
3.90 tons of VOC/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable VOC emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

* The potential to emit is based on a VOC content of 1.48 lbs/gallon, a maximum usage rate of 4.60 gallons/hour, and a control efficiency of 87%. The VOC content of 1.48 lbs/gallon consists of two different coating materials: ethyl lactate and the volatile portion of the adhesion enhancer. Ethyl lactate has a VOC content of 8.61 lbs/gallon and a maximum usage rate of 1.57 gallons/hour. The volatile portion of the adhesion enhancer has a VOC content of 0.03 lb/gallon and a maximum usage rate of 1.83 gallons/hour. A total of 9.20 gallons of coating materials are used each hour. Therefore, $[(0.03 \text{ lb of VOC/gal} \times 1.83 \text{ gal/hr}) + (8.61 \text{ lbs of VOC/gal} \times 1.57 \text{ gal/hr})] / 9.20 \text{ gallons} = 1.48 \text{ lbs of VOC/gallon}$.

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Compliance with the annual limitation shall be determined based upon the recordkeeping requirements specified in section d)(7) of this permit.

b. Emission Limitation

4.02 lbs of organic compounds (OC)/hour;
17.60 tons of OC/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable OC emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

* The potential to emit is based on a VOC content of 6.73 lbs/gallon, a maximum usage rate of 4.60 gallons/hour, and a control efficiency of 87%. The OC content of 6.73 lbs/gallon consists of three different coating materials: ethyl lactate, acetone, and the adhesion enhancer which has two components. Ethyl lactate has an OC content of 8.61 lbs/gallon and a maximum usage rate of 1.57 gallons/hour. Acetone has an OC content of 6.59 lbs/gallon and a maximum usage rate of 5.80 gallons/hour. The adhesion enhancer has a maximum usage rate of 1.83 gallons/hour and consists of a volatile component with an OC content of 0.03 lb/gallon and an acetone component with an OC content of 5.51 lbs/gallon. A total of 9.20 gallons of coating materials are used each hour. Therefore, $[(0.03 \text{ lb of OC/gal} + 5.51 \text{ lbs of OC/gal}) \times 1.83 \text{ gal/hr}] + [(8.61 \text{ lbs of VOC/gal} \times 1.57 \text{ gal/hr})] + [(6.59 \text{ lbs of OC/gal} \times 5.80 \text{ gal/hr})/9.20 \text{ gallons} = 6.73 \text{ lbs of VOC/gallon}$.

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Compliance with the annual limitation shall be determined based upon the recordkeeping requirements specified in section d)(7) of this permit.

Powder Coating Emissions

- c. Emission Limitation
0.17 lb of VOC/hour
0.74 ton of VOC/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable VOC emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

* The potential to emit is based on a VOC content of 0.173 lb/gallon, a maximum usage rate of 19.90 gallons/hour, and a control efficiency of 95%.

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Compliance with the annual limitation shall be determined based upon the recordkeeping requirements specified in section d)(8) of this permit.

- d. Emission Limitation
0.17 lb of particulate matter less than 10 microns in size (PM10)/hour;
0.74 ton of PM10/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable PM10 emission limitation above in accordance with Methods 1-4 of 40 CFR Part

60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Method M. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

* The potential to emit is based on a conservative assumption that all emissions of VOC will be measured as particulate matter in the form of condensable hydrocarbons by Method 202 of 40 CFR Part 51, Appendix M. Therefore, the potential to emit for PM₁₀ is equal to and calculated in the same manner as VOC.

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Compliance with the annual limitation shall be determined based upon the recordkeeping requirements specified in section d)(8) of this permit.

Combustion Emissions from Ovens and Thermal Oxidizer

e. Emission Limitation

Combined emissions from K007 & K008 shall not exceed 3.19 lbs of carbon monoxide (CO)/hour and 13.97 tons of CO/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable CO emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 10.

* The potential to emit is based on the following information for natural gas-fired ovens and the thermal oxidizer:

Natural gas-fired ovens: the potential to emit is based on a maximum natural gas usage rate of 26500 ft³/hr and an emission factor of 84 lbs of CO/mmft³ [AP-42 Table 1.4-1 (7/98)]

Thermal oxidizer: the potential to emit is based on a manufacturer-supplied maximum exhaust concentration for CO or 75 parts per million by volume (ppmv) and a maximum volumetric flow rate of 3,000 standard cubic feet per minute (scfm).

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation will be assumed.

f. Emission Limitation

Combined emissions from K007 & K008 shall not exceed 4.23 lbs of nitrogen oxides (NO_x)/hour and 18.53 tons of NO_x/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable NOx emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 7.

* The potential to emit is based on the following information for natural gas-fired ovens and the thermal oxidizer:

Natural gas-fired ovens: the potential to emit is based on a maximum natural gas usage rate of 26500 ft³/hr and an emission factor of 100 lbs of NOx/mmft³ [AP-42 Table 1.4-1 (7/98)]

Thermal oxidizer: the potential to emit is based on a manufacturer-supplied maximum exhaust concentration for NOx or 75 parts per million by volume (ppmv) and a maximum volumetric flow rate of 3,000 standard cubic feet per minute (scfm).

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation will be assumed.

g. Emission Limitation

Combined emissions from K007 & K008 shall not exceed 0.18 lb of OC/hour and 0.79 ton of OC/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation.

* The potential to emit is based on the following information for natural gas-fired ovens and the thermal oxidizer:

Natural gas-fired ovens: the potential to emit is based on a maximum natural gas usage rate of 26500 ft³/hr and an emission factor of 5.5 lbs of OC/mmft³ [AP-42 Table 1.4-1 (7/98)]

Thermal oxidizer: the potential to emit is based on a maximum natural gas usage rate of 5 mmBTU/hr and an emission factor of 5.5 lbs of OC/mmft³ [AP-42 Table 1.4-1 (7/98)]

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation will be assumed.

h. Emission Limitation

Combined emissions from K007 & K008 shall not exceed 0.24 lb of PM10/hour and 1.05 tons of PM10/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable PM10 emission limitation above in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

* The potential to emit is based on the following information for natural gas-fired ovens and the thermal oxidizer:

Natural gas-fired ovens: the potential to emit is based on a maximum natural gas usage rate of 26500 ft³/hr and an emission factor of 7.6 lbs of PM10/mmft3 [AP-42 Table 1.4-1 (7/98)]

Thermal oxidizer: the potential to emit is based on a maximum natural gas usage rate of 5 mmBTU/hr and an emission factor of 7.6 lbs of PM10/mmft3 [AP-42 Table 1.4-1 (7/98)]

i. The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation will be assumed.

OAC rule 3745-21-09(K)(1)

j. Emission Limitation

VOC emissions shall not exceed 2.8 lbs per gallon of coating excluding water and exempt solvents from powder coating operations

Applicable Compliance Method

Compliance with the lbs per gallon of coating excluding water and exempt solvents shall be based upon the recordkeeping requirements in section d)(6).

40 CFR Part 60 Subpart SS

k. Emission Limitation

No owner or operator shall discharge or cause the discharge of VOC emissions that exceed 0.90 kilogram of VOCs per liter of applied coating solids [7.51 lbs of VOC/gallon of applied coating solids] from any surface coating operation on a large appliance coating line.

Applicable Compliance Method

Compliance with the kg of VOC/liter of coating solids limitation shall be based upon the recordkeeping requirements in section d)(5).

40 CFR Part 63 Subpart NNNN

I. Emission Limitation

Organic hazardous air pollutants shall not exceed 0.13 kg/liter (1.10 pounds per gallon) of coating solids used during each compliance period

Applicable Compliance Method

Emission rate without add-on control option: Compliance shall be demonstrated in accordance with 63.4151 – Equations 1 and 1A through 1C and, if applicable, 63.4151(e)(4); 63.4151 Equation 2; and 63.4151 Equation 3.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 63 Subpart NNNN]

- (2) Method 24 or formulation data supplied by the coating manufacturer shall be used to determine the VOC content of a coating. In the event of a dispute, Method 24 shall be the reference method. For determining compliance only, results of Method 24 waterborne coatings shall be adjusted as described in Section 12.6 of Method 24. Procedures to determine VOC emissions are provided in 40 CFR 60.453. [40 CFR 60.456(a)(1)]

g) Miscellaneous Requirements

- (1) None

2. K008, West Dishrack Powder Coating Line

Operations, Property and/or Equipment Description:

Dishrack Powder Coating Line (West) with control system consisting of a thermal oxidizer, two-stage packed bed scrubber, and a cyclonic scrubber/mist eliminator

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	See b)(2)a. and b)(2)i. <u>Adhesion Promoter Emissions</u> 0.89 lb of volatile organic compounds (VOC)/hour; 3.90 tons of VOC/year 4.02 lbs of organic compounds (OC)/hour; 17.60 tons of OC/year <u>Powder Coating Emissions</u> 0.17 lb of VOC/hour; 0.74 ton of VOC/year 0.17 lb of particulate matter 10 microns or less in size (PM10)/hour; 0.74 ton of PM10/year (see b)(2)d.) <u>Combustion Emissions from Ovens and Thermal Oxidizer</u> Combined emissions from K007 & K008 shall not exceed 3.19 lbs of carbon monoxide (CO)/hour and 13.97 tons of CO/year Combined emissions from K007 & K008 shall not exceed 4.23 lbs of nitrogen oxides (NOx)/hour and 18.53 tons of NOx/year

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Combined emissions from K007 & K008 shall not exceed 0.18 lb of VOC/hour and 0.79 ton of VOC/year Combined emissions from K007 & K008 shall not exceed 0.24 lb of PM10/hour and 1.05 tons of PM10/year
b.	OAC rule 3745-21-09(K)(1)	See b)(2)e.
c.	OAC rule 3745-21-09(B)(6)	See b)(2)f.
d.	OAC rule 3745-17-11(A)	None (see b)(2)g.)
e.	OAC rule 3745-17-07(A)	None (see b)(2)h.)
f.	40 CFR Part 60 Subpart SS	No owner or operator shall discharge or cause the discharge of VOC emissions that exceed 0.90 kilogram of VOCs per liter of applied coating solids [7.51 lbs of VOC/gallon of applied coating solids] from any surface coating operation on a large appliance surface coating line (see b)(2)k.)
g.	<u>40 CFR Part 63 Subpart NNNN</u> 40 CFR Part 63.4090(a) 40 CFR Part 63.1-15	Organic hazardous air pollutants shall not exceed 0.13 kg/liter (1.10 pounds per gallon) of coating solids used during each compliance period (see facility-wide requirements). Table 2 to Subpart NNNN of 40 CFR Part 63 – Applicability of General Provisions to Subpart NNNN shows which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. Best Available Technology (BAT) control requirements for this emissions unit has been determined to be the following:
 - i. use of a thermal oxidizer achieving a minimum overall control efficiency of 87% (minimum of 90% destruction) for OC emissions from adhesion promoter coating and drying operations; and
 - ii. use of a 2-stage packed bed wet scrubber followed by a cyclonic scrubber/mist eliminator achieving a 95% control efficiency for particulate matter and VOC emissions from post-cure powder coat curing oven.

- b. When the cyclonic scrubber/mist eliminator is shutdown for unscheduled maintenance* or other operational reasons while this emissions unit is in operation, the emissions unit shall be controlled by the 2-stage packed bed scrubber. Downtime of the cyclonic scrubber/mist eliminator while this emissions unit is in operation shall not exceed 72 hours per year.
- c. All OC emission limitations are inclusive of VOC emissions.
- d. All emissions of particulate matter are PM10.
- e. The requirements of OAC rule 3745-21-09(K)(1) apply to the powder coating operations of the dishrack coating line. OAC rule 3745-21-09(K)(1) requires that VOC emissions shall not exceed 2.8 lbs per gallon of coating, excluding water and exempt solvents.
- f. The requirements of OAC rule 3745-21-09(B)(6) apply to the adhesion promoter operations of the dishrack coating line. In lieu of complying with the pounds of VOC per gallon of solids limitation contained in paragraph (K) of OAC rule 3745-21-09, the permittee has elected to demonstrate that the capture and control equipment meet the requirements contained in OAC rule 3745-21-09(B)(6). The capture and control requirements specified in OAC rule 3745-21-09(B)(6) are less stringent than the capture and control requirements established pursuant to OAC rule 3745-31-05(A)(3).
- g. The uncontrolled mass rate of particulate emissions (PE) from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. Also, Table I does not apply because the facility is located in Hancock County.
- h. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.
- i. The requirements of this rule also include compliance with 40 CFR Part 60 Subpart SS and 40 CFR Part 63 Subpart NNNN.
- j. The following emission limitations represent the potential to emit for this emissions unit from the respective processes. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with these limitations:
 - i. Adhesion Promoter Operations:
 - (a) 0.89 lb of VOC/hour
 - (b) 4.02 lbs of OC/hour
 - ii. Combustion Emissions from Ovens and Thermal Oxidizer from emissions unit K007 & K008 combined:

- (a) 3.19 lbs of CO/hour
- (b) 4.23 lbs of NOx/hour

k. The emission limitation of 0.90 kg of VOC/liter of applied coating solids applies only to the portion of the dishrack coating line associated with adhesion promoter coating operations. The powder coating operations of the dishrack coating line are exempt from the requirements of 40 CFR Part 60 Subpart SS.

c) Operational Restrictions

- (1) The unscheduled downtime of the cyclonic scrubber/mist eliminator shall not exceed 72 hours per year (while this emissions unit is operating).
- (2) The permittee shall comply with the application restrictions required under 40 CFR Part 63 Subpart NNNN, including the following sections:

63.4100(a) – (e)	general compliance requirements
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d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure of the feed water for the 2-stage packed bed scrubber and the pressure drop across the cyclonic scrubber/mist eliminator (in inches of water) during operation of this emissions unit. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the the following ranges/values: the pressure of the feed water for the 2-stage packed bed scrubber and the pressure drop across the cyclonic scrubber/mist eliminator once each day that the line is operating.

Whenever the monitored value deviates from the ranges/values specified in this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at the time; the date(s) the investigation was conducted; the name(s) of the personnel who conducted the investigation; and the findings and recommendations.

In response to each required investigation to determine the cause of the deviation, the permittee shall take prompt corrective action to bring the control equipment within the acceptable ranges/values specified below unless the permittee determines the corrective action is not necessary and documents the reasons for that determination, along with the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action; the date it was completed; the date and time the deviation ended; the total period of time (in minutes) during which there was a deviation; the feed water pressure and/or pressure drop reading immediately after the corrective action was taken; and the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The acceptable ranges/values for the 2-stage packed bed scrubber and cyclonic scrubber/mist eliminator are as follows:

2-stage packed bed scrubber:	feed water pressure shall not exceed 20 psi at any time
cyclonic scrubber/mist eliminator:	– 25 inches of water

The ranges/values are effective for the duration of this permit unless revisions are requested by the permittee and approved in writing by the Northwest District Office. The permittee may request revisions to the permitted feed water pressure and pressure drop ranges/values based upon information obtained during future emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the ranges/values will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (2) The permittee shall maintain monthly records of the number of hours the cyclonic scrubber/mist eliminator was shutdown while this emissions unit was in operation (in hours per month and total hours, to date, for the calendar year).
- (3) The permit shall perform daily checks of emissions of the bypass vent serving the 2-stage packed bed scrubber when the cyclonic scrubber/mist eliminator is shutdown and the emissions unit is operating. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emissions incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item d. above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that

no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (4) The owner or operator of an affected facility shall conduct an initial performance test as required under 40 CFR Part 60.8(a) and thereafter a performance test each calendar month for each affected facility according to the procedures in d)(3) below. [40 CFR Part 60.453(b)]
- (5) An owner or operator shall use the following procedures for any affected facility that uses a capture system and a control device that destroys VOCs to comply with the emission limit of 0.90 kilogram of VOC per liter of applied coating solids:
- a. Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test the overall reduction efficiency (R) shall be determined as prescribed in i., ii., and iii. below, shall be repeated when directed by the Administrator or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.
 - i. Determine the fraction (F) of total VOCs emitted by an affected facility that enters the control device using equation (6) in 40 CFR Part 60.453(b)(2)(i)(A).
 - ii. Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by using equation (7) in 40 CFR Part 60.453(b)(2)(i)(B).
 - iii. Determine overall reduction efficiency (R) using the equation in 40 CFR Part 60.453(b)(2)(i)(C).
 - b. Calculate the volume-weighted average of the total mass of VOCs per unit of volume of applied coating solids (G) during each calendar month for each affected facility using equations (1), (2), (3) if applicable, and (4) in 40 CFR Part 60.453(b)(1).
 - c. Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by using equation (9) of 40 CFR Part 60.453(b)(2)(iii) as follows:
$$N=G(1-R)$$

Note: G is equal to equation (4), as per 40 CFR Part 60.453(b)(1)(i)(D)
 - d. If the volume-weighted average mass of VOCs emitted to the atmosphere for each calendar month (N) is equal to or less than 0.90 kilogram per liter of applied coating solids, the affected facility is in compliance.

- (6) The permittee shall demonstrate compliance with the 2.8 lbs of VOC/gallon of coating, excluding water and exempt solvents, by collecting and recording the following information each month for the powder coating operations, as per OAC rule 3745-21-10(B)(8):
- a. the name and identification number of each coating, as applied; and
 - b. the mass of VOC per volume of each coating, excluding water and exempt solvents, as applied, calculated as follows:

$C_{VOC,2}$ is the VOC content in pounds of VOC per gallon of coating, excluding water and exempt solvents calculated as follows:

$$C_{VOC,2} = (D_c)(W_{VOC})/V_S + V_{VOC}$$

where

D_c = the density of the coating, in pounds per gallon of coating

$$W_{VOC} = W_{VM} - W_W - W_{ES}$$

V_S = the volume fraction of solids in coating, in gallons of solids per gallon of coating

$$V_{VOC} = V_{VM} - V_W - V_{ES}$$

W_{VM} = weight fraction of volatile matter in coating, in pound of volatile matter per pound of coating

W_W = weight fraction of water in coating, in pound of water per pound of coating

W_{ES} = weight fraction of exempt solvent in coating, in pound of exempt solvent per pound of coating

V_{VM} = volume fraction of volatile matter in coating, in gallon of volatile matter per gallon of coating

V_W = volume fraction of water in coating, in gallon of water per gallon of coating

V_{ES} = volume fraction of exempt solvent in coating, in gallon of exempt solvent per gallon of coating

- (7) The permittee shall determine the annual OC and VOC emissions from the adhesion promoter coating operations by collecting and recording the following information each month for adhesion promoter coating operations:
- a. The name and identification number of each coating, as applied;
 - b. The number of gallons of each coating employed;

- c. The OC and VOC contents of each coating employed, in pounds per gallon, as applied;
 - d. The total uncontrolled OC and VOC emission rate for all coatings, in pounds per month, calculated using the overall control efficiency from the most recent performance test demonstrating that the emissions unit was in compliance $\{[\text{summation of (b x c) for all coatings}] \times (1 - \text{overall control efficiency})\}$; and
 - e. The annual, year-to-date, OC and VOC emissions from all coatings employed [sum of (d) for each calendar month to date from January to December].
- (8) The permittee shall determine the annual VOC emissions from the powder coating operations by collecting and recording the following information each month:
- a. The name and identification number of each powder coating employed;
 - b. The number of gallons of each powder coating employed;
 - c. The VOC content, in pounds per gallon, of each powder coating employed;
 - d. The total controlled VOC emission rate for all powder coatings, in pounds per month, calculated using the overall control efficiency from the most recent performance test demonstrating that the emissions unit was in compliance $\{[\text{summations of (b x c) for all powder coatings}] \times (1 - \text{overall control efficiency})\}$; and
 - e. The annual, year-to-date, VOC emissions from all coatings employed [sum of (d) for each calendar month to date from January to December].
- (9) Each owner or operator that uses a capture system and an incinerator to comply with the emission limits specified in 40 CFR 60.452 shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below:
- a. A temperature measurement device shall be installed in the firebox.
 - b. Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. The device shall have an accuracy of 0.75 percent of the temperature being measured, expressed in degrees Celsius, or +/- 2.5 degrees Celsius, whichever is greater.
 - c. Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.
- [40 CFR 60.454(a)(1) – (3)]
- (10) The permittee shall collect and record the following information for the thermal oxidizer:
- a. All 3-hour blocks of time when the operation(s) controlled by the thermal oxidizer was/were in operation during which the average temperature within the thermal oxidizer was more than 50 degrees Fahrenheit below the average temperature

measured during the most recent emissions tests that demonstrated the operation(s) was/were in compliance.

b. A log or record of the downtime for the capture (collection) system, thermal oxidizer, monitoring equipment, and the associated operation(s).

(11) The permittee shall comply with the applicable monitoring and recordkeeping requirements required under 40 CFR Part 63 Subpart NNNN, including the following sections:

63.4130(a)	record of notification reports
63.4130(b)	record of manufacturer's data
63.4130(c)	record of HAP emission calculations
63.4130(d)	record of coating, thinner, and cleaning material
63.4130(e)	record of mass fraction of organic HAP for each coating, thinner, and cleaning material
63.4130(f)	record of volume fraction of coating solids
63.4130(g)	record of the density of each coating, thinner, and cleaning material
63.4130(h)	records of waste materials
63.4130(j)	records of deviations
63.4131(a) – (c)	maintenance of records

e) Reporting Requirements

- (1) The permittee shall submit annual reports that summarize the following:
- a. the total number of hours this emissions unit was in operation when the cyclonic scrubber/mist eliminator was shutdown;
 - b. the total annual VOC emissions from the powder coating operations;
 - c. the total annual actual OC emissions from adhesion promoter coating operations; and

- d. the total annual actual VOC emissions from adhesion promoter coating operations.

These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.

- (2) The permittee shall submit quarterly reports that identify the following information concerning the operation of the 2-stage packed bed scrubber and cyclonic scrubber/mist eliminator during the operation of the controlled emissions unit:
 - a. each period of time when the pressure of the feed water for the 2-stage packed bed scrubber and the pressure drop across the cyclonic scrubber/mist eliminator were not within the acceptable ranges/values contained in this permit;
 - b. an identification of each incident of deviation described in “a” above where a prompt investigation was not conducted;
 - c. an identification of each incident of deviation described in “a” where prompt corrective action that would bring the feed water pressure and/or pressure drop into compliance with the acceptable ranges/values contained in this permit was determined to be necessary but was not taken; and
 - d. an identification of each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s).
- (3) The permittee shall submit quarterly reports that identify the following information concerning the operation of the thermal oxidizer during the operation of the emissions unit(s):
 - a. each period of time when the average combustion temperature within the thermal oxidizer was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
 - b. an identification of each incident of deviation described in “a” above where a prompt investigation was not conducted;
 - c. an identification of each incident of deviation described in “a” where prompt corrective action that would bring the temperature into compliance with the acceptable range was determined to be necessary and was not taken; and
 - d. an identification of each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s).
- (4) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the bypass vent of the 2-stage packed bed scrubbers when the cyclonic scrubber/mist eliminator was shutdown while the emissions unit was operating and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Northwest District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

- (5) The permittee shall notify the Northwest District Office in writing of any monthly record showing the use of any noncomplying powder coating in this emissions unit. The notification shall include a copy of such record and shall be sent to the Northwest District Office within 45 days after the exceedance occurs.
- (6) The permittee shall submit quarterly reports identifying each instance in which the volume-weighted average of the total mass of VOCs emitted to the atmosphere per volume of applied coating solids (N) is greater than 0.90 kilogram of VOC per liter of applied coating solids from the adhesion promoter coating operation on a large appliance surface coating line. If no such instances have occurred, a report stating this shall be submitted to the Northwest District Office on a quarterly basis. [40 CFR 60.455(b)]
- (7) The owner or operator shall submit semiannual reports in accordance with 40 CFR 60.7(c) identifying each 3-hour period of coating operation during which the average temperature of the thermal oxidizer was more than 28°C (50°F) below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under 60.453. [40 CFR 60.455(c)]
- (8) Each owner or operator shall maintain for a period of at least 2 years records of all data and calculations used to determine VOC emissions from K007. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain daily records of the incinerator combustion chamber temperature. [40 CFR 60.455(d)]
- (9) The permittee shall submit semiannual reports and other such notifications and reports to the Northwest District Office as are required pursuant to 40 CFR Part 63 Subpart NNNN, per the following sections:

.4120(a)	miannual compliance report
.4120(b)	ntent of semiannual reports
.4120(c)	omission of deviation reports
.4120(d)	omission of deviation reports

- (10) All quarterly reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- (11) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) Compliance with the emission limitations in section b)(1) of this permit shall be determined in accordance with the following methods:

Adhesion Promoter Emissions

a. Emission Limitation

0.89 lb of volatile organic compounds (VOC)/hour;
3.90 tons of VOC/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable VOC emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

* The potential to emit is based on a VOC content of 1.48 lbs/gallon, a maximum usage rate of 4.60 gallons/hour, and a control efficiency of 87%. The VOC content of 1.48 lbs/gallon consists of two different coating materials: ethyl lactate and the volatile portion of the adhesion enhancer. Ethyl lactate has a VOC content of 8.61 lbs/gallon and a maximum usage rate of 1.57 gallons/hour. The volatile portion of the adhesion enhancer has a VOC content of 0.03 lb/gallon and a maximum usage rate of 1.83 gallons/hour. A total of 9.20 gallons of coating materials are used each hour. Therefore, $[(0.03 \text{ lb of VOC/gal} \times 1.83 \text{ gal/hr}) + (8.61 \text{ lbs of VOC/gal} \times 1.57 \text{ gal/hr})] / 9.20 \text{ gallons} = 1.48 \text{ lbs of VOC/gallon}$.

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Compliance with the annual limitation shall be determined based upon the recordkeeping requirements specified in section d)(7) of this permit.

b. Emission Limitation

4.02 lbs of organic compounds (OC)/hour;
17.60 tons of OC/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable OC emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

* The potential to emit is based on a VOC content of 6.73 lbs/gallon, a maximum usage rate of 4.60 gallons/hour, and a control efficiency of 87%. The OC content of 6.73 lbs/gallon consists of three different coating materials: ethyl lactate, acetone, and the adhesion enhancer which has two components. Ethyl lactate has an OC content of 8.61 lbs/gallon and a maximum usage rate of 1.57 gallons/hour. Acetone has an OC content of 6.59 lbs/gallon and a maximum usage rate of 5.80 gallons/hour. The adhesion enhancer has a maximum usage rate of 1.83 gallons/hour and consists of a volatile component with an OC content of 0.03 lb/gallon and an acetone component with an OC content of 5.51

lbs/gallon. A total of 9.20 gallons of coating materials are used each hour. Therefore, $[(0.03 \text{ lb of OC/gal} + 5.51 \text{ lbs of OC/gal}) \times 1.83 \text{ gal/hr}] + [(8.61 \text{ lbs of VOC/gal} \times 1.57 \text{ gal/hr})] + [(6.59 \text{ lbs of OC/gal} \times 5.80 \text{ gal/hr})/9.20 \text{ gallons} = 6.73 \text{ lbs of VOC/gallon.}$

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Compliance with the annual limitation shall be determined based upon the recordkeeping requirements specified in section d)(7) of this permit.

Powder Coating Emissions

c. Emission Limitation

0.17 lb of VOC/hour
0.74 ton of VOC/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable VOC emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

* The potential to emit is based on a VOC content of 0.173 lb/gallon, a maximum usage rate of 19.90 gallons/hour, and a control efficiency of 95%.

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Compliance with the annual limitation shall be determined based upon the recordkeeping requirements specified in section d)(8) of this permit.

d. Emission Limitation

0.17 lb of particulate matter less than 10 microns in size (PM10)/hour;
0.74 ton of PM10/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable PM10 emission limitation above in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Method M. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

* The potential to emit is based on a conservative assumption that all emissions of VOC will be measured as particulate matter in the form of condensable hydrocarbons by Method 202 of 40 CFR Part 51, Appendix M. Therefore, the potential to emit for PM10 is equal to and calculated in the same manner as VOC.

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Compliance with the annual limitation shall be determined based upon the recordkeeping requirements specified in section d)(8) of this permit.

Combustion Emissions from Ovens and Thermal Oxidizer

e. Emission Limitation

Combined emissions from K007 & K008 shall not exceed 3.19 lbs of carbon monoxide (CO)/hour and 13.97 tons of CO/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable CO emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 10.

* The potential to emit is based on the following information for natural gas-fired ovens and the thermal oxidizer:

Natural gas-fired ovens: the potential to emit is based on a maximum natural gas usage rate of 26500 ft³/hr and an emission factor of 84 lbs of CO/mmft³ [AP-42 Table 1.4-1 (7/98)]

Thermal oxidizer: the potential to emit is based on a manufacturer-supplied maximum exhaust concentration for CO or 75 parts per million by volume (ppmv) and a maximum volumetric flow rate of 3,000 standard cubic feet per minute (scfm).

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation will be assumed.

f. Emission Limitation

Combined emissions from K007 & K008 shall not exceed 4.23 lbs of nitrogen oxides (NOx)/hour and 18.53 tons of NOx/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable NOx emission limitation above in accordance with 40 CFR Part 60 Appendix A, Methods 1 through 4 and 7.

* The potential to emit is based on the following information for natural gas-fired ovens and the thermal oxidizer:

Natural gas-fired ovens: the potential to emit is based on a maximum natural gas usage rate of 26500 ft³/hr and an emission factor of 100 lbs of NOx/mmft³ [AP-42 Table 1.4-1 (7/98)]

Thermal oxidizer: the potential to emit is based on a manufacturer-supplied maximum exhaust concentration for NOx or 75 parts per million by volume (ppmv) and a maximum volumetric flow rate of 3,000 standard cubic feet per minute (scfm).

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation will be assumed.

g. Emission Limitation

Combined emissions from K007 & K008 shall not exceed 0.18 lb of OC/hour and 0.79 ton of OC/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation.

* The potential to emit is based on the following information for natural gas-fired ovens and the thermal oxidizer:

Natural gas-fired ovens: the potential to emit is based on a maximum natural gas usage rate of 26500 ft³/hr and an emission factor of 5.5 lbs of OC/mmft³ [AP-42 Table 1.4-1 (7/98)]

Thermal oxidizer: the potential to emit is based on a maximum natural gas usage rate of 5 mmBTU/hr and an emission factor of 5.5 lbs of OC/mmft³ [AP-42 Table 1.4-1 (7/98)]

The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation will be assumed.

h. Emission Limitation

Combined emissions from K007 & K008 shall not exceed 0.24 lb of PM10/hour and 1.05 tons of PM10/year

Applicable Compliance Method

The hourly emission limitation represents the potential to emit* for this emissions unit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance with the hourly allowable PM10 emission limitation above in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

* The potential to emit is based on the following information for natural gas-fired ovens and the thermal oxidizer:

Natural gas-fired ovens: the potential to emit is based on a maximum natural gas usage rate of 26500 ft³/hr and an emission factor of 7.6 lbs of PM10/mmft³ [AP-42 Table 1.4-1 (7/98)]

Thermal oxidizer: the potential to emit is based on a maximum natural gas usage rate of 5 mmBTU/hr and an emission factor of 7.6 lbs of PM10/mmft³ [AP-42 Table 1.4-1 (7/98)]

- i. The annual emission limitation was established by multiplying the hourly limitation by a maximum operating schedule of 8760 hours/year and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual limitation will be assumed.

OAC rule 3745-21-09(K)(1)

- j. Emission Limitation

VOC emissions shall not exceed 2.8 lbs per gallon of coating excluding water and exempt solvents from powder coating operations

Applicable Compliance Method

Compliance with the lbs per gallon of coating excluding water and exempt solvents shall be based upon the recordkeeping requirements in section d)(6).

40 CFR Part 60 Subpart SS

- k. Emission Limitation

No owner or operator shall discharge or cause the discharge of VOC emissions that exceed 0.90 kilogram of VOCs per liter of applied coating solids [7.51 lbs of VOC/gallon of applied coating solids] from any surface coating operation on a large appliance coating line.

Applicable Compliance Method

Compliance with the kg of VOC/liter of coating solids limitation shall be based upon the recordkeeping requirements in section d)(5).

40 CFR Part 63 Subpart NNNN

- l. Emission Limitation

Organic hazardous air pollutants shall not exceed 0.13 kg/liter (1.10 pounds per gallon) of coating solids used during each compliance period

Applicable Compliance Method

Emission rate without add-on control option: Compliance shall be demonstrated in accordance with 63.4151 – Equations 1 and 1A through 1C and, if applicable, 63.4151(e)(4); 63.4151 Equation 2; and 63.4151 Equation 3.

[OAC rule 3745-77-07(C)(1) and 40 CFR Part 63 Subpart NNNN]

- (2) Method 24 or formulation data supplied by the coating manufacturer shall be used to determine the VOC content of a coating. In the event of a dispute, Method 24 shall be the reference method. For determining compliance only, results of Method 24 waterborne coatings shall be adjusted as described in Section 12.6 of Method 24. Procedures to determine VOC emissions are provided in 40 CFR 60.453. [40 CFR 60.456(a)(1)]

g) Miscellaneous Requirements

- (1) None